

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE BENCH AT
CHENNAI

ORIGINAL APPLICATION No. 39 of 2024 (SZ)

IN THE MATTER OF:

Mr. Jonatt Jose

... Applicant

Versus

The Secretary and 8 Ors.

... Respondents

COUNTER AFFIDAVIT FILED ON BEHALF OF 5TH RESPONDENT

DATE: 29.04.2024



M/S PRASAD VIJAYAKUMAR (Ms. No. 1254/1999)

VIGNESH SEKAR (Ms. No. 3281/2018)

PRANAV. R (Ms. No. 3700/2023)

No. 52 Law Chambers, High Court Buildings

Chennai- 600 104

9003271435

COUNSEL FOR RESPONDENT No. 5

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE BENCH AT
CHENNAI

ORIGINAL APPLICATION No. 39 of 2024 (SZ)

IN THE MATTER OF

Mr. Jonatt Jose
Choorakkal House,
Nalukettu Po,
Thrissur District,
Kerala, 680308

.... Applicant

VERSUS

1) The Secretary
Ministry of Environment & Forests & Climate Change
Paryavaran Bhavan, CGO Complex,
Lodhi Road, New Delhi,
110 003

2) The Chairman
Central Pollution Control Board,
Parivesh Bhavan,
CBD Cum Office Complex, East Arjun Nagar,
New Delhi- 110032

3) The Chairman,
The Kerala State Pollution Control Board,
Pattom Po,
Thiruvananthapuram,
Kerala- 695004

4) The Secretary,
Directorate of Environmental & Climate Change,
4th Floor, KSRTC Bus Terminal,
Thampanoor, Thiruvananthapuram- 695 001

5) The Manager,
Carborandum Universal Limited,
Nalukettu Po,
Thrissur District
Kerala- 680 308

6) Pollution Control Officer,
Majestic Square Building,
3rd Floor, Paravathani P.O,
Thrissur,
Kerala- 680 655

7) The Health Inspector,
Thrissur District Office of Health,
5th Circle, North Bus Stand,
Thrissur, Kerala- 680020

8) The District Collector,
Thrissur Collector,
District Collector Office,
1st Floor, Civil Station,
Ayyanthole, Thrissur,
Kerala- 680003

9) The President,
Koratty Grama Panchayath,
Koratty Bazar Road,
Near Devamatha Hospital,
Devamatha Avenue,
Koratty, Kerala- 680308

.... Respondents

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It is certified that all the documents contained in the above annexure are true copies

Date: 29.04.2024



Counsel for 5th Respondent

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For CARBORUNDUM UNIVERSAL LIMITED

Authorised Signatory

Carborandum Universal Limited,
Nalukettu Po,
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Majestic Square Building,
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1st Floor, Civil Station,
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Kerala- 680003

9) The President,
Koratty Grama Panchayath,
Koratty Bazar Road,
Near Devamatha Hospital,
Devamatha Avenue,
Koratty, Kerala- 680308

.... Respondents

COUNTER AFFIDAVIT ON BEHALF OF 5TH RESPONDENT

I, Premanath KN, S/o Late T.V.Ravindranathan, Aged about 49 years, do hereby solemnly and sincerely affirm and state as follows:

1. It is respectfully submitted that I am the Senior General Manager - Manufacturing in the 5th Respondent herein and as such I am well acquainted

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with the facts of the case. I am duly authorised by the 5th Respondent herein to swear to this affidavit.

2. It is respectfully submitted that I have gone through the Original Application filed by the Applicant and I deny the allegations made in the Original Application therein excepting those that are specifically admitted hereunder.

1. INTRODUCTION TO 5TH RESPONDENT M/S CARBORUNDUM UNIVERSAL LIMITED

- 1.1) It is submitted that the 5th Respondent, Carborundum Universal Limited (hereinafter the "Company") is a leading constituent of the Murugappa Group Conglomerate. The Company is a public listed Company incorporated in the year 1954 and is a leading materials sciences engineering solutions provider. The Company has over 52,000 shareholders globally across various categories viz., individual shareholders, corporates, financial institutions, foreign financial institutions etc. The market cap of the Company is over Rs.25,000 crores as on date . (source – NSE/BSE). The Company is a mine to market company whose integrated operations include mining, power generation, fusion, manufacturing, marketing and distribution. The 5th Respondent Company employs over 5,500 employees world-wide who collaborate, innovate and develop high quality material solutions and world class services in abrasives, electro minerals, industrial ceramics, refractories and energy storage materials, serving customers in diverse industries including engineering, fabrication, auto components, infrastructure, steel, glass, power generation and distribution, mining, defense and aerospace.

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1.2) It is submitted that the 5th Respondent has a wide geographical presence spanning six continents and exports products to over 50 countries. While the Murugappa Group has been recognised with the prestigious IMD Distinguished Family Business Award by IMD Lausanne, an internationally renowned business school in Switzerland among others, for demonstrating continuity, value creation, social contribution, and business management, the Company has also won several awards and accolades over the years in recognition for its sustainable operations, safety practices, Total Productive maintenance as well as governance practices. The Company is committed to the highest standards of Corporate Governance in all its activities and processes including environmental, social, and upliftment of underprivileged sections of the society. Some of the significant awards and accolades of the 5th Respondent are annexed herewith as ("**Annexure 1**"). The Company has always voluntarily carried out several CSR initiatives for the benefit of the communities including through the manufacturing facilities at their respective locations. The Company's CSR activities have been carried out for several decades even before the mandatory spending by corporates was introduced by the Ministry of Corporate Affairs in 2014. The list of CSR activities for the past few years undertaken by the 5th Respondent is annexed herewith as ("**Annexure 2**"). The year-wise details of all the CSR activities of the Company are also available on its website.

2. DETAILS ABOUT THE 5TH RESPONDENT'S SILICON CARBIDE MANUFACTURING PLANT

2.1) It is submitted that the 5th Respondent's Silicon Carbide plant is situated at Nalukettu of Koratty Grama Panchayath in Thrissur District of Kerala State.

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The Company has invested continuously in the State of Kerala where many of its businesses were closed down due to unfavourable business conditions and logistical disadvantages. As per the then State Government's Industrial Policy to invite investors in the State, the 5th Respondent Company was the first company to invest in Kerala during 1960. One of the major reasons for starting its operation in the State was the uninterrupted and cost effective availability of the power offered by the State Government. Notably, the Company was allotted the first private- sector hydroelectric power plant at Maniyar, Kerala in 1994. The primary business of the Electro minerals division is the manufacture of grains which are used in varied industries including solar energy, composites & new-gen materials, and Abrasives. The products manufactured are black/green Silicon Carbide, fused zirconia, and high purity graphene. The key inputs for manufacturing these products are raw petroleum coke, silica sand, bauxite, and alumina. .

- 2.2) The Koratty Plant unit was commissioned in the year 1985 to manufacture Silicon Carbide. The Silicon Carbide factory is spread to an extent of 22 Acres with a constructed area of about 13,148 Sq. Meters. Since the Company gives paramount importance to the preservation of nature, the plant premises is surrounded by well-grown Bamboo garden and trees which ensure and provide a green belt to the factory premises. The photographs of the factory premises are annexed herewith as ("**Annexure 3**").
- 2.3) It is submitted that Silicon Carbide is an essential raw material for Refractory and Abrasive manufacturing. Refractory products are converted to bricks at refractory plants across the country and used for various applications like Kiln

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and furnace lining for cement industries, steel industries, etc. The abrasive products are converted into Grinding Wheels at various plants in India and abroad and used for application in construction, fabrication, rice polishing, automobile industries, defense sector, etc. It is also to be noted that various products from the silicon carbide factory are supplied to defense, solar, and photovoltaic applications. The photographs of the Industrial applications of Silicon Carbide and photographs of the products are annexed herewith as ("Annexure 4").

- 2.4) It is submitted that more than 1000 people are employed directly and indirectly in the Electro mineral division of the company's operation in the State of Kerala and 150 employees are employed in the Silicon Carbide Factory at Koratty. Most of the Company's employees in the Silicon Carbide plant at Nalukettu, Koratty are natives of this locality and the local economy is enriched through employment generation and other trading opportunities for the locals.
- 2.5) It is submitted that the Silicon Carbide Plant is a factory licensed under Kerala Factories Rules and obtained and renewed consent to operate from the Respondent No.3 Kerala State Pollution Control Board from its inception in 1985. The Consent to operate given by Respondent No. 3 from the year 2007 to till date is annexed herewith as ("Annexure 5 "). Other licenses obtained in relation to the plant are annexed herewith as ("Annexure 6"). Environmental emissions and discharges from the operations in the plant are well within the statutory limits prescribed under various environmental statutes. The Company is also continuously adopting technological changes and improving its operating standards through investments in modernization by upgrading to

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ensure environment friendly operations and reduction of environmental pollution.

- 2.6) It is respectfully submitted that 5th Respondent Company is one of the few companies to measure Co2 emission in the State and conducted Scope 1 and Scope 2 emission studies with the support of the Confederation of Indian Industries (CII) to measure the Co2 emission levels. The Company also targets to progressively reduce emissions to achieve "Net Zero Emission" in line with the plans set by the Government of India.

PARA WISE REPLY

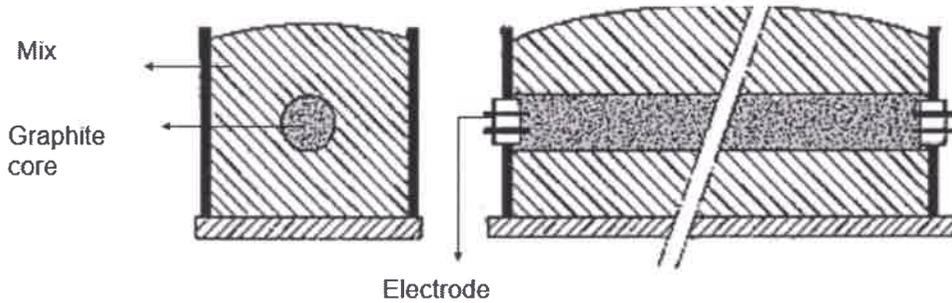
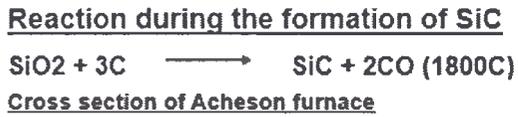
- 3) In reply to Para 1, it is submitted that Silicon carbide is produced by an electrochemical reaction of high-grade silica sand (Quartz) and low ash carbon source (petroleum coke) which is used as raw materials. The process is carried out in an electrical resistance furnace known as Acheson Furnace. The photographs of Acheson Furnace are annexed herewith as ("**Annexure 7**"). The dimensions of the Furnace as mentioned by the Applicant in this paragraph are false as the actual size of the furnace is 8 Feet Tall X 8 Feet Wide X 38 Feet Long. The heat needed for driving the reaction between silica and carbon is generated by passing high-intensity electric current through a graphite core, which acts as a resistor submerged in the raw material mix. A reducing atmosphere is created inside the furnace by a thick layer of non-reacting mix which avoids the contact of coke with atmospheric oxygen and makes it available for the reaction. The role of coke is to supply carbon for the reaction, and it works only as a raw material. There is no combustion or burning of Pet coke in the process as claimed by the Applicant and

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it is not used as a fuel. The reaction and cross-section of the Acheson furnace used for SiC production is given below:

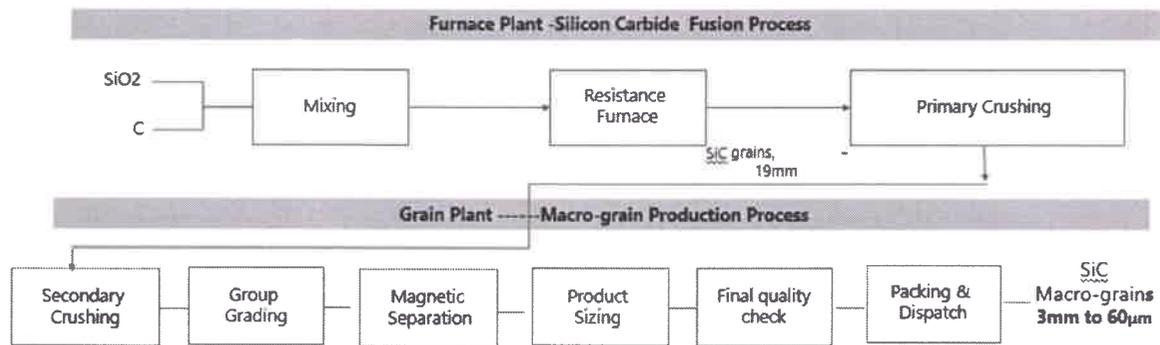


- 4) It is pertinent to note that heat is not generated by burning or combustion of petroleum coke as claimed by the Applicant. Heat is generated by passing high-intensity electric current through the graphite core which acts as the resistor. The heat generated during the process drives the reaction between Silica and carbon. The carbon from petroleum coke (pet coke) and silica from quartz act as the reactants and during the reaction, it converts to silicon carbide. In this process, one mole of silica reacts with 3 moles of carbon resulting in the production of one mole of Silicon Carbide and oxides of carbon. It is also pertinent to note that in the production of Silicon Carbide, Silica reacts with carbon in petcoke to form Silicon Carbide hence there is no combustion of carbon occurring during the process as alleged by the Applicant. The furnace plant has a production capacity of 20 MT of black silicon carbide crude per day. The furnace plant uses 20 MT of petroleum coke and 24 MT of Quartz per day as raw material as stipulated in the Consent to operate (CTO).

For CARBORUNDUM UNIVERSAL LIMITED

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Attached below is the process flow of the plant



- 5) It is submitted that the plant has always been operating with all required statutory approvals including from Respondent No.3 Kerala State Pollution Control Board, Factories and Boilers department of Kerala, Electrical Inspectorate. The Statutory approvals for operation of the plant is annexed herewith as ("Annexure 8").
- 6) The Applicant has claimed falsely that six furnaces are on fusion and combustion at any time. It is respectfully submitted that, the plant has installed only 3 Furnace Transformers, hence at any time a maximum of only 3 furnaces can be under electrical firing (fusion). The Applicant has alleged that water is showered to cool the furnace instantly which is again a false statement as every furnace is given a natural cooling time of 16 hours minimum and then only water cooling is done.
- 7) It is submitted that the Applicant has again falsely claimed that against the consent quantity of 20 MT/ Day of Pet coke, the 5th Respondent is using 45 MT/Day which is factually incorrect and misleading. The factory unit consumes only less than 20 MT/Day of Petcoke on an average per day which is within the permissible limit as prescribed by the 3rd Respondent Kerala State Pollution Control Board in the

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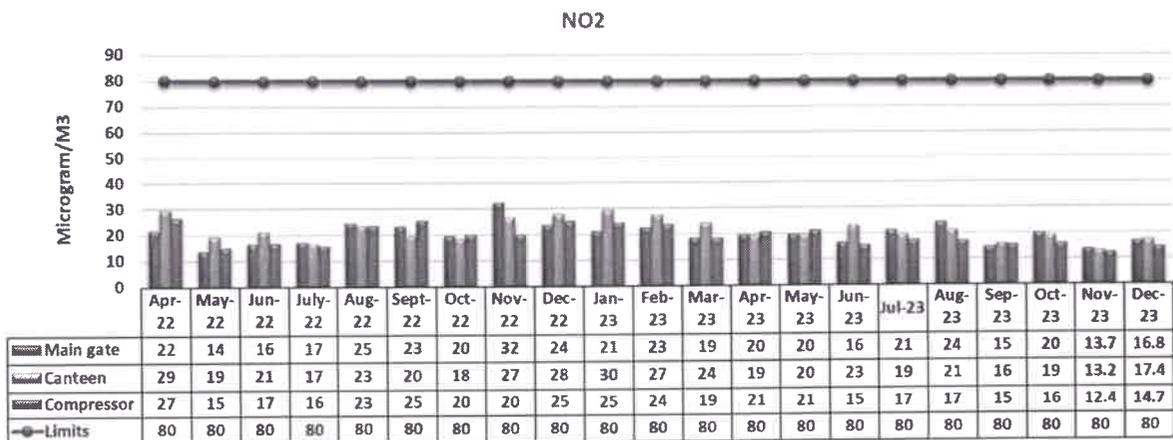
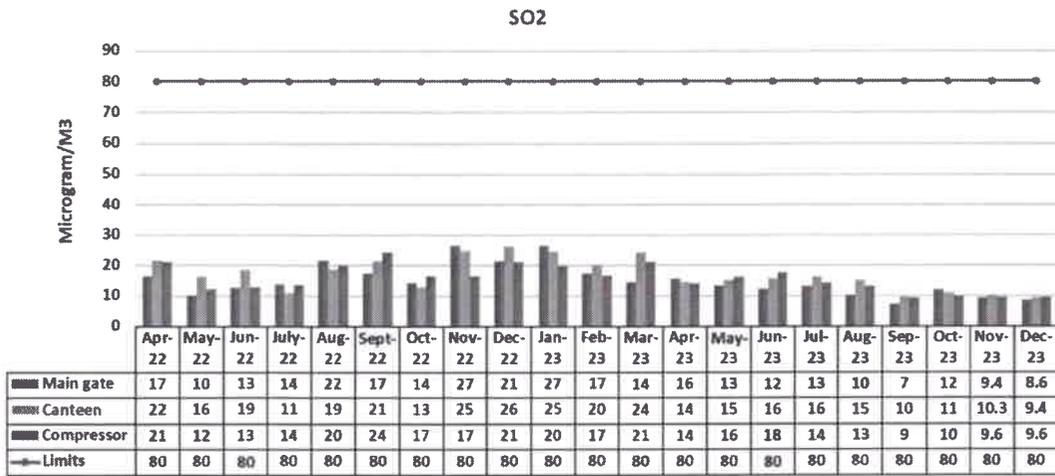
Consent to Operate. The averments of the Applicant with respect to emission sulphur content is completely a baseless allegation made against the 5th Respondent which is based on his own imagination and hypothetical with a malafide intention.

- 8) In reply to Para 2, it is denied that production of carborundum produces hazardous gases which result in environmental and health issues. The Company is measuring the air quality at the boundary of the factory premises in directions as suggested by the Kerala State Pollution Control Board including the proximity of residences nearby, at intervals as specified by the Pollution Control Board and these values are well within limits as specified by the 2nd Respondent Central Pollution Control Board. The work environment parameters are measured daily and the same is recorded in Form 31 for verification by the Factories and Boilers Department. Few sample reports of Form 31 are annexed herewith as (“**Annexure 9**”). This data has been verified by the Factories Inspector during a recent inspection of the plant. As part of the sustainability initiatives and commitment to further reduction of environmental impact, the Company is making significant investments to further improve the production process by making it environment friendly.
- 9) It is further submitted that Silicon Carbide furnace is an open type furnace under the roofed structure. The measurement of the gases is carried out with the help of Ambient Air quality monitoring installed at the boundaries of the Plant. The work environment measurements are also carried out in compliance with the norms set by the Factories Act, 1948. The limit is set by the 2nd Respondent, Central Pollution Control Board for Sulphur bearing gases in the ambient air. The Company

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regularly monitors the ambient air quality readings and the values are within Central Pollution Control Board prescribed Limits. The trend of ambient air quality monitoring is given below:-



It is submitted that on perusal of the readings, it is evidently clear that the gases named by the Applicant in his petition causing environmental impact are well within the permissible limit as prescribed by the ambient air monitoring authorities such as the Central Pollution Control Board (CPCB) among others. It

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is also pertinent to note that in the report filed on 12.03.2024 by the 3rd Respondent before this Hon'ble Tribunal, the 3rd Respondent has clearly stated that during ambient air quality monitoring done at the unit on 14.02.2022, 02.06.2023 and 08.08.2023, Sulphur Dioxide (SO₂) and Oxides of Nitrogen (NO_x) were found within the limit of National Ambient Air quality Standards. It is submitted that the Applicant has suppressed the fact that there have been no complaints made by the grandparents and the parents of the Applicant who have been residing next to the 5th Respondent's premises since 1985. Moreover, the Applicant also suppressed the fact that his uncle (father's brother) had been employed by the 5th Respondent for over 25 years in the very same Plant and had retired in 2014 without any complaints. It is also important to point out that the Applicant's Uncle resides just behind the 5th Respondent's premises and near the Applicant's residence. The Applicant's uncle never had any health issues and continues to lead an active and healthy life. Thus, the allegations regarding health problems caused by the manufacturing activities of 5th Respondent are baseless without any supporting evidence and are made by the Petitioner with ulterior motives and malafide intentions. The Applicant has falsely alleged that the Nallukettu village have been complaining for the last 10 years which is close to 20 years after the company started operations in the area. Further, the Applicant has not been able to establish that respiratory diseases and skin allergies are caused by the emissions as alleged by him.

- 10) In reply to Para 3, it is submitted that Silicon Carbide due to its high temperature withstanding capability and high hardness, is used as a raw material for making refractories and abrasives. Very high purity Single Crystals of Silicon Carbide are also used as a wide- bandgap semiconductor.

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11) In reply to Para 4, the Applicant claims that the company was initially operating the furnaces using electricity and has started using petroleum coke instead of electricity as a fuel. The above claim is entirely false as the role of petroleum coke in our process is only as raw material and electricity continues to be used as the source for producing the required temperature inside the furnace for the combustion process. As stated by the Applicant himself, the 5th Respondent uses Acheson electric resistance furnace which operates by using electricity for heat generation and it is not possible to use pet coke as fuel or any other kind of fuel in this setup. Moreover, to produce Silicon Carbide, pet coke can only be used as a reactant and if burned or used as fuel, it would not be possible to produce Silicon Carbide, as no carbon would be available for reaction.

12) It is submitted that with relation to the averment on the use of pet coke and the potential of water pollution, it is submitted that this is again an unsubstantiated and baseless averment as there are no liquid effluents released in the process of manufacturing Silicon Carbide by the 5th Respondent. It is pertinent to point out that the process used by the 5th respondent to manufacture Silicon Carbide has zero trade effluents and it is a process where there are no liquid effluents. In fact, the 5th Respondent clearly states this in its application for consent filed with the Respondent No.3 Kerala State Pollution Control Board. The application for consent is annexed herewith as ("Annexure 10").

13) In reply to Para 5, it is submitted that the 5th Respondent has been complying with all the directions and conditions given by various statutory bodies from the inception of the factory since 1985. The emissions are well within the prescribed norms and standards as per statutes including Pollution Control Board's

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guidelines and conditions. The 5th Respondent undertakes periodical ambient air monitoring at locations specified by statutory bodies and the measured values of all key pollutants are well within the limits specified by the 2nd Respondent, Central Pollution Control Board. The reports of the periodical ambient air monitoring undertaken by the 5th Respondent for the last three months are annexed herewith as ("Annexure 11"). The 3rd Respondent also conducts checks on a periodical basis and found the air quality to be satisfactory. The reports of the periodical ambient air monitoring undertaken by the 3rd Respondent reveal that the subjective gases, i.e. Sulphur Dioxide and Oxides of Nitrogen are within the limit of National Ambient Air Quality Standards. Thus, the Applicant's claim of health hazards due to emissions is baseless and the Applicant is put to strict proof of the same.

14) In reply to Para 6, it is submitted that the Applicant's claim that the health of the students studying in the nearby school is affected due to air and water pollution from the factory is false and baseless. The Applicant has made a baseless allegation without any evidence or data or statistics to prove his claims. It is also important to point out that there are no such reports regarding ill health of students in any nearby schools due to emissions from the factory. There are primary health centres in every ward in this locality functioning under the Health Department and Panchayath. It is submitted that no such cases were reported or highlighted to the Panchayath or any other statutory bodies involved in the functioning of the school.

15) In reply to Para 7, it is submitted that the Applicant claims that it is not an isolated case of continuous cough and respiratory issues in his family. However, from the medical documents submitted along with this Petition/ Application, it is to be

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noted that these are isolated cases of fever along with cough during various occasions as well as general health checkups, and no other health issues are identified in this investigation which could be attributed by the factory operations. It is submitted that the applicant's statement that on enquiry all local residents are suffering from frequent sickness is a baseless statement without any evidence. There are no such studies or medical reports which substantiate the allegation of ill health to the locals as a result of alleged pollution from the 5th Respondent's factory. Government agencies like the Health Department, Panchayath etc., conduct various studies on the health conditions of the community, however, no such authorities ever arrived at any such findings. Post Covid breakout has caused many respiratory diseases that are widespread in the state. This condition is aggravated due to climatic changes like rain, cold, and hot weather. There are many State and Central Government directives being issued from time to time about respiratory-related issues and precautions to be taken by the general public to avoid contracting such health issues. There are media reports about the wide spread of respiratory issues and many people across the state are affected with cough and respiratory issues. Thus the Applicant has made baseless claims without adducing any evidence to prove that the alleged emissions from the 5th Respondent's factory have caused respiratory problems to the Applicant as well as other local residents.

- 16) It is submitted that the treatment records submitted by the Applicant as a local resident are not legible and the records do not establish the fact that the respiratory issues are primarily only due to the emissions of the 5th Respondent's factory. It is submitted that more than 150 people are working directly or indirectly in the factory. All the employees who are above 40 years of age are undergoing medical

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examination every year and the employees below 40 years of age undergo medical examination once in 2 years. It is important to note that no such cases of occupational linked ill health have been reported. One generation of employees had worked in the 5th Respondent's factory since 1985 and retired from service in the last ten years. There is no such occupational related ill health reported among these employees while in service and thereafter. The Applicant had contradicted his own statement in this paragraph by stating that his grandfather had died due to pneumonia. However, the Applicant has stated in the synopsis of the Application that the death of his grandfather was due to cancer. These contradictory statements itself prove that the present application is false and has been made with ulterior motives.

17) It is submitted that the Applicant's claim that there is a blanket ban on the use of petroleum coke in Europe is incorrect and misleading. Petcoke is used by all large scale manufactures of Silicon Carbide in the world including Europe as a major raw material. Volshky Abrasive Works in Russia having a capacity of 90000 TPA, Washington Mills Norway having a capacity of 25000 TPA, Fiven in Norway having a capacity of 18000 TPA, ESK in the Netherlands having a capacity of 65000 TPA are some of the large scale manufactures of Silicion Carbide whose capacity is several times larger than the manufacturing capacity of the Silicon Carbide Plant in Koratty. All these factories are using Petcoke as input raw material.

18) It is submitted that the applicant claims that in the reply given by 3rd Respondent for the information sought by the Applicant, the 3rd Respondent informed the Applicant that the factory is installed with a minimum pollution control system. On the contrary, perusal of the reply of the 3rd Respondent shows that the 5th

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Respondent has taken necessary steps to abide by all consent conditions set out by the 3rd Respondent from inception. The reply also states that the 5th Respondent has complied with all the statutory requirements mandated by all statutory authorities including but not limited to the Factory inspectorate, Respondent No. 3 Kerala State Pollution Control Board, Health Department, Local Bodies Etc. The 5th Respondent is also regularly filing all the returns under all the laws applicable to the Factory.

19) It is submitted that the Applicant with malafide intentions to make financial gains had sent false complaints against the 5th Respondent to several authorities. The Applicant was employed abroad in the pre-COVID period and later returned to his present residence. Thereafter the Applicant continuously approached the 5th Respondent for favours including extraction of money. He also demanded a sum of Rs. 5 Lakhs from the 5th Respondent company and threatened that if the company fails to pay the money, the Applicant would file false allegations and complaints alleging environmental pollution to various Government Authorities. The Applicant additionally demanded employment for himself and his wife and also threatened the Company with dire consequences if the company does not award contracts in favour of him to run the canteen and packaging. Since the company did not yield to his claims, he started threatening and abusing company officials over the phone and by trespassing into company premises through the company's gate.

20) It is submitted that the Applicant had sent complaints to various Government bodies like the Factories and boilers Department, Koratty Grama Panchayath, Police, PCB, Health Department, District Labour officer, and District Collector. All

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the authorities inspected the company based on his complaints and were satisfied with the operation of the factory and observed that the 5th Respondent has complied with the provisions under various acts, rules, and environmental norms. The Applicant tried to create public opinion against the company through campaigning and visiting houses in the locality, raising false allegations against the company in the Grama Sabha meetings, and raising allegations of illegal ties of the company with politicians, Government officials, and panchayath authorities.

21) It is submitted that the Applicant himself went and made complaints to the Police to pressurise the Company to yield for his undue favours. The Station House Officer of Police conducted meetings between company officials and the Applicant to understand the matter. On understanding the intention of the Applicant, the police official said that they would interfere only if there is a law-and-order issue and advised the Applicant to avoid obstructing factory operations and abusing the officials. In many instances, the Applicant came to the company gate and threatened and abused the employees, vendors, and truck drivers. He was continuously trying to tarnish the name of the company with malafide intentions as stated above. Once, on 20.02.2023 by around 5.30 pm, he came to the company gate, abused and threatened employees and obstructed the movement of vehicles and people by sitting in front of the gate till 8.45 pm. A criminal case was also filed by Koratty police against him for obstructing the company operations with crime No. 314/2023 based on the company's complaint. Hence this whole Application filed by the Applicant is only an attempt to harass the Company for not yielding to the demands of the Applicant.

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22) In reply to Para 8, it is submitted that the Local residents had not raised any such issues as alleged by the Applicant so far. It is submitted that the Applicant instigated and tried to canvas locals to create problems against the factory and to disturb its operations with malafide intentions. However, the local people once they realised that the Applicant was pursuing his own personal agenda against the company, stopped supporting him. In so far as the orders of the Hon'ble Supreme Court and Hon'ble National Green Tribunal are concerned, it is submitted that the restriction laid down is only on the usage of Pet Coke as a fuel. Since the 5th Respondent company uses pet coke only as a raw material, it is submitted that its activities do not violate the above mentioned orders.

23) In reply to Para 9, it is submitted that there was no such meeting held as claimed by the Applicant. There were no such cases filed by the company against any individual for raising any issues related to pollution from the factory except the complaint that was filed against the Applicant for creating disturbances to the factory operations and causing law & order issues in the premises. There were 2 cases against some local miscreants for other reasons as follows:-

(i) Trespassing into factory premises and manhandling the supervisor by one Mr. Mahesh. This case was settled out of court.

(ii) Abusing and stopping employees at the company gate by Mr. Nelson K Antony, a close friend of the Applicant. This complaint was closed by the police after warning Mr. Nelson at the police station.

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24) In reply to Para 10, it is submitted that the ban on Pet Coke is pertaining to use as fuel, whereas 5th Respondent is using Pet Coke only as raw material for the chemical reaction in the process of making silicon carbide. Silicon Carbide (SiC) is one of the highly refractory and hardest materials synthetically produced which finds a lot of application in the areas of refractory, abrasive, engineered ceramics, energy, environment, and defence. Silicon carbide is produced by the Acheson process in an electric resistance furnace which uses electricity as a source of energy. The raw materials used for the production of Silicon Carbide are Silica in the form of quartz and carbon derived from the raw petroleum coke. The heat required for processing is generated by the electrical resistance offered by a graphite core which is submerged in the raw material mix. A reducing atmosphere is created inside the furnace by covering the active materials with a non-oxidising thick layer of unreacted mix, which diminishes the contact of reacting coke with air. By avoiding the burning of coke, a carbo thermic reduction reaction in which the carbon is covalently bonded to silicon to form Silicon Carbide crystals is initiated. The purity of Silicon Carbide is a function of Raw material purity like raw petroleum coke and silica used. Hence the purpose of using raw petroleum coke as raw material is to make it react in a controlled atmosphere with silica to form silicon carbide.

25) It is submitted that the Applicant drew reference to the order passed by the Hon'ble Supreme Court in WP No.13029 / 1985 vide order dated 17.11.2023 is annexed herewith as ("Annexure 12") and levels allegation against the Company by misleading this Hon'ble Tribunal that the 5th Respondent has been using pet coke as fuel. It is reiterated that pet coke is being used only as raw material in the making of Silicon Carbide. The Hon'ble Supreme Court has categorically restricted

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the use of Pet Coke as a fuel, based on which the Hon'ble National Green Tribunal vide its order dated 04.07.2019 in I.A. 65 of 2019 in Original Application No. 138/2019 and I.A. 32 of 2019 in O.A. No. 67 of 2019 is annexed herewith as ("**Annexure 13**"), has issued a direction on allowing use of pet coke in industries and process which use pet coke and furnace oil either as feedstock or **where they get absorbed along with the product in manufacturing process.** **The Hon'ble National Green Tribunal further specified the industries which may use Pet coke in the manufacturing process and the list of industries specified is nothing but indicative rather than a conclusive or exhaustive list of industries.** Globally the manufacturing process of Silicon carbide adopts the usage of raw petroleum coke as a source of carbon. It is reiterated that raw petroleum coke is not used as a source of fuel but as a raw material only.

26) In reply to Para 11, it is submitted that the State Government initiated a draft fuel policy. However, it has not been notified yet. Since 5th Respondent is not using pet coke as fuel, the draft fuel policy is not applicable to the activities of the company.

27) In Reply to Para 12, it is submitted that the 5th Respondent is operating its plant at Koratty with the consent to operate (CTO) duly issued by the 3rd Respondent and duly renewed the CTO periodically from the inception of the Plant. The draft notification issued by the State of Kerala categorically notified pet coke as fuel in specified industries. It is submitted that 5th Respondent uses Pet Coke only as raw material for making Silicon Carbide which was duly permitted by the Hon'ble Supreme Court and the Hon'ble National Green Tribunal to industries using Pet Coke as raw material or where they get absorbed along with product in the manufacturing process.

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- 28) In reply to Para 13, it is submitted that it does not relate to the answering Respondent herein and hence, requires no traverse from the answering Respondent.
- 29) In reply to Para 14, it is submitted that pet coke is not being burned but mixed with other materials for manufacturing Silicon Carbide under a well-defined process. The 5th Respondent has complied with all the directions and conditions given by various statutory bodies including the 3rd Respondent Kerala State Pollution Control Board from the inception of the factory. It is submitted that the 5th Respondent had renewed the Consent to operate on 09.01.2024 which is annexed herewith as ("Annexure 14"). One of the conditions imposed by the 3rd Respondent on renewal of the consent to operate is to install a stack with adequate height to keep the emission quality to the standards. It is pertinent to note that condition to install stack has been imposed only on 09.01.2024 and no such directions were given prior to 09.01.2024 by the 3rd Respondent. It is submitted that the 5th Respondent vide letter dated 12.02.2024 annexed herewith as ("Annexure 15") addressed to the 3rd Respondent, proposed the design of stack to be installed to comply with the condition imposed in the consent to operate in spite of the emissions being under control. The 5th Respondent proposed the installation of Hood and Common Stack for furnaces to meet the requirement of the Order.
- 30) It is submitted that the 5th Respondent proposed to collect the gas emitted from the furnace by installing a moving hood over the furnace. The hood is designed to connect to a cyclone separator to remove any fine dust. After cyclone separator gas will move to a water spray unit which will remove any fine dust escaped from cyclone separator. Centrifugal blower provided after spray unit will suck entire

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fumes from furnace through the moving hood both in firing and cooling stages. Finally gas will exhaust to stack. The stack height and top diameter are calculated based on norms provided by 2nd Respondent CPCB emission regulation Part 2, Feb 1985. Based on this total height of stack is considered as 60 meters. The stack is proposed to be constructed with latest precast technology with steel tower to support the chimney. Suitable sorbent disposal system also will be provided. Moreover, the emissions are well within the prescribed standards as per statutes. The 5th Respondent has performed periodical ambient air monitoring at locations specified by statutory bodies and the measured values of all key pollutants are well within the limits specified by the 2nd Respondent. Periodical returns/reports in this regard have been submitted to the 3rd Respondent on the pollution levels and control mechanism. Periodical returns submitted to the 3rd Respondent measuring the pollution levels are annexed herewith as (“**Annexure 16**”).

31) It is submitted that in reply to Para 15, the Applicant himself admits that Pet Coke is used as a raw material only. His averment that Pet Coke functions as fuel to burn the furnace is baseless and false. It is submitted that the furnaces are electrically fired for a duration of 48 hours. The furnace power is controlled by means of tap changing, which is controlled by a PLC system. The photographs of the PLC system are annexed herewith as (“**Annexure 17**”). No reduction of power is possible throughout the process as claimed by the Applicant as it will affect the yield as well as the quality of the product. Any reduction of input power will affect the yield recovery. A reducing atmosphere is created inside the furnace by a thick layer of non-reacting mix which avoids the contact of coke with atmospheric oxygen and makes it available for the reaction. The role of coke is to supply carbon for the reaction, and it works only as a raw material. The Applicant’s allegation

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that Petcoke is used as fuel is factually incorrect and is not supported by any evidence. An expert opinion from Indian Institute of Science dated 04.08.2018 clearly states that raw petroleum coke is used only as a raw material in the production of Silicon Carbide. The expert opinion dated 04.08.2018 is annexed herewith as ("**Annexure 18**").

32) In reply to Para 16, it is submitted that there were no complaints given by any local or statutory bodies regarding environmental pollution. Installation of a continuous air quality monitoring system is a voluntary initiative of the Company to measure the ambient air quality as part of its sustainability initiatives. Exhaust Fans were installed in the plants from the very beginning to improve the work environment and do not have any relation to the ambient air quality and it is not a new installation as claimed by the Applicant. The statement that the exhaust fans are installed to produce wrong data in the ambient air quality measuring system is absolutely false and made with the intention to mislead this Hon'ble Tribunal. The photographs of the exhaust fans are annexed herewith as ("**Annexure 19**") which can assure this Hon'ble Tribunal that they are by no means "powerful air blowers" to re-direct the air and fume to the opposite direction as alleged by the Applicant.

33) In reply to Para 17, it is submitted that the requirement of a continuous air quality monitoring system has not been specified by any statutory bodies while issuing operating licences or consent. However, it was an initiative by the 5th Respondent during a discussion with 3rd Respondent officials to monitor the ambient air quality standards as part of the ongoing sustainability initiatives of the Company and to improve the existing systems on a proactive basis. The pictures of the Continuous

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Air quality monitoring system that has been installed in the factory is annexed herewith as ("Annexure 20").

34) In reply to Para 18, it is submitted that the factory is functioning in compliance with all labour laws, rules and regulations of the State. Necessary registrations and licenses under various labour Acts and rules are obtained by the company from the labour department / concerned authorities.

35) In reply to Para 19, it is submitted that the factory was constructed in the year 1985, and there were no restrictions on the usage of Asbestos as a roofing sheet. The restriction on the usage of asbestos came into effect after the Hon'ble Supreme Court judgement on 21st January 2011. Thereafter, the asbestos sheets which was used during the time of the first construction of the factory building were replaced with alternate roofing sheets in a phased manner. Thus the 5th Respondent is committed to running the operations of the Company in a sustainable manner in the best interests of its stakeholders.

36) In reply to Para, 20, it is submitted that it does not relate to the answering Respondent herein and hence, requires no traverse from the answering Respondent.

37) In reply to Para 21, it is submitted that none of the medical reports or prescriptions submitted by the Applicant along with the application have recommended for shifting the place of residence and the Applicant is put to strict proof of the same. It is reiterated that petcoke is not used as a fuel and emission of any hazardous gases is within the permissible limit . Various statutory bodies such as 3rd Respondent Pollution Control Board, Factories Department, Health Department,

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Panchayath, Police, and Labour department conducted inspections and studies based on the complaints lodged by the Applicant and were satisfied with the operation of the factory that were in compliance with all statutory parameters and regulations. The averments of the Applicant that all the replies to the RTI received by the Applicant from various Government bodies show that the factory is operating in an illegal manner is false and a fabricated claim made with malafide intentions.

38) In reply to Paras 22 and 23, it is submitted that the Applicant lodged a complaint to the police to pressurise the Company to succumb and grant the undue favours demanded by him. The Station House officer of Police conducted meetings between 5th Respondent Company officials and Applicant to understand the matter. On understanding the intention of the Applicant, the Police officials clearly told that they will interfere if there is only a law and order issue and advised the Applicant to approach the appropriate legal forum if there is any genuine grievance about the factory's functioning. It is also pertinent to point out that the Applicant has trespassed the Company gate to threaten and abuse the employees, vendors and truck drivers. The Applicant has filed the instant Application with a sole intention to tarnish the name of the 5th Respondent and with mala fide intentions as stated above.

39) In reply to Para 24, it is submitted that the medical documents submitted by the Applicant are isolated cases of fever along with cough during various occasions as well as general health checkups, and no other health issues are identified in this investigation. Post COVID, many respiratory diseases are widespread in the State. This condition is aggravated due to climatic changes. There are many State and

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Central Government directives about the respiratory related issues and precautions to be taken by the general public to avoid contracting such health issues. There are media reports about the wide spread respiratory issues and many people across the State are affected with cough and respiratory issues. It is also submitted that the Applicant has failed to produce any substantial proof that the alleged cases of fever and cough are only because of the manufacturing activities of the 5th Respondent. The medical records submitted by the Applicant are not legible and the allegations of the Applicant are not supported by conclusive evidence to prove a nexus between the alleged respiratory issues and the emissions of the 5th Respondent's factory.

40) In reply to Para 25, it is submitted that the 5th Respondent has not received any such communication from Panchayath directing to install an air quality monitoring system as mentioned by the Applicant. It is submitted that Exhibit 10 in the Application filed by the Applicant is a fake and fabricated letter created by the Applicant for the purpose of this litigation.

41) In reply to Para 26, it is submitted that no concerns have been raised by the local people against Respondent No.5 at any point in time. The Applicant has instigated and tried to canvas local people to create problems against the factory with a malafide intention to disrupt the operations of the factory for personal gains and failed to receive any support from the local people. Subsequently, the Applicant started a signature campaign as evidenced in Annexure 11 of the Applicant's application against the factory alleging that Pet Coke is used as fuel by conveniently hiding the fact that Pet Coke is a raw material for the production of Silicon Carbide. It is also pertinent to note that in reply to RTI application dated

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05.10.2023 annexed as Annexure 21, the 3rd Respondent has clearly stated that there are chimneys installed in the 5th Respondent Factory for the purpose of dust collection installed at the raw material handling area. The Applicant by keeping silent on this issue has deliberately tried to mislead this Hon'ble Tribunal.

42) In reply to Para 27, it is submitted that as per Annexure 11, the Applicant himself on 28.03.2023 has lodged a complaint and subsequently the Applicant filed an RTI annexed as Annexure 12 to the application inquiring to the Panchayath whether any complaints have been received by the local public against the 5th Respondent. In the reply to the complaint filed by the Applicant (Annexure 14 of the Applicant's Application, Page 80), the General Manager of District Industries Centre, Thrissur closed the complaint by observing that the factory is operating with all licenses and consents and the Applicant has not produced any evidence or documents to prove the allegation regarding pollution.

43) In reply to Para 28, it is submitted that it does not relate to the answering Respondent and hence needs no traverse.

44) In reply to Para 29, it is submitted that from the reply given by the Public information officer of Kerala State Pollution Control Board to the RTI application dated 21.08.2023 filed by the Applicant, it is pertinent to point out the following inferences from the answers given in reply to the RTI application annexed as Annexure 19 Page 101:-

A) Pet Coke is not banned in Kerala (As mentioned as answer to Question No.3)

B) At present Kerala does not have a fuel policy for regulation of Petroleum Coke
(As mentioned as answer to Question 7)

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It is submitted that from the reply given by the Public information officer of Kerala State Pollution Control Board to the RTI application dated 08.09.2023 filed by the Applicant, it is pertinent to point out the following inferences from the answers given in reply to the RTI application annexed as Annexure 21 Page 101 in the Applicant's Application:-

- A) The factories have installed chimneys. (As mentioned in answer to Question No.1).
- B) The 5th Respondent is using Pet Coke as raw material. (As mentioned in answer to Question No. 4)
- C) Based on the complaint lodged earlier, the 3rd Respondent undertook ambient air quality monitoring and emission levels under the prescribed parameters. (As mentioned in answer to Question No. 6)
- D) The 5th Respondent has permission to use Petroleum Coke. (As mentioned in answer to Question No. 7)
- E) The 5th Respondent has voluntarily initiated to install the ambient air quality monitoring station within 23rd October 2023. (As mentioned in answer to Question No. 10)
- F) The Condition to install stack is given based on the production process.
- G) The 5th Respondent has not installed stack connected to the furnace. However, the consent to operate factory has been given by the 3rd Respondent.
- H) Possible emissions are dust, oxides of carbon, sulphur and nitrogen during furnace operation. During water cooling, fume or odour is not found as per the inspection report.
- I) Electricity is used to heat up the manufacturing materials and Pet Coke is not used as a fuel to operate the furnace.

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It is respectfully submitted on the perusal of the replies from the Public Information officer of the 3rd Respondent, the allegations of the Applicant are clearly baseless and the 5th Respondent is operating the factory in compliance with the standards prescribed by the 3rd Respondent.

45) In reply to Para 30, it was stated by the applicant that a representation dated 22.11.2023 was given to the Factories and Boiler Inspector which was annexed as Exhibit No. 22 and acknowledgement given as Exhibit 23. However, no such representations have been annexed as Exhibit No. 22 and acknowledgements as Exhibit No. 23 on the perusal of the application filed by the Applicant. Hence, it is submitted that this again is an attempt by the Applicant to mislead this Hon'ble Tribunal.

46) In reply to Para 31, it is submitted that the complaint (Annexure 11 of the Applicant's Application) was lodged on 28.03.2023 by the Applicant himself and thereafter applied to seek information regarding the complaints lodged by the local residents against 5th Respondent through RTI to the 9th Respondent. The 9th Respondent replied that there is a complaint against the 5th Respondent. It is evident that the Applicant himself instigated this complaint to create evidence for his claims and lodged a complaint with a sole intention to threaten the 5th Respondent to satisfy his claims.

47) It is submitted that the requirement of continuous air quality monitoring system has not been specified by any statutory bodies while issuing operating licence or consent. However, it is an initiative by the company followed by discussions with the 3rd Respondent officials to monitor the ambient air quality standards on a trial

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basis as part of the ongoing sustainability initiatives of the company. The company has also installed the continuous air quality monitoring system from March 2024

48) In reply to Para 32, it is submitted that the 3rd Respondent only framed a draft fuel policy and the same has not been notified yet. It is reiterated that the 5th Respondent is not using Pet Coke as a fuel but only as a raw material.

49) In reply to Para 33, it is submitted that the ambient air quality monitoring system was installed in the factory premises from March 2024 without any mandate but due to the commitment by the 5th Respondent on sustainability and solicitude of the surrounding region. It is submitted that on the perusal of reply to RTI application given by 9th Respondent annexed as Annexure 13 (Page 77) of the Applicant's Application it is evident that Question No. 9 is a generic question "The iron related materials are getting corroded faster than normal condition. Has the panchayat made a close examination of this phenomenon?" since the question of corrosion is not attributed to the manufacturing activities of the 5th Respondent. The 9th Respondent had rightly refused to reply to that question since the question was irrelevant. The allegations of corrosion and rusting due to the manufacturing activities of 5th Respondent is false and the Applicant is put to strict proof of the same. There are a few other industries are also functioning in this area.

50) In reply to Ground (i), the averments are general in nature and need no traverse.

51) In reply to Ground (ii), it is submitted that the Applicant has not adduced proof to prove the claim of Respiratory issues due to the emissions of the 5th Respondent. The temperature in the factory premises is at par with the recorded temperature across the State. The 5th Respondent is not discharging any liquid effluent and there

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are no reports or proof in support adduced by the Applicant that the ground water is polluted due to the manufacturing activities of the 5th Respondent.

52) In reply to Ground (iii), it is submitted that the allegations of threat or danger to residents is false and there has not been any complaint or reports to support the same. Since the 5th Respondent's emission is under the standards prescribed by the 3rd Respondent, the claim of danger to human life is baseless.

53) In reply to Grounds (iv),(v)&(vi), it is submitted that 5th Respondent has not endangered the life of the local residents since emission levels are under the prescribed standards. According to the report dated 12.03.2024 filed by the 3rd Respondent before this Hon'ble Tribunal, the emission levels was monitored by the 3rd Respondent and observed that emission levels are under the standards prescribed by the 3rd Respondent.

54) In reply to Ground (vii), it is submitted that Petcoke is not used as a fuel as alleged by the Applicant but used only as a raw material. It is submitted that the 5th Respondent has not violated the Order of the Hon'ble Supreme Court by using Pet Coke as a raw material since the ban imposed was only with regard to the usage of Pet Coke as a fuel.

55) In reply to Ground (viii), it is submitted that the 3rd Respondent only framed a draft fuel policy and the same has not been notified yet. It is submitted that the 5th Respondent is not using Pet Coke as a fuel but only as a raw material.

56) In reply to Ground (ix), it is submitted that the 5th Respondent has been complying with all directions and conditions of the 3rd Respondent time to time. In addition,

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the 5th Respondent is complying with all directions of other statutory authorities with utmost diligence. There is no such requirement of Alkali Media Wet Scrubber system as mentioned by the Applicant to be installed in the factory by the 3rd Respondent. Such requirement was also not directed by the 3rd Respondent in the renewed consent dated 09.01.2024.

57) In reply to Ground (x), it is submitted that the study conducted through BPCL-Kochi refinery regarding change in emission quality due to the use of petcoke is not available in the public domain and the same has not been deliberately submitted before this Hon'ble Tribunal along with the application filed by the Applicant due to his malafide intentions.

58) In reply to Grounds (xi) to (xix), it is submitted that the 5th Respondent has not violated the orders passed by the Hon'ble Supreme Court and the Hon'ble National green tribunal since Pet coke is not used as a fuel but only used as a raw material. Pet coke is permitted to be used as a feed stock and in industries where it gets absorbed in the manufacturing process for the production of Silicon Carbide.

59) In so far as the issue of Limitation is concerned, it is submitted that the Applicant has filed the present application beyond the period of Limitation prescribed under Section 14(3) of the National Green Tribunal Act, 2010. Section 14(3) of the Act provides that no application for adjudication of a dispute shall be entertained unless it is made within a period of 6 months from the date on which the cause of action of such dispute first arose. As stated by the Applicant himself, he has been making complaints to the statutory authorities since 2020 - 2021. The applicant has

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also not provided any sufficient cause to explain why the Hon'ble Tribunal must entertain his appeal as it is beyond the 6 months period. It is therefore, humbly submitted that this Hon'ble tribunal ought to dismiss the present Application as being barred by limitation and the Respondent No.5 would establish the same during the course of arguments.

60) The 5th Respondent reserves its right and craves leave to file a further Report/ Counter if necessary and/or if directed by this Hon'ble Tribunal.

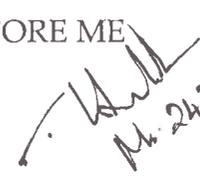
In view of the above facts, it is most respectfully prayed that this Hon'ble Tribunal may be pleased to dismiss this Application as devoid of merits and pass such other order as this Hon'ble Tribunal deems fit and proper in the circumstances of the case and thus render justice.

Solemnly affirmed at Chennai, on
This 29th day of April 2024 and
Signed his name in my presence
After reading the contents herein

For CARBORUNDUM UNIVERSAL LIMITED


Authorised Signatory

BEFORE ME


No. 2439/2018

ADVOCATE

No. 7, Law chambers,
High Court Building,
Ch-104

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CERTIFICATE

Management system as per
ISO 9001 : 2015

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

CARBORUNDUM UNIVERSAL LIMITED (GROUP)
Electro Mineral Division: PB. No.1,
Kalamassery Development Plot P.O.,
Kochi - 683 104, Kerala,
India



operates a management system in accordance with the requirements of ISO 9001 : 2015 at the location

CARBORUNDUM UNIVERSAL LIMITED (GROUP)
Silicon Carbide Plant: Nalukettu PO, Koratty via,
Thrissur Dist, Kerala - 680 308,
India

will be assessed for conformity within the 3 year term of validity of the certificate.

Scope -

**Manufacture of Macro/Micro Grits of Black / Green Silicon Carbide
and Ceramic Fine Powder**

Certificate Registration No. 04 100 980491-002
Audit Report No. 2.5-0687/2002

Valid from 28.03.2023
Valid until 21.03.2026
Initial certification 30.09.1998



Certification Body
at TÜV NORD CERT GmbH

Mumbai, 28.03.2023

This certificate is valid in conjunction with the main certificate.

TÜV NORD CERT GmbH

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45307 Essen

www.tuev-nord-cert.com

TÜV India Pvt. Ltd., 801, Raheja Plaza - 1, L.B.S. Marg,

Ghatkopar (W), Mumbai - 400 086, India www.tuv-nord.com/in



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CERTIFICATE

Management system as per

ISO 14001 : 2015

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

CARBORUNDUM UNIVERSAL LIMITED (GROUP)

Electro Mineral Division: PB. No.1,
Kalamassery Development Plot P.O.,
Kochi - 683 104, Kerala,
India



operates a management system in accordance with the requirements of ISO 14001 : 2015 at the location

CARBORUNDUM UNIVERSAL LIMITED (GROUP)

Silicon Carbide Plant: Nalukettu PO, Koratty via,
Thrissur Dist, Kerala - 680 308,
India

will be assessed for conformity within the 3 year term of validity of the certificate.

Scope -

**Manufacture of Macro/Micro Grits of Black / Green Silicon Carbide
and Ceramic Fine Powder**

Certificate Registration No. 04 104 980491-002
Audit Report No. 2.5-0687/2002

Valid from 28.03.2023
Valid until 21.03.2026
Initial certification 23.07.2009



Certification Body
at TÜV NORD CERT GmbH

Mumbai, 28.03.2023

This certificate is valid in conjunction with the main certificate.

TÜV NORD CERT GmbH

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Ghatkopar (W), Mumbai - 400 086, India www.tuv-nord.com/in



Deutsche
Akkreditierungsstelle
D-ZM-12007-01-00

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CERTIFICATE

Management system as per
ISO 45001 : 2018

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

CARBORUNDUM UNIVERSAL LIMITED (GROUP)
Electro Mineral Division: PB. No.1,
Kalamassery Development Plot P.O.,
Kochi - 683 104, Kerala,
India



operates a management system in accordance with the requirements of ISO 45001 : 2018 at the location

CARBORUNDUM UNIVERSAL LIMITED (GROUP)
Silicon Carbide Plant: Nalukettu PO, Koratty via,
Thrissur Dist, Kerala - 680 308,
India

will be assessed for conformity within the 3 year term of validity of the certificate.

Scope -

**Manufacture of Macro/Micro Grits of Black / Green Silicon Carbide
and Ceramic Fine Powder**

Certificate Registration No. 04 126 980491-002
Audit Report No. 2.5-0687/2002

Valid from 28.03.2023
Valid until 21.03.2026
Initial certification 15.05.2012 (BS OHSAS 18001)



Certification Body
at TÜV NORD CERT GmbH

Mumbai, 28.03.2023

This certificate is valid in conjunction with the main certificate.

TÜV NORD CERT GmbH

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Awards



CUMI won the MMA (Madras Management Association) Award for Managerial Excellence 2022

- ▶ Abrasives won Gold Award in the Improvement Projects in Customer Facing Processes category for Individual Disc Coating Profitability Improvement at CII's 16th National Level Six Sigma Competition
- ▶ Abrasives won at the 5th National Convention on Innovative QC Teams – NCIQCT – 2022.
- ▶ Abrasives won Special Award – Deming Trophy for best use of Statistical Tools.
- ▶ Volzhsky Abrasives Works, CUMI's Russian subsidiary, won the 'Best Managers and Organisations' in 2021.
- ▶ CUMI received the Indian Engineering Congress – Industry Excellence award for their innovation and excellence in engineering operations.
- ▶ Electrominerals was recognized with GOLD Award for National Energy Management 2021 by the Society of Energy Engineers & Managers (SEEM), a National Professional body of certified Energy Managers, Auditors and Professionals.
- ▶ Electrominerals was awarded the Kerala State Energy Conservation Award 2022 in appreciation of the commendable achievements towards energy conservation and management in the category of Large-Scale Energy Consumers
- ▶ Electrominerals Maniyar Team won the Gold Award in ABK AoTS Competition.
- ▶ Electrominerals Alumina Zirconia Team won the CII Kerala State Quality Circle Competition, 2022.
- ▶ IC was awarded the "Best Responsive Supplier" by Schneider Group during their Supplier Day (India, Middle East and Africa) event in Bangalore.
- ▶ IC received the Appreciation Award for the "Agility and Customer First" mindset by Bloom Energy during their Supplier Day Event in Bangalore.
- ▶ IC received the "Long-Term Partnership Excellence" Award from SMS Group during their Partnership Meet in New Delhi
- ▶ Super Refractories won the TPM Strong Commitment Award for the Ranipet Factory.

WINNING AWARDS

- » EMD received the Industry Excellence Award from Dr Mahendra Nath Pandey, Minister of Heavy Industries, Government of India
- » EMD received the Bronze medal in Sustainability Rating from Ecovadis
- » EMD was the recipient of the Gold Award-SEEM National Energy Management Award 2021. The recognitions is second year in succession with previous award being Silver category
- » The Silicon Carbide Plant won the Safety Award from the Government of Kerala in FY 21-22 for outstanding Safety record
- » EMD team was declared Winner of Office Innovation and received the Young Managers Award from the Cochin Management Association
- » Volzhsky Abrasives Works (CUMI's Russian Subsidiary) was recognised as the 'Leader of Environmental activities in Russia-2020 for the construction of a complex of gas treatment facilities for industrial emissions, PJSC' at the XVI All-Russian competition
- » The Industrial Ceramics Division won the Silver medal in Sustainability Rating from Ecovadis
- » The Industrial Ceramics Division won the Platinum Award in the Kaizen (CCKC) Competition organised by QCFI
- » Super Refractories won the Gold in CII - POKA YOKE competition, 2022
- » Super Refractories won the Silver in CII - 12th edition 3M Competition (MUDA Category)
- » Super Refractories won the Silver in CII - 2nd edition National Office Innovation Competition
- » Super Refractories won the Platinum in the Kaizen (CCKC) Competition organised by QCFI
- » Super Refractories won the Silver in 40th CII National Kaizen Competition

CUMI has been recognised by Deloitte India as one of India's "Best Managed Companies" in 2021. With the achievement of the "Best Managed" title, we have raised the bar for the Indian Corporate world.



collaboration with leading Institutes and Business Schools to create a strong talent pipeline and build a future-ready workforce

Demonstrating the will and the passion to surmount odds, redefine boundaries and surpass set targets, Team CUMI reinforced the resilience and the sustainable strength of our Human Capital.



Awards

CUMI's Annual Report for the FY 2018-19 was conferred the Certificate of Merit in the Manufacturing Sector category, by the South Asian Federation of Accountants of SAARC Region. This is the 2nd consecutive year of recognition by SAARC.

The Company's HR Processes won the recognition of 'Significant Contribution to HR Excellence' from Confederation of Indian Industry (CII).

Refractories Business at Serkadu, Tamil Nadu received the 'TPM Excellence Award in Category A' in recognition of its achievement towards Manufacturing Excellence.

The Abrasives business received the EHS Excellence Awards for the year 2020 from CII-SR

Electro Minerals Plant at Edapally Kerala, won the CII Award for its 'Strong Commitment to TPM Excellence in Manufacturing.

Electro Minerals division was chosen for National Gold Award in Minerals category for the year 2020 by the Society of Energy Engineers and Managers (SEEM) India, the national professional body of Certified Energy Managers.

The Maniyar Hydel Power Plant won the 'Sreshta Suraksha Puraskar'.

The Electrominerals Plant at SEZ, Cochin, won the 'Suraksha Puraskar' from Factories & Boilers Department, Kerala.

The Coated Abrasives Plant at Maramalai Nagar, secured a '4 star' rating from CII Southern Region for its commitment to EHS practices.

Innovation and Quality improvement initiatives won recognition the Kaizen Award and Excellence Award in the Quality Control category from CII.

CUMI Team also won the "Par Excellence" Award at the National Convention for Quality Concepts held at Varanasi, Uttar Pradesh.

CUMI team were declared winners at the IQ Fest organized by IIM Trichy under Quality Improvement category.

The Industrial Ceramics Business won "Gold" awards in Kaizen under Champions Trophy and Challenger trophy category.

The Industrial Ceramics Team won "Gold" in the Makigami Competition under Champions Trophy category from CII.

CSEZ, Kakkannad was awarded the second prize in the Kerala State Safety Award 2020. The award recognizes the initiatives for safety excellence practices adopted by CUMI.

True grit is always excellence driven.



The CSR Diamond Jubilee Technology 2018 Award for Metallization of Ceramics technology.



Award for significant achievement in the journey towards manufacturing excellence at the 19th TPM National Conference.



Volzhsky Abrasive Works (VAW), Russia, has been conferred the award for 'The Best Organisation in the Volgograd Region for 2018' by the Governor of Volgograd, Russia.



Dmitry V. Danilov, Process Engineer, RBD - Refractories, VAW, was placed 2nd in the Engineer of the Year competition held at Volgograd Region while Timonina Annaw Nikolaevna, Design Engineer, VAW, earned the 2nd place for her creative thinking and active participation in the competition.



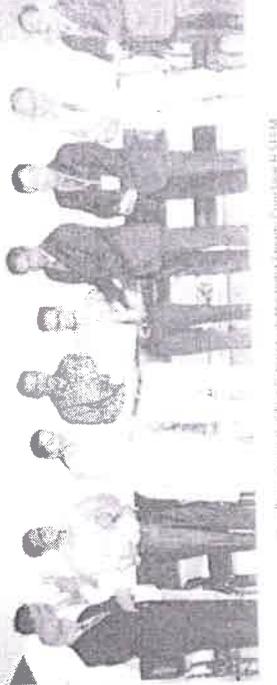
The ICI Centenary Excellence Award 2019, based on the 3 year performance, growth and innovation in the ₹ 100 to ₹ 500 Crore Business Category.



1st place in CII 'Young HR Managers' Competition - Southern Region.



Excellence Award - Silver Category in the India Energy Compliance & EEM National Energy Management Awards 2019.



Gold at the IMTMA National Productivity Competition 2019



The Abrasives Team won the 2nd Prize in the 'Innovation Category' at the CII Kaizen Competition.



The Electrometals Business won the 'Sreeltha Suraksha Puraskar' and the 'Suraksha Puraskar' from the National Safety Council (Kerala Chapter) under the Small Factories category.



'Safety Award 2019 for Outstanding Performance in Industrial Safety' from Kerala State Factories & Boilers Department, under Small Factories category.

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CUMI working closely with DRDO in supporting localisation initiatives

March 02, 2024 09:33 pm | Updated 09:38 pm IST - CHENNAI

THE HINDU BUREAU



Officials from TIDCO, CUMI and AIDAT are seen with DRDO Chairman Samir V. Kamat and Former Chairman S. Christopher.

Carborundum Universal Ltd. (CUMI), announced that it has been closely working with Defence Research and Development Organisation (DRDO) in supporting their indigenisation initiatives to strengthen Defence capabilities.

CUMI supplies ceramic plates for bulletproof vests and tiles for armoured vehicles. These products are manufactured in India, including the grains needed to make them, said the leading materials science company in a statement.

CUMI's lightweight ceramic ballistic protection materials (which include reaction-bonded silicon carbide, high purity alumina, and zirconia-toughened alumina), are designed to meet threat levels conforming to the National Institute of Justice 'Level IV' and STANAG Level 3 global standards. They are ergonomic and customisable into various sizes and shapes for use in bulletproof vests and armoured vehicles.

Another area CUMI focuses on is to supply fine powders for making ceramic thermal spray coatings. These coatings are required in the manufacture and maintenance of aircraft engines and components to provide protection against heat and wear. CUMI is working with various research organisations under DRDO in the development of this product.

"As a leading company in advanced materials, CUMI is well-positioned to manufacture key cutting-edge components that support indigenous product development in strengthening India's defence capabilities," said CUMI Head of Marketing Subbu Venkatachalam.

During the recent high-level meeting in New Delhi, DRDO Chairman Dr. Samir V. Kamat agreed to facilitate necessary technical and advisory support alongside product development to CUMI", he said.

During last March, CUMI said it partnered with DRDO's Research Centre Imarat (RCI) Lab to manufacture Ceramic Radomes. Ceramic Radomes are located at the tip of missiles and protect the missiles from high surface temperatures when they cruise through the atmosphere.



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SENSEX PERFORMANCE

BSE Sensex

₹73852.94 114.49 0.16%

NSE TOP PERFORMING INDEX

Nifty 50

₹25053.4

BSE TOP PERFORMING INDEX

BSE Auto

₹828803.28

NSE TOP GAINERS

Power Grid

₹390.4

Tata Elxsi slides over 3% despite Rs 70/share dividend announcement- Find out what's triggering the selling?

Business News / Business / Defence / CUMI Strengthens Defence Support In Collaboration With DRDO

CUMI Strengthens Defence Support in Collaboration with DRDO

CUMI specializes in providing essential materials for the defence sector, including ceramic plates for bulletproof vests and tiles for armoured vehicles.

Written by Express Defence

March 1, 2024 21:04 IST

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Carborundum Universal Limited (CUMI), a key player in materials science and a constituent of the Murugappa Group, is enhancing its support for India's defence sector through a strategic partnership with the Defence Research and

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Development Organisation (DRDO) to enhance the nation's capabilities.



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defence initiatives and bolster the

Speaking of the partnership, Sub: commitment to advancing indige

highlighted the company's d to manufacture key cutting-

edge components that support indigenous product development in strengthening the nation's defence capabilities."

ALSO READ

Cumi sees breakeven for newly acquired firms in next two years - Industry News | The Financial Express

The company's integrated operations encompass mining, power generation, fusion, manufacturing, marketing, and distribution. It serves diverse industries including , including engineering, fabrication, automotive and auto parts, infrastructure, steel, glass, and aerospace. Exporting products to over 50 countries across six continents.

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CUMI specializes in providing essential materials for the defence sector, including ceramic plates for bulletproof vests and tiles for armoured vehicles. These critical products are manufactured in India, from the initial grains to the final assembly. Notably, CUMI's lightweight ceramic ballistic protection materials, comprising reaction-bonded silicon carbide; high purity alumina, and zirconia-toughened alumina, adhere to rigorous global standards such as the National Institute of Justice (NIJ) 'Level IV' and STANAG Level 3. Designed for optimal ergonomics, these materials can be customized into various sizes and shapes, catering to the needs of bulletproof vests and armoured vehicles.

ALSO READ

Defence Expo 2024: Maharashtra Spearheads MSME Defence Innovation in Pune - Defence News | The Financial Express

Additionally, CUMI plays a vital role in supplying fine powders essential for the production of ceramic thermal spray coatings. These coatings are integral for safeguarding aircraft engines and components against heat and wear, a critical aspect of defence manufacturing and maintenance. Through close collaboration with DRDO research entities, CUMI is actively contributing to the development of these coatings, further fortifying India's defence infrastructure.

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First published on: 01-03-2024 at 21:04 IST

2020 - 21

Caring for the communities we operate in through our various education, health and welfare programmes to deepen our social sustainability.

We believe that caring for the communities we touch and operate in is vital to our social sustainability. During the pandemic crisis we opened our factory kitchens to the underprivileged and displaced migrant labour, contributed towards the Government's Relief Funds, provided for hospital beds, arranged vaccination camps, opened quarantine centres and disseminated information on health and safety in the neighbourhood.

We continued our focus on the three metrics of health, education

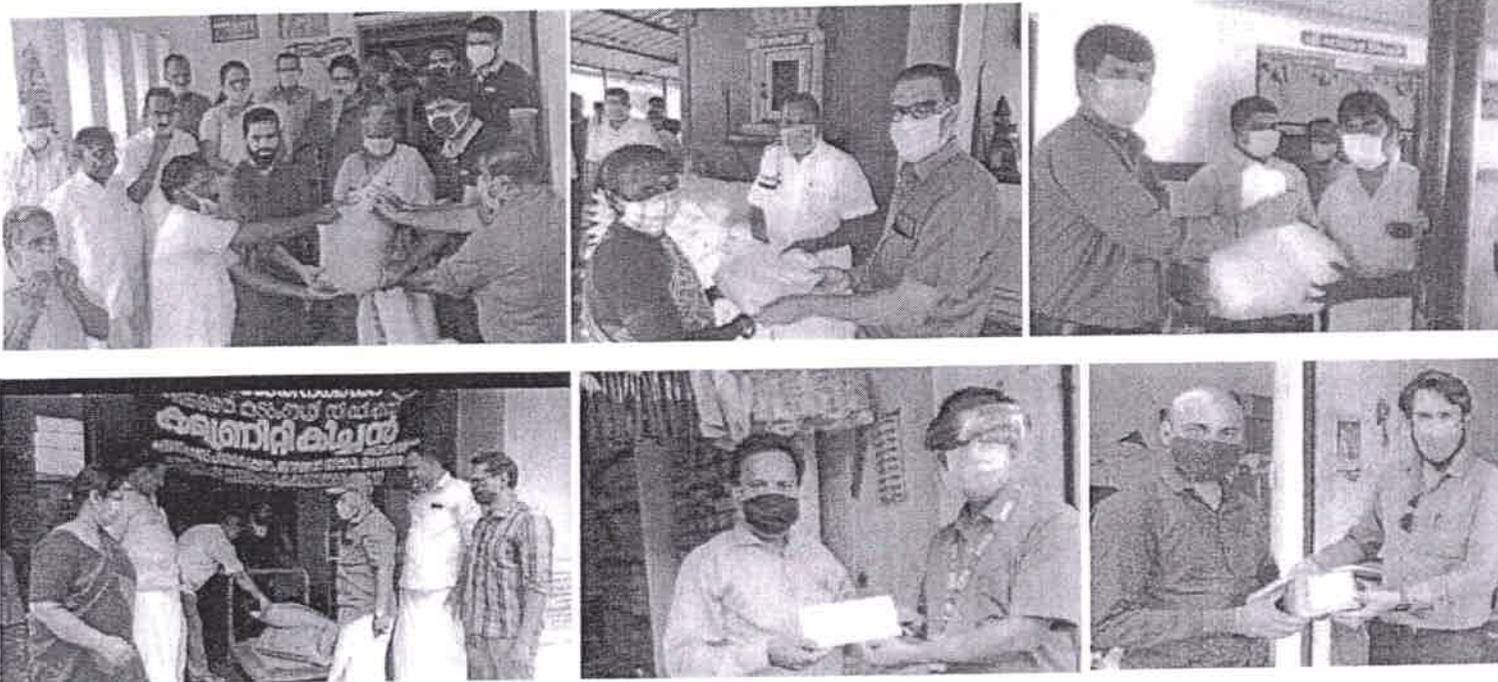
and welfare as part of our social sustainability goals. Health camps, partnering with Schools and NGO's for development programmes, Mobile Medical vans, dispensaries at Plants for the communities we operate in, welfare programmes for promoting women entrepreneurship, are a few of the socio-welfare programmes enhancing the lives of the lesser privileged, providing them opportunities for growth and social advancement.

The CUMI Skill Development Centres at Hosur, Ranipet and Edappally, are

residential facilities which provide children from lesser privileged background, Government certified, job based training for employability and advancement in life. The Centre has been recognised as the 'Best Skill Development Centre' by the Ministry of Human Resources, Government of India.

Central to our social commitment to the community around us is the Spirit of Responsibility which aims to create a just and equitable ecosystem.

CSR Initiatives across locations

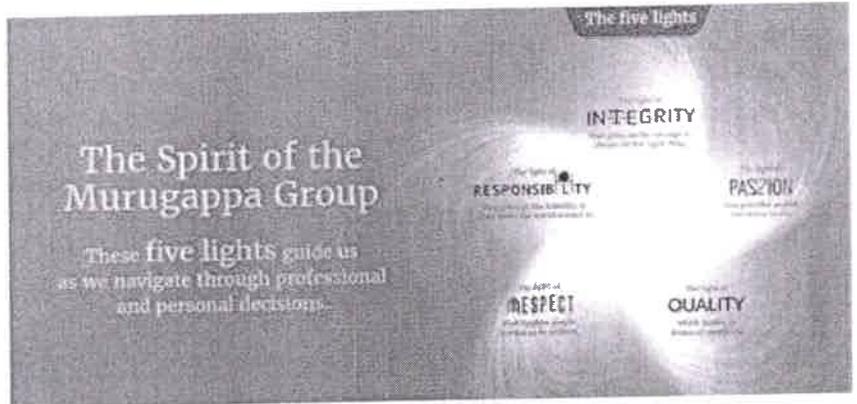


Strong Governance standards and a sustainable ecosystem creating shared value for all stakeholders.

CUMI's journey, marking nearly seven decades in business, is a demonstration of its sustainability, and its strong fundamentals.

Embedded in the Company's business framework is a strict fiscal discipline and prudent use of resources to nurture long term growth and economic sustainability.

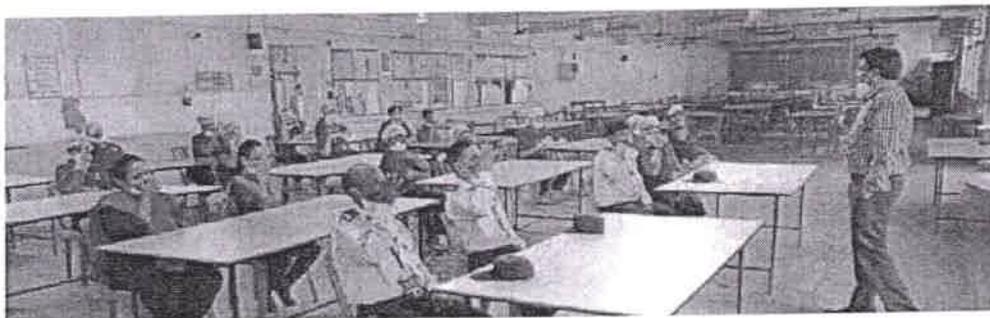
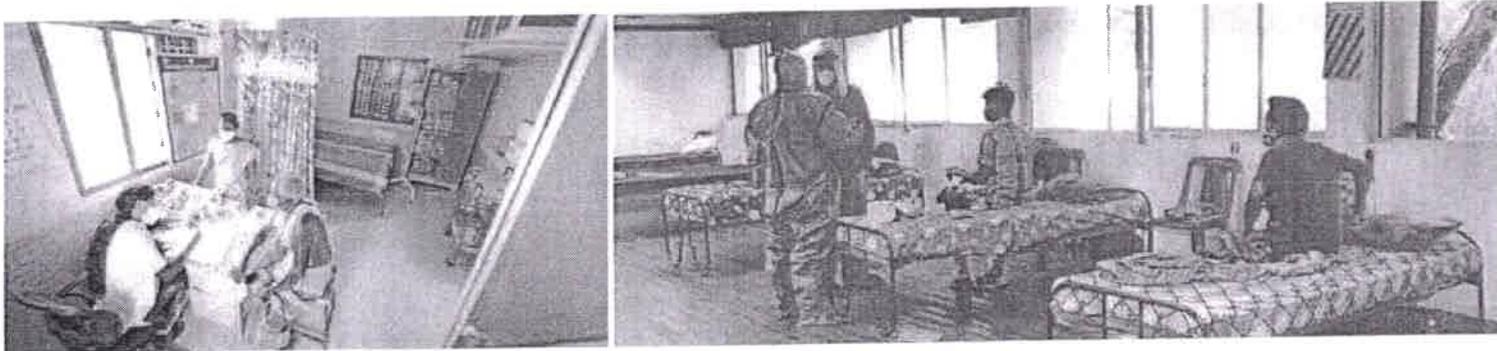
Adhering to Compliance requirements beyond the letter of law, together with a robust Risk Management system, our Corporate Governance Standards are built on a strong framework of trust, transparency, accountability



and ethical practices, resonating the Spirit of the Murugappa Group.

Inherent in CUMI's framework of sustainability is the principle of creating

shared value for all stakeholders: employees, shareholders, customers, community and the larger society.



There are no materially significant Related Party transactions made by the Company with its Promoters, Directors, Key Managerial Personnel or their relatives which may have a potential conflict with the interest of the Company at large.

The Company's policy on dealing with Related Parties as approved by the Board is available on the Company's website in the following link <https://www.cumi-murugappa.com/policies-disclosure/>. None of the Directors and KMPs had any pecuniary relationship or transaction with the Company other than those relating to remuneration in their capacity as Directors/ Executives and corporate action entitlements in their capacity as shareholders of the Company.

CORPORATE SOCIAL RESPONSIBILITY

The Murugappa Group is known for its tradition of philanthropy and community service. The Group's philosophy is to reach out to the community by establishing service oriented philanthropic institutions in the field of education and healthcare as the core focus areas. The Company being a constituent of the Group has been upholding this tradition by earmarking a part of its income for carrying out its social responsibilities.

The Company continues to engage in Corporate Social Responsibility (CSR) activities directly as well as through implementation agencies registered with the Central Government, in line with its stated CSR policy.

The Company set up the CUMI Centre for Skill Development (CCSD) in the year 2012 at Hosur, to build a skill bank of a technically competent and industry ready work force from the less privileged sections of the society. During the FY 2015-16, the Company replicated this model in Edapally, Cochin. During the FY 2018-19, the Company along with its Joint Venture - Murugappa Morgan Thermal Ceramics Limited has replicated this model in Ranipet, Tamil Nadu. CCSD provides specialised training based on National Council on Vocational Training syllabus for the rural youth drawn from socially and underprivileged sections of the society. Three year training is imparted with a stipendiary payment and free boarding facilities, thus enabling the enrolled students to earn while they learn. The job-oriented skill training enhances their employability and aids in uplifting their socio-economic status. The technically trained students can be employed by any industrial entity once they complete the training programme. The Company continues to harness the potential of CCSD centres so far established. The Company takes pride in informing that few students have earned accolades at national/regional level for their par excellence performance in academic and technical areas.

In addition to the CCSD, the Company has also been contributing to the cause of health and education by making grants to AMM Foundation. Further, during the year, the CSR activities in the healthcare sector involved grants for conducting pediatric cardio surgery at Sri Sathya Sai Sanjeevani Hospitals besides installation of oxygen generator at Sir Ivan Stedeford Hospital. Sri Sathya Sai Health Education Trust established in May 1970 started Sri Sathya Sanjeevani Hospitals in 2012 primarily to address congenital heart disease free of cost to the needy children. Sir Ivan Stedeford Hospital, a multi-speciality hospital set up in 1966 located in Ambattur, Chennai aims at providing quality medical care through latest technology to cater to the medical needs of the poor and needy sections of the society at an affordable

cost. AMM Foundation, an autonomous charitable trust, is engaged in philanthropic activities in the field of education and healthcare since 1953. The Company's focus areas for grants to implementing agencies continued to be in the education and health sector. The grant to AMM Foundation for the education sector was through contributions to Vellayan Cheitthar Higher Secondary School, Tiruvottiyur (VCHSS) - which has been making a difference in the field of education for the past 50 years. The school runs with the vision - To provide Quality Education with good virtues, for the underprivileged and marginalised communities around Tiruvottiyur.

With respect to healthcare, a grant to AMM foundation was made for continuing to operate the mobile health van at Jhabera, Uttarakhand which provides free primary healthcare at doorstep, diagnosis of diseases through the mobile health lab, providing treatment through free medicines and creating awareness on the importance of healthcare in the nearby communities.

During the year, a grant was also made to Hosur Industrial Association for construction of a building for a Skill Development Centre in Hosur which is a most sought after industrial location. Hosur Industrial Association ('HIA') was set up in the year 1981 with an aim to protect and promote the interests of industrial establishments located in and around Hosur. Considering the increasing unemployment due to lack of requisite skill and to bridge the gap between the skill requirement versus the actual skills available, a Skill Development Centre is being built by HIA in Hosur to promote education in the field of technical trades as well as commercial education like ERP, use of computers etc.

Since mid of March 2020, the novel Corona Virus pandemic 2019 (COVID-19) has posed an unparalleled and enormous challenge to the nation and world at large. Having been declared a 'pandemic' by the World Health Organisation, it not only caused disruption to business operations but also to normal life especially during the phase of the second wave (Delta variant) which remains the most deadliest and severe variant of the virus impacting the first half of the FY 2021-22. Hence, in order to support the efforts of the State Government to combat the ongoing crisis and also aid the Government to deal with emergency or distress situation posed by COVID-19, the Company made a contribution of ₹10 million to the Tamil Nadu State Disaster Management Authority.

The local community assistance programmes undertaken at various plant locations included COVID-19 relief activities across locations through supply of medical equipment kits to frontline workers, supply of food and other essentials, setting up quarantine ambulance facility and providing oxygen cylinders. The contribution for these local initiatives and support aggregated to ₹1 million approximately.

Besides the above, the Company also actively pursued local community assistance programmes in and around its plant and office locations anchored by its employees.

The Company's CSR policy is available on the Company's website at the following link <https://www.cumi-murugappa.com/policies-disclosure/>. Annual report on the CSR activities in the prescribed format is annexed hereto as Annexure B and forms part of this Report.

The Company in line with the amendments in Companies Act, 2013, formulated an annual action plan, which was approved

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by the Board of Directors, in pursuance of the CSR Policy of the Company, based on which spending on CSR activities were undertaken for FY 2021-22. The Company spent ₹45.86 million towards CSR activities and no amounts remain unspent at the end of the year.

As at 31st March 2022, the CSR spend made directly and through implementing agencies has been utilised in full and hence, the Company is in compliance with the provisions of Section 135 of the Act and the rules referred therein.

BUSINESS RESPONSIBILITY REPORTING

The Company's ethical and responsible behaviour complements its corporate culture. Being a public listed company, the Company recognises that its accountability is not limited only to its shareholders from a financial perspective but also to the larger society in which it operates. During 2016-17, consequent to the mandatory reporting of its business responsibility initiatives under the Listing Regulations, the Company had formulated a consolidated policy on Business Responsibility which lays down the broad principles guiding the Company in delivering its various responsibilities to its stakeholders. The policy is intended to ensure that the Company adopts responsible business practices in the interest of the social set up and the environment so that it contributes beyond financial and operational performance. A copy of the policy is available at <https://www.cumi-murugappa.com/policies-disclosure/> and the Business Responsibility Report for the year ended 31st March 2022 in terms of Regulation 34(2) of the Listing Regulations is annexed to this Report as Annexure C. The Company has initiated steps to establish tracking and reporting of information in the Business Responsibility and sustainability reporting which will become mandatory in the coming years.

GOVERNANCE

Board of Directors and Key Managerial Personnel

As at 31st March 2022, the Board of the Company comprised eight Directors of which majority (five) are independent.

During the year, Mr. Sridharan Rangarajan was appointed as Whole Time Director designated as Director – Finance & Strategy for a term commencing from 1st July 2021 to 30th June 2026 with the shareholders approval obtained in 67th AGM of the Company held last year on 2nd August 2021.

Mr. N Ananthaseshan, Managing Director retires by rotation at the forthcoming Annual General Meeting and being eligible has offered himself for re-appointment. A proposal for his re-appointment is included in the Notice convening the 68th Annual General Meeting for consideration and approval by the shareholders.

The Company has received declarations from all its Independent Directors confirming that they meet the criteria of independence prescribed both under the Companies Act, 2013 and the Listing Regulations. In the opinion of the Board, all the Directors appointed/re-appointed during the year are persons with integrity, expertise and possess relevant experience in their respective fields.

All the Independent Directors of the Company have registered their names in the Independent Director's Databank as required under the Companies Act, 2013 and the Rules

referred therein. The Independent Directors are also required to take up an online proficiency self-assessment test within two years from the date of inclusion of their name in the Independent Director's databank with an exemption provided to Directors fulfilling the criteria prescribed under the Act and the Rules referred therein. The completion of the online proficiency self-assessment test is exempted for most of the Directors. Some of the Independent Directors including those required to do so have completed the self-assessment. Mr. P S Raghavan and Mrs. Soundara Kumar (though being exempt) have completed their proficiency self-assessment within the timelines.

As on the date of this Report, Mr. N Ananthaseshan, Managing Director, Mr. Sridharan Rangarajan, Director – Finance & Strategy, Mr. P Padmanabhan, Chief Financial Officer and Ms. Rekha Surendhiran, Company Secretary are the Key Managerial Personnel of the Company as per Section 203 of the Companies Act, 2013.

Board Meetings

During the year, ten Board Meetings were held, the details of which are given in the Corporate Governance Report.

Board Evaluation

Pursuant to the provisions of the Companies Act, 2013 and the Listing Regulations, the Board carried out an annual performance evaluation of its own performance, the Directors individually as well as the evaluation of the working of its various Committees as per the evaluation framework adopted by the Board on the recommendation of the Nomination and Remuneration Committee. Structured assessment forms were used in the overall Board evaluation comprising various aspects of the Board's functioning in terms of structure, its meetings, strategy, governance and other dynamics of its functioning besides the financial reporting process, internal controls and risk management. The evaluation of the Committees was based on their terms of reference fixed by the Board besides the dynamics of their functioning in terms of meeting frequency, effectiveness of contribution etc.

Separate questionnaires were used to evaluate the performance of individual Directors on parameters such as their level of engagement and contribution, objective judgement etc. The Managing Director's evaluation was based on leadership qualities, strategic planning, communication, engagement with the Board etc.

The Chairman was also evaluated based on the key aspects of his role. The performance evaluation of the Independent Directors was carried out by the entire Board. The performance evaluation of the Chairman, the Board as a whole and the Non-Independent Directors was carried out by the Independent Directors at their separate meeting held during the year.

The Board evaluation process continues to be conducted in a paperless mode.

Policy on Appointment and Remuneration of Directors

Pursuant to Section 178(3) of the Companies Act, 2013, the Nomination and Remuneration Committee of the Board has formulated the criteria for Board nominations as well as the policy on remuneration for Directors and employees of the Company.

There are no materially significant Related Party transactions made by the Company with its Promoters, Directors, Key Managerial Personnel or their relatives which may have a potential conflict with the interest of the Company at large.

The Company's policy on dealing with Related Parties as approved by the Board is available on the Company's website at the following link <https://www.cumi-murugappa.com/wp-content/themes/CUMI/pdf/policies/Policy-on-Related-Party-Transactions.pdf>. None of the Directors and KMPs had any pecuniary relationship or transaction with the Company other than those relating to remuneration in their capacity as Directors/Executives and corporate action entitlements in their capacity as shareholders of the Company.

CORPORATE SOCIAL RESPONSIBILITY

All CSR activities undertaken by CUMI are rooted in the principle, "towards prosperity in harmony with people and planet". We believe that social responsibility is not just a corporate obligation that has to be carried out, but rather an opportunity to make a difference. All our CSR programmes are aimed at inclusive growth and sustainable development of the community.

The Company continues to engage in Corporate Social Responsibility (CSR) activities directly as well as through implementation agencies registered with the Central Government, in line with its stated CSR policy.

The Company had set up the CUMI Centre for Skill Development (CCSD) in the year 2012 at Hosur, to build a skill bank of a technically competent and industry ready workforce from the less privileged sections of the society. During the FY 2015-16, the Company replicated this model in Edapally, Cochin. During the FY 2018-19, the Company along with its Joint Venture - Murugappa Morgan Thermal Ceramics Limited replicated this model in Ranipet, Tamil Nadu. CCSD provides specialised training based on National Council on Vocational Training syllabus for the rural youth drawn from socially and underprivileged sections of the society. Three-year training is imparted with a stipendiary payment and free boarding facilities, thus enabling the enrolled students to earn while they learn. The job-oriented skill training enhances their employability and aids in uplifting their socio-economic status. The technically trained students can be employed by any industrial entity once they complete the training programme. The Company continues to harness the potential of CCSD centres so far established. The Company takes pride in informing that few students have earned accolades at national/regional level for their par excellence performance in academic and technical areas.

In addition to the CCSD, the Company has also been contributing to the cause of health and education by making grants to AMM Foundation. Further, during the year, grants were also made to Shri A M M Murugappa Chettiar Research Centre (MCRC) for research in rural development.

Further, during the year, the CSR activities in the healthcare sector involved grants for conducting pediatric cardio surgery at Sri Sathya Sai Sanjeevani Hospitals besides installation of

oxygen generator, at Sir Ivan Stedeford Hospital. Sri Sathya Sai Health Education Trust established in May 1970 started Sri Sathya Sanjeevani Hospitals in 2012 primarily to address congenital heart disease free of cost to the needy children. Sir Ivan Stedeford Hospital, a multi-speciality hospital set up in 1966 located in Ambattur, Chennai aims at providing quality medical care through latest technology to cater to the medical needs of the poor and needy sections of the society at an affordable cost. AMM Foundation, an autonomous charitable trust, is engaged in philanthropic activities in the field of education and healthcare since 1953. The Company's focus areas for grants to implementing agencies continued to be in the education and health sector. The grant to AMM Foundation for the education sector was through contributions to Vellayan Chettiar Higher Secondary School, Tiruvottiyur (VCHSS) - which has been making a difference in the field of education for the past 50 years. The school runs with the vision - To provide Quality Education with good virtues, for the underprivileged and marginalised communities around Tiruvottiyur. As part of Skill development, a CSR Spend was made towards coaching the students of Murugappa Youth football academy (MYFA) by engaging BVB Febballakademie GmbH, a firm from Germany specialised in football coaching. They conducted a camp for three days covering five training sessions for the MYFA students.

Further, the Company had also contributed towards essential medical equipment like Wheel chair, Stretcher Trolley, ECG equipment, BP Checkup equipment, Computers, Sugar testing equipment and Clinical microscope for setting up at Shri Padmavathi General hospital at Madurantakam, Chengalpattu, run by Sri Padmavathy Trust for Socio Economic Uplift of rural communities.

MCRC is a non-Governmental voluntary research organisation working on devices and technologies for rural application of eco-friendly technologies to combat pollution. MCRC is recognised by Department of Scientific and Industrial Research, Government of India as a Scientific and Industrial Research Organisation to conduct research in various areas and is approved by the University of Madras, Chennai to offer Ph.D. programmes in the areas of Energy, Bioenergy and Biomass for rural development. During the year, a grant was made to MCRC for research and development on biological waste water treatment using Microbial, Enzymes etc., for rural villages.

The local community assistance programmes undertaken at various plant locations included Education & Child development, Health care, Youth empowerment, Women empowerment, flood relief activities across locations, Educational sponsorships of underprivileged children, livelihood programs for the women, sports, recreation and support for basic infrastructure for the public utility and schools etc.

Besides the above, the Company also actively pursued local community assistance programmes in and around its plant and office locations anchored by its employees.

Annexure to CSR Report

Details of CSR amount spent against other than ongoing projects for the financial year:

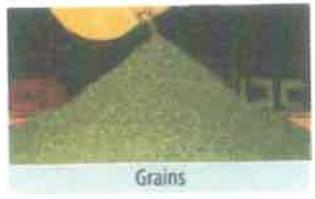
S.no	Name of the Project	Item from the list of activities in schedule VII to the Act	Local Area (Yes/No)	Location of the project		Amount spent for the project (in ₹)	Mode of implementation - Direct (Yes/No)	Mode of implementation - Through implementing agency	
				State	District			Name	CSR registration number
1	CJMI Centre for Skill Development - Hosur, Cochin and Ranipet	Technical skill training	Yes	Krishnagiri District, Tamil Nadu, Ernakulam District, Kerala, Ranipet District, Tamil Nadu		1,14,05,192	Yes	-	
2	AMM Foundation - AMM Vellayan Chettiyar Higher Secondary School	School education	Yes	Tamil Nadu, Uttarakhand		1,78,32,417	No	AMM Foundation	CSR00000050.
3	Football coaching for students of Murugappa Youth Football Academy	Technical Skill training	Yes	Tiruvallur, Tamil Nadu		4,99,583	Yes	-	
4	Sponsorship for pediatric cardio surgery in Sri Sathya Sai Sanjeevani Hospitals	HealthCare	No	Bangalore, Karnataka		5,20,000	No	Sri Sathya Sai Health and Education Trust	CSR00001048
5	Research & Development on Biological waste water treatment using microbial enzymes for rural villages	Rural Development	Yes	All over Tamil Nadu		64,00,000	No	Shri A.M.M. Murugappa Chettiar Research Centre (MCRC)	CSR00000057
6	Purchase of essential medical equipment for SVP Trust Hospital	Healthcare	Yes	Villupuram, Tamil Nadu		2,29,000	Yes	-	
7	Sir Ivan Stedford Hospital - Installation of oxygen concentrator	Healthcare	Yes	Chennai, Tamil Nadu		45,000	Yes	-	
8	Installation of water purifier at Government School	Education	Yes	Kolkata, West Bengal		127,352	Yes	-	
9	ASK (Attitude, Skill, Knowledge) centre	Women Empowerment	Yes	Ernakulam & Trichur, Kerala		481,938	Yes	-	
10	Youth empowerment	Rural development	Yes	Ernakulam, Kerala		134,992	Yes	-	
11	Other local area spend in the area of Medical camp/Flood relief/preventive health care/Distribution of Plant Saplings	Health care/ Disaster management/ Environmental sustainability	Yes	Ernakulam, Kerala/ Ranipet, Tamil Nadu		157,595	Yes	-	

VALUE CHAIN - CUMI CONSOLIDATED OPERATIONS

ABRASIVES & AL

COATED ABRASIVES

BONDED ABRASIVES



Grains



Resins



Grains



Resins / Bonds



Cloth



Power



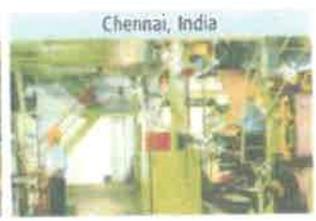
Fuel



Captive Power - SEDCO



Sriperumbudur, India



Chennai, India



Chennai, India



Volzhsky, Russia



Kolkatta, India



Uttarkhand, India



Hosur, India



Sterling, Ahmedabad, India



Coated Abrasives



Bonded Abrasives



Wood Working



Fabrication



Automobiles



Bearing

PRODUCT AVAILABILITY POINTS - INDIA, USA, CANADA, MIDDLE EAST, AUSTRALIA, NETHERLANDS, RUSSIA, DEALERS



Brazil



Canada



China



Egypt



France



Germany



Gret

VALUE CHAIN - CUMI CONSOLIDATED OPERATIONS

ELECTROMINERALS

REFRACTORIES



Aluminium Oxide & Silicon Carbide



Calcined Bauxite / Clay



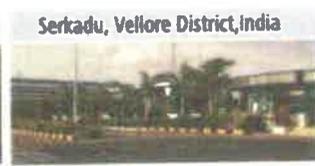
Alumina



Power - SEDCO



Ranipet / India



Serkadu, Vellore District, India



MMTCL Ranipet, India



CIRIA, Noida, India



Volzhsky, Russia



Jabalpur, India



Shaped Refractories



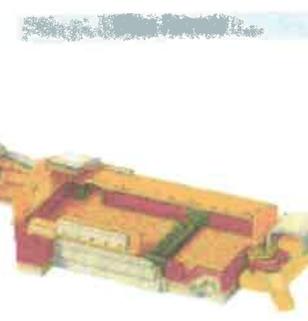
Refractory Fibre Products



Refractory Fibre Products



Refractory Design & Installation



Cement Plant



Fibre Lined Kiln



Petrochemicals

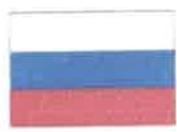


Petrochemicals

DIRECT TO CUSTOMER



India



Russia



Switzerland



Singapore



South Africa



South Korea



Spain



Sri Lanka

S & CERAMICS

CERAMICS & VALUE ADDED PRODUCTS

ANTICORROSION PRODUCTS



Calcined Alumina



Fuel



Electricity



Chemicals / Resins

Hosur, India

Rockampton, Australia

Hosur, India

Kanpur, India



Ceramics tiles, grinding media, segments



Metallised / Engineered Ceramics



Lined Equipment Metallised Cylinders Installation services



Acid / Corrosion Resistant Products & FRP Products

Sanitaryware & Wall Tiles

Power Transmission

Coal Washery

Mill Plant



DIRECT TO CUSTOMER



Taiwan



Thailand



Turkey



U.A.E.



United Kingdom



U.S.A.

ABRASIVE / REFRACTORY INPUTS

KEY INPUTS



Chemicals



Raw Petroleum Coke



Raw Bauxite



Cotton Yarn



Silica Sand



Hydel Power Plant, Maniyar

PLANTS

Sriperumbudur, India



Edappally, India



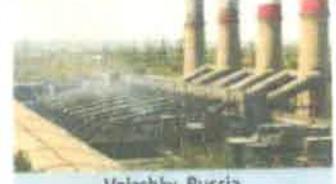
Koratty, India



Maraimalainagar, India



Nallur, India



Voizshky, Russia

PRODUCTS

Polymer Resins



Backing Cloth



Electricity



Black & Green Silicon Carbide



White & Brown Alumina

USER INDUSTRIES



Coated Abrasives



Bonded Abrasives



Super Refractories

DISTRIBUTION



MARKETS



Argentina



Australia



Austria



Bangladesh



Belgium

LIED PRODUCTS

SUPER ABRASIVES



Industrial Diamonds



Chemicals - Base Oil



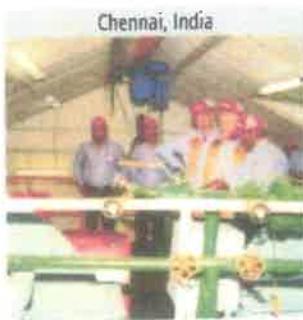
Electrical Parts



Chemicals



Wendt India, Hosur



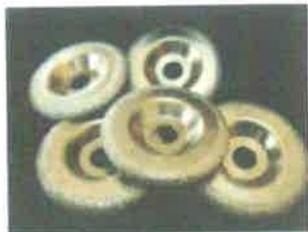
Chennai, India



Hosur, India



Serkadu Plant



Super Abrasives



Metalworking fluids



Power Tools



Construction Chemicals



Stone Cutting



Engineering



Construction



Housing

DIRECT TO CUSTOMERS



India



Italy



Japan



Kenya



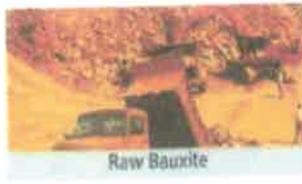
Malaysia



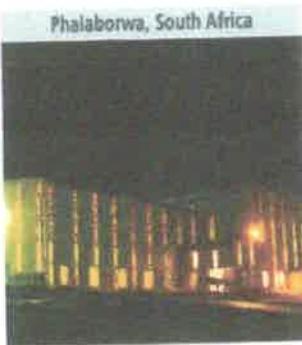
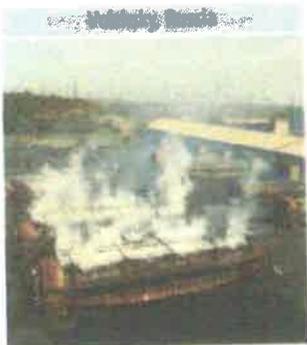
New Zealand

ELECTROMINERALS

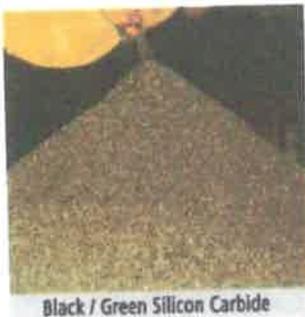
KEY INPUTS



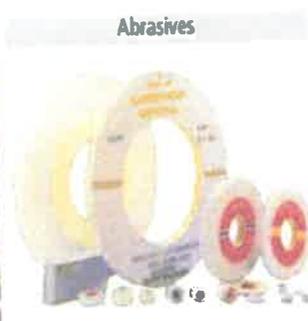
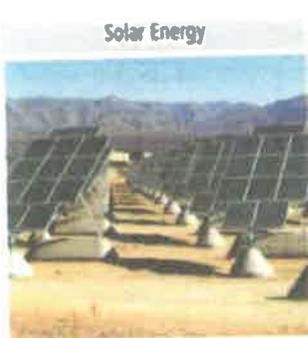
PLANTS



PRODUCTS



USER INDUSTRIES



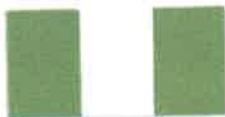
DISTRIBUTION

DIRECT TO CUSTOMER

MARKETS



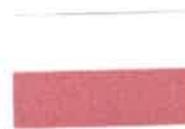
Netherlands



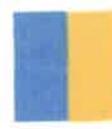
Nigeria



Norway



Poland



Roman







61









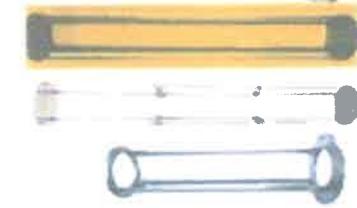
Applications of Silicon Carbide



Ballistic Protection- Defence



Silicon Carbide wafers used in Aerospace, EV, power electronics applications.



Silicon Carbide Semiconductor handling components.



Applications of Silicon Carbide

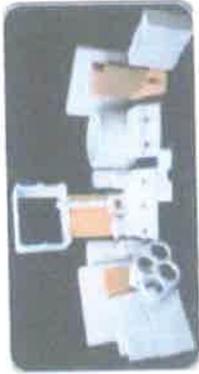
CUMI



SiC gear



SiC bearings



Hydrogears



Hydrogears



Hydro



Hydro's Blowing



Hydro's Accurates



Coated Bearings

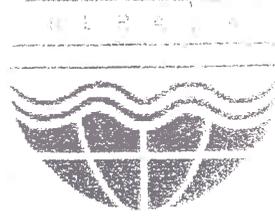


Hydrogears



Hydro





Annexure 5 & 14

KERALA STATE POLLUTION CONTROL BOARD

FILE NO. : KSPCB/TS/ICO/10041755/2024

Date of issue : 09-01-2024

INTEGRATED CONSENT TO OPERATE - RENEWAL

Consent No : KSPCB/TS/ICO/10041755/2023

Valid upto : 30 / 06 / 2028

Ref:

1. Consent no PCB/HO/TSR/ICO-R/11/2018 dated 16.07.2018 valid up to 30.06.2023
2. Your application dated 21.06.2023

The Integrated Consent to Operate issued as per reference above is hereby modified & issued to M/s CARBORUNDUM UNIVERSAL LIMITED , PB.NO.3,NALUKETTU P.O,KORATTY.

The consent(s)/ variation order(s) cited under reference are integral part of this consent variation order and this order is subject to the conditions stipulated therein and the following modifications/ additions.

1. GENERAL

S No.	Items	Description
1	Raw material	Raw petroleum coke – 20 TPD Quartz – 24 TPD Silicon carbide grains, brown fused alumina grains, white fused alumina grains, special ceramic grains – 25 TPD Silicon carbide crude – 20 TPD
2	Product	Silicon carbide macro grains – 40 TPD Microgrits of SiC and special ceramics – 24 TPD
3	Annual fee	Rs 1,50,000/-
4	Fee remitted (For 5 years)	Rs 7,65,833/- (Rs 29,333/- arrear fee and Rs 13,500/- excess from previous

		renewal application)
5	Capital investment (in Lakhs)	Rs 3521
6	Validity	30.06.2028

2. CONDITIONS

2.1 For renewal of the consent in case of continuance of operation of the industry, application in the prescribed form shall be submitted through the web portal of the Board (www.keralapcbonline.com) for renewing the Consent on or before two months in advance to expiry date. Late application will be accepted with 10% (for application before expiry date) & 50% of yearly fee as late fee for application after due date. The renewal application in the prescribed form shall be submitted through the web portal of the Board.

2.2 The applicant shall comply with the instructions that the Board may issue from time to time regarding prevention and control of air, water, land and sound pollution.

2.3 No change or alteration of the unit/establishment is to be made without the prior written permission of the Board. Any change in the particulars furnished and/or in the identity of the occupier/authorized agent is to be intimated to the Board forthwith.

2.4 This consent is granted based on the particulars and affidavit submitted by the Entrepreneur and any violation/non-compliance/submission of false information will lead to cancellation of consent and stringent action against the applicant and occupier.

2.5 This consent is granted subjected to the power of the Board to review and make variations in all or any of the conditions as per section 21 (6) of the Air Act 1981 and Section 27 of Water Act 1974.

2.6 Ordinary coke shall be used instead of Pet coke.

2.7 Stack with adequate stack height shall be provided to keep the emission quality to the standards.

2.8 Waste water generated shall be properly treated the standards prescribed before disposal.

All other conditions of the Integrated Consent to Operate issued as per reference above remain unchanged.

Signature valid

Digitally signed by SHEELA A M
Date: 2024.01.09 23:24:36 IST

SIGNATURE OF ISSUING AUTHORITY

MEMBER SECRETARY

69

To

M/s CARBORUNDUM UNIVERSAL LIMITED

PB.NO.3.NALUKETTU P.O,KORATTY

E-Mail : Kuruvillarajeshj@cumi.murugappa.com

Contact Number :9645238258,

- 1.This digitally signed document is legally valid as per the Information Technology Act 2000
 2. For verifying this document please go to www.keralapcbonline.com and search using Certificate Number/Name of the unit/Application Number in "Certificate Verification" link in the home page of the Board's Phoenix website.
-



KERALA STATE POLLUTION CONTROL BOARD

FILE NO. :PCB/HO/TSR/ICO/81/2007

Date of issue :16/07/2018

INTEGRATED CONSENT TO OPERATE - RENEWAL

Consent No : PCB/HO/TSR/ICO-R/11/2018

Valid upto 30/06/2023

Ref : 1.Consent No:PCB/HO/TSR/ICO-R/10/2015 dated 08/08/2015 Valid upto 30/06/2023

The ' Integrated Consent to Operate' issued as per reference above to M/s CARBORUNDUM UNIVERSAL LIMITED,PB.NO.3,NALUKETTU P.O,KORATTY,THRISSUR-680308, is hereby renewed up to 30/06/2023 and issued to M/s CARBORUNDUM UNIVERSAL LIMITED,PB.NO.3,NALUKETTU P.O,KORATTY,THRISSUR-680308. The consent(s)/ variation order(s) cited under reference are integral part of this renewal order and this order is subject to the conditions stipulated therein and the following modifications/ additions.

I. GENERAL

S.No.	Items	Description
1	Validity	30/06/2023
2	Annual Fee	Rs.1,44,000/-
3	Capital Investment	Rs.3390.38 Lakhs
4	Fee Remitted	Rs.7,33,500/-(for 5 years)
5	Category	Red
6	Raw material	Petroleum Coke-20 M T/d Silicon carbide crude 10 MT/d Quartz -24 M T/d
7	Product	Silicon carbide macro grains -27 M T/d Micro grits of SiC and special ceramics -15 MT/d
8	Raw material	Grains of Silicon Carbide, Brown fused Alumina, White fused Alumina ,Special ceramic (total) -16 M T/d

II. Stack Details

Stack No.	Source of Emission	Emission Rate(Nm ³ /Hr)	Stack Height above		Control Equipment
			Ground Level(In Meters)	Roof Level(In Meters)	

As per the previous consent					
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III. CONDITIONS

1. Fee and arrears as per notification no.G.O(P)No.2/2017/Envt. dated 04.11.2017 shall be remitted to the Board on receipt of this consent.

All other conditions of the Integrated Consent to Operate issued as per reference above remain unchanged.

THANKAPPAN T A Digitally signed by THANKAPPAN T A
 Date: 2018.08.03 12:40:16 +05'30'
 SIGNATURE & SEAL OF ISSUING AUTHORITY
 MEMBER SECRETARY

DATE :16/07/2018



To
 M/s CARBORUNDUM UNIVERSAL LIMITED,
 PB.NO.3,NALUKETTU P.O,
 KORATTY,THRISSUR-680308

1. This digitally signed document is legally valid as per the Information Technology Act 2000
2. For verifying this document please go to krocmmms.nic.in and search using date of issue/name of the unit/Application Number in "Consent Granted Applications" link in the home page of the Board's Online Consent Management and Monitoring System.

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Anne



KERALA STATE POLLUTION CONTROL BOARD

FILE NO. PCB/HO/TSR/ICO/81/2007
Date of issue :08/08/2015

INTEGRATED CONSENT TO OPERATE - RENEWAL

Consent No : PCB/HO/TSR/ICO-R/10/2015

Ref : Consent No PCB/HO/TSR/ICO-R1/03/2012 dated 14.09.2012

The ' Integrated Consent to Operate' issued as per reference above to M/s Carborandum Universal Ltd, P B.No-3, Koratty, Thrissur-680308 is hereby renewed up to 30/06/2018 and issued to M/s Carborandum Universal Ltd, P B No-3, Koratty, Thrissur-680308 The consent(s)/ variation order(s) cited under reference are integral part of this renewal order and this order is subject to the conditions stipulated therein and the following modifications/ additions.

I. GENERAL

S.No.	Items	Description
1	Validity	30.06.2018
2	Capital Investment	Rs 33. 60 Crores
3	Date of Application	07.07.2015
4	Date of enquiry	27.05.2015

II. CONDITIONS

1. Condition 6.5 is modified as. Adequate fire safety measures shall be installed in accordance with fire safety regulations.

All other conditions of the Integrated Consent to Operate issued as per reference above remain unchanged.

DATE :08/08/2015

SIGNATURE & SEAL OF ISSUING AUTHORITY

OFFICE SEAL

MEMBER SECRETARY

Copy To

1. The Environmental Engineer, District Office, Thrissur
2. Stock file

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FILE NO - PCB/HO/TSR/ICO/81/07

31/2/2010



KERALA STATE POLLUTION CONTROL BOARD

INTEGRATED CONSENT TO OPERATE/AUTHORISATION

UNDER

The Water (Prevention & Control of Pollution) Act 1974

The Air (Prevention & Control of Pollution) Act 1981

&

The Environment (Protection) Act 1986

To

The Managing Director
Carborandum Universal Limited
P. B. No. 3, Koratty
Thrissur- 680 308

Consent no: PCB/HO/ICO/TSR/09/R1/2010

Date of issue: 04.07.2010

Validity: 30.06.2012

Copy to:

1. The Chief Environmental Engineer
Regional Office, Ernakulam
2. The Environmental Engineer, District Office, Thrissur
3. The Secretary, Koratty Grama Panchayat, Thrissur
4. Stock file

1. GENERAL

1.	VALIDITY	30.06.2012	
2.	Name and address of establishment	CARBORANDUM UNIVERSAL LIMITED Carborandum Universal Limited P.B. No. 3 Koratty 680 308 Thrissur	
3.	Communication	Telephone : 044-2536789 Fax : 044-25340858 e-mail :- Website :-	
4.	Occupier details	Sri K. Srinivasan Managing Director Carborandum Universal Limited Parry House, 43, Moore Street Chennai - 600 001	
5.	Survey Number	114/1 , 2, 1151/2, 1150/2	
6.	Village	Kizhakkummuri	
7.	Taluk	Mukundapuram	
8.	District	Thrissur	
9.	Local body	Koratty Grama Panchayat	
10.	Category	RED	
11.	Capital Investment	Rs. 30 Crores	
12.	Scale	LARGE	
13.	Annual Fee	Rs. 1,00,000/-	
14.	Fee remitted	Rs. 3,00,000/-	
		Purpose	Quantity in litre /day
		Cooling, boiler feed	5,000
15.	Water consumption	Domestic	5,000
		Irrigation	1,000
		TOTAL	11,000
16.	PRODUCTS	Silicon carbide macro and micro grit - 250 tonne per month	

2. GENERAL CONDITIONS

- 2.1 This consent is granted subject to the power of the Board to review and make variation in all or any of the conditions
- 2.2 The applicant shall comply with the instructions that the Board may issue from time to time regarding prevention and control of air, water, land and sound pollution
- 2.3 For renewal of the consent, application in the prescribed form shall be submitted to the Board in the third month before the date of expiry of the consent
- 2.4 No change or alteration of the industrial plant is to be made without the prior written permission of the Board. Any change in the particulars furnished and/or in the identity of the occupier/authorised agent is to be intimated to the Board forthwith

3. CONDITIONS AS PER The Water (Prevention & Control of Pollution) Act

- 3.1 The entire quantity of cooling water shall be recycled
- 3.2 Sewage effluent shall be treated in septic tanks and treated effluent shall be dispersed through soak pits with concreted bottom, honeycomb brick or perforated ring wall and 75 cm thick 2 mm sand envelope around.
- 3.3 Storm water shall be segregated from effluent.
- 3.4 Rainwater harvesting system shall be maintained properly.
- 3.5 Water meter shall be fixed to record consumption of water. Separate meters shall be fixed if cess at different rates is claimed for use of water for cooling/boiler feed, domestic, process where the effluent is easily biodegradable and / or not toxic and process where the effluent is not easily biodegradable and / or toxic.

4. CONDITIONS AS PER The Air (Prevention & Control of Pollution) Act

- 4.1. Emission shall be made only through the following chimneys and characteristics shall not exceed the following:

Sl. No	Stack No.	Source of emission	Height & diameter in m	Flow in Nm ³ /hr	Parameter	Limiting standards mg/Nm ³
1	C1	Reclaims and Quartz dust collector in furnace plant	15 0.608	72,300	Particulate matter	150
2	C2	Crude crushing dust collector in furnace plant	18 0.475	62,000	"	150
3	C4	Grain crushing and sizing system in furnace plant	18 0.82	7,700	"	150

- 4.2. The port hole and platform cum ladder attached to stacks shall be maintained to facilitate monitoring of emissions.
- 4.3. There shall not be any fugitive emission from the premises.
- 4.4. The sound level measured 1 m outside the boundary of the premises shall not exceed the standards for the adjacent area.
- 4.5. Record of type, quantity and purpose of consumption of fuel shall be maintained and abstract shall be submitted to the Board along with emission monitoring report.
- 4.6. The suspended particulate matter at the boundary of the premises shall not exceed 200 microgram per cubic metre.

- 4.7 All operations likely to produce dust or noise shall be carried out within sufficiently closed and insulated premises.
- 4.8 The occupier shall install or modify equipments, as necessary, to ensure that the emission / ambient air / sound quality conform to the standards specified in condition no. 4.1 and 4.4

5. **CONDITIONS AS PER The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008**

5.1 Activities for which Authorisation is granted

Collection	Storage	Disposal
√	√	√

5.2 (i) Type, quantity and mode of storage/collection/treatment/disposal of hazardous wastes shall be as follows:

Sl. No.	Hazardous waste	Schedule Category	Quantity	Mode of	
				Storage	Disposal
1.	Spent Oil	5.1	2500 l/year	Stored in impermeable containers kept in roofed area with impervious flooring and protected from rain and seepage and entry of surface runoff	Dispose to re-refiner/ recycler, authorised by the Kerala State Pollution Control Board and registered with the Central Pollution Control Board

(ii) The location of the hazardous waste storage site shall be made known by display board at the site. The premises of the disposal site shall be kept clean

5.3 **Labelling and Transportation**

(a) All hazardous waste containers shall be provided with a general label as given in Form 13.

(b) Hazardous waste manifest in Form 12 shall be got prepared in set of six (all six copies to be signed by the transporter) and retained/ transported as indicated below:

Copy number with colour code	Purpose
Copy 1 (white)	To be forwarded by the occupier to the Kerala State Pollution Control Board
Copy 2 (yellow)	To be retained by the occupier after taking signature on it from the transporter and the remaining four copies to be carried by the transporter
Copy 3 (pink)	To be retained by the operator of the facility after signature
Copy 4 (orange)	To be returned to the transporter by the operator of facility after accepting waste
Copy 5 (green)	To be returned by the operator of the facility to Kerala State Pollution Control Board after treatment and disposal of wastes
Copy 6 (blue)	To be returned by the operator of the facility to the occupier after treatment and disposal of wastes

- c) Any accident during the collection and transport of hazardous waste shall be reported forthwith to the Head and District Office of the Board at Thrissur by telephone / fax / telegram and also in Form 14.
- d) The occupier shall provide the transporter with relevant information in Form 11, regarding the hazardous nature of the wastes and measures to be taken in case of an emergency.
- e) The occupier shall ensure that at the time of auction or sale of waste, the period of validity of certificate of registration of the registered re-refiner or recycler is sufficient to reprocess the quantity of wastes being sold or auctioned to him.

- 5.4 Records of hazardous wastes at the facility shall be maintained in Form 3.
- 5.5 The guidelines and criteria for handling hazardous wastes prescribed by the Central Pollution Control Board from time to time shall be followed.
- 5.6 The Authorisation is subject to conditions as may be specified in the Rules from time to time under the Environment (Protection) Act, 1986.
- 5.7 Any unauthorised change in personnel, equipment and working conditions as mentioned in the application by the person authorised shall constitute a breach of this authorisation.
- 5.8 It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.
- 5.9 The person authorised shall not rent, lend, sell or transfer the hazardous wastes without obtaining prior permission of the Board.
- 5.10 All the facility personnel must be well informed about the hazardous waste management procedure relevant to the positions in which they are employed. All the facility personnel must be trained to ensure that they are able to respond effectively to emergencies by familiarizing them with the emergency procedures, emergency equipment operations and communication or alarm systems.
- 5.11 Facilities must be established, tested periodically and maintained to minimize the possibility of a fire, explosion or any unplanned sudden or non-sudden release of hazardous waste to air, soil or surface water which could threaten human health or environment.
- 5.12 The authorisee must develop, implement and maintain and keep upto date, a contingency plan designed to minimize hazard to human health or the environment from fires, explosions or any unplanned sudden release of hazardous waste to air, soil or water.

6. OTHER CONDITIONS:

- 6.1 Used lead acid batteries shall be disposed as per the Batteries (Management and Handling) Rules 2001.
- 6.2 Arrangements for collection, segregation, storage, handling and disposal of solid wastes including garbage from canteen shall be maintained properly.
- 6.3 Periodical reports as detailed below shall be submitted to the Head Office and Regional Office/ District Surveillance Centre of the Board at Ernakulam:

Sl No.	Reports to be submitted to the Board	Periodicity
1	Effluent and storm water analysis report	Before the 10 th of every month
2	Water Consumption Returns in Form I	Before 5 th of every month
3	Emission monitoring report	Before the 10 th of every month
4	Annual returns of HW handled in Form 4	Annually before 30 th June
5	Hazardous waste manifest in Form 13	During transportation
6	Environment Statement in Form V	Annually by 30 th September



Office Seal

Date: 04.07.2010

SIGNATURE AND NAME OF
ISSUING AUTHORITY

P. MOLIKUTTY
C.E.E. in full additional charge of
MEMBER SECRETARY



KERALA STATE POLLUTION CONTROL BOARD

INTEGRATED CONSENT TO OPERATE/AUTHORISATION

UNDER

The Water (Prevention & Control of Pollution) Act 1974

The Air (Prevention & Control of Pollution) Act 1981

&

The Environment (Protection) Act 1986

To

The Managing Director
Carborandum Universal Limited
P.B. No. 3, Koratty
Thrissur- 680 308

Consent no: PCB/HO/ICO/TSR/09/R1/2010

Date of issue: 04.07.2010

Validity: 30.06.2012

Copy to:

1. The Chief Environmental Engineer
Regional Office, Ernakulam
2. The Environmental Engineer, District Office, Thrissur
3. The Secretary, Koratty Grama Panchayat, Thrissur
4. Stock file

1. GENERAL

1. VALIDITY 30.06.2012
2. Name and address of establishment
CARBORANDUM UNIVERSAL LIMITED
Carborandum Universal Limited
P.B. No. 3
Koratty 680 308
Thrissur
3. Communication
Telephone : 044-2536789
Fax : 044-25340858
e-mail :-
Website :-
4. Occupier details
Sri. K. Srinivasan
Managing Director
Carborandum Universal Limited
Parry House, 43, Moore Street
Chennai - 600 001
5. Survey Number 114/1 , 2, 1151/2, 1150/2
6. Village Kizhakkummuri
7. Taluk Mukundapuram
8. District Thrissur
9. Local body Koratty Grama Panchayat
10. Category RED
11. Capital Investment Rs. 30 Crores
12. Scale LARGE
13. Annual Fee Rs. 1,00,000/-
14. Fee remitted Rs. 3,00,000/-
- | | Purpose | Quantity in litre /day |
|-----------------------|----------------------|------------------------|
| 15. Water consumption | Cooling, boiler feed | 5,000 |
| | Domestic | 5,000 |
| | Irrigation | 1,000 |
| | TOTAL | 11,000 |
16. PRODUCTS Silicon carbide macro and micro grit – 250 tonne per month

2. GENERAL CONDITIONS

- 2.1 This consent is granted subject to the power of the Board to review and make variation in all or any of the conditions
- 2.2 The applicant shall comply with the instructions that the Board may issue from time to time regarding prevention and control of air, water, land and sound pollution
- 2.3 For renewal of the consent, application in the prescribed form shall be submitted to the Board in the third month before the date of expiry of the consent
- 2.4 No change or alteration of the industrial plant is to be made without the prior written permission of the Board. Any change in the particulars furnished and/or in the identity of the occupier/authorised agent is to be intimated to the Board forthwith

3. CONDITIONS AS PER The Water (Prevention & Control of Pollution) Act

- 3.1 The entire quantity of cooling water shall be recycled
- 3.2 Sewage effluent shall be treated in septic tanks and treated effluent shall be dispersed through soak pits with concreted bottom, honeycomb brick or perforated ring wall and 75 cm thick 2 mm sand envelope around.
- 3.3 Storm water shall be segregated from effluent.
- 3.4 Rainwater harvesting system shall be maintained properly.
- 3.5 Water meter shall be fixed to record consumption of water. Separate meters shall be fixed if cess at different rates is claimed for use of water for cooling/boiler feed, domestic, process where the effluent is easily biodegradable and / or not toxic and process where the effluent is not easily biodegradable and / or toxic.

4. CONDITIONS AS PER The Air (Prevention & Control of Pollution) Act

- 4.1. Emission shall be made only through the following chimneys and characteristics shall not exceed the following

Sl. No.	Stack No.	Source of emission	Height & diameter in m	Flow in Nm ³ /hr	Parameter	Limiting standards mg/Nm ³
1.	C1	Reclaims and Quartz dust collector in furnace plant	15 0.608	72,300	Particulate matter	150
2.	C2	Crude crushing dust collector in furnace plant	18 0.475	62,000	"	150
3.	C4	Grain crushing and sizing system in furnace plant	18 0.82	7,700	"	150

- 4.2. The port hole and platform cum ladder attached to stacks shall be maintained to facilitate monitoring of emissions.
- 4.3. There shall not be any fugitive emission from the premises.
- 4.4. The sound level measured 1 m outside the boundary of the premises shall not exceed the standards for the adjacent area.
- 4.5. Record of type, quantity and purpose of consumption of fuel shall be maintained and abstract shall be submitted to the Board along with emission monitoring report.
- 4.6. The suspended particulate matter at the boundary of the premises shall not exceed 200 microgram per cubic metre

- 4.7. All operations likely to produce dust or noise shall be carried out within sufficiently closed and insulated premises
- 4.8. The occupier shall install or modify equipments, as necessary, to ensure that the emission /ambient air /sound quality conform to the standards specified in condition no 4.1 and 4.4

5. **CONDITIONS AS PER
The Hazardous Wastes(Management, Handling and Transboundary Movement) Rules,
2008**

- 5.1. Activities for which Authorisation is granted:

Collection	Storage	Disposal
√	√	√

5.2.

- (i) Type, quantity and mode of storage/collection/treatment/disposal of hazardous wastes shall be as follows:

Sl. No.	Hazardous waste	Schedule Category	Quantity	Mode of	
				Storage	Disposal
1.	Spent Oil	5.1	2500 l/year	Stored in impermeable containers kept in roofed area with impervious flooring and protected from rain and seepage and entry of surface runoff	Dispose to re-refiner/recycler, authorised by the Kerala State Pollution Control Board and registered with the Central Pollution Control Board

- (ii) The location of the hazardous waste storage site shall be made known by display board at the site. The premises of the disposal site shall be kept clean.

5.3. **Labelling and Transportation**

- (a) All hazardous waste containers shall be provided with a general label as given in **Form 13**.
- (b) Hazardous waste manifest in **Form 12** shall be got prepared in set of six (all six copies to be signed by the transporter) and retained/ transported as indicated below.

Copy number with colour code	Purpose
Copy 1 (white)	To be forwarded by the occupier to the Kerala State Pollution Control Board
Copy 2 (yellow)	To be retained by the occupier after taking signature on it from the transporter and the remaining four copies to be carried by the transporter
Copy 3 (pink)	To be retained by the operator of the facility after signature
Copy 4 (orange)	To be returned to the transporter by the operator of facility after accepting waste
Copy 5 (green)	To be returned by the operator of the facility to Kerala State Pollution Control Board after treatment and disposal of wastes
Copy 6 (blue)	To be returned by the operator of the facility to the occupier after treatment and disposal of wastes

- c) Any accident during the collection and transport of hazardous waste shall be reported forthwith to the Head and District Office of the Board at Thrissur by telephone / fax / telegram and also in **Form 14**.
- d) The occupier shall provide the transporter with relevant information in **Form 11**, regarding the hazardous nature of the wastes and measures to be taken in case of an emergency.
- e) The occupier shall ensure that at the time of auction or sale of waste, the period of validity of certificate of registration of the registered re-refiner or recycler is sufficient to reprocess the quantity of wastes being sold or auctioned to him.

- 5.4. Records of hazardous wastes at the facility shall be maintained in Form 3.
- 5.5. The guidelines and criteria for handling hazardous wastes prescribed by the Central Pollution Control Board from time to time shall be followed.
- 5.6. The Authorisation is subject to conditions as may be specified in the Rules from time to time under the Environment (Protection) Act, 1986.
- 5.7. Any unauthorised change in personnel, equipment and working conditions as mentioned in the application by the person authorised shall constitute a breach of this authorisation.
- 5.8. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.
- 5.9. The person authorised shall not rent, lend, sell or transfer the hazardous wastes without obtaining prior permission of the Board.
- 5.10. All the facility personnel must be well informed about the hazardous waste management procedure relevant to the positions in which they are employed. All the facility personnel must be trained to ensure that they are able to respond effectively to emergencies by familiarizing them with the emergency procedures, emergency equipment operations and communication or alarm systems.
- 5.11. Facilities must be established, tested periodically and maintained to minimize the possibility of a fire, explosion or any unplanned sudden or non-sudden release of hazardous waste to air, soil or surface water which could threaten human health or environment.
- 5.12. The authorisee must develop, implement and maintain and keep upto date, a contingency plan designed to minimize hazard to human health or the environment from fires, explosions or any unplanned sudden release of hazardous waste to air, soil or water.

6. OTHER CONDITIONS:

- 6.1. Used lead acid batteries shall be disposed as per the Batteries (Management and Handling) Rules 2001.
- 6.2. Arrangements for collection, segregation, storage, handling and disposal of solid wastes including garbage from canteen shall be maintained properly.
- 6.3. Periodical reports as detailed below shall be submitted to the Head Office and Regional Office/ District Surveillance Centre of the Board at Ernakulam:

Sl No	Reports to be submitted to the Board	Periodicity
1	Effluent and storm water analysis report	Before the 10 th of every month
2	Water Consumption Returns in Form I	Before 5 th of every month
3	Emission monitoring report	Before the 10 th of every month
4	Annual returns of HW handled in Form 4	Annually before 30 th June
5	Hazardous waste manifest in Form 13	During transportation
6	Environment Statement in Form V	Annually by 30 th September



Office Seal

Date: 04.07.2010

SIGNATURE AND NAME OF
ISSUING AUTHORITY

P. MOLIKUTTY

C.E.E. in full additional charge of
MEMBER SECRETARY

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FILE NO. - PCB/HO/TSR/ICO/ 81/2007



KERALA STATE POLLUTION CONTROL BOARD

CONSENT TO OPERATE/AUTHORISATION/REGISTRATION

UNDER

The Water (Prevention & Control of Pollution) Act, 1974

The Air (Prevention & Control of Pollution) Act, 1981

&

The Environment (Protection) Act, 1986

ISSUED

TO

Consent No: PCB/HO/ICO/TSR/09/2007

✓Carborandum Universal Ltd.
P.B.No.3, Koratty
Thrissur 680 308

Date of issue: 30.12.2007

Valid upto: 30.06.2009

Copy to: 1. The Environmental Engineer, District Office, Thrissur
2. Stock File

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1. GENERAL

- 1 Validity 30.06.2009
- 2 Name and address of establishment Carborandum Universal Ltd.
P.B.No.3, Koratty
Thrissur 680 308
- 3 Communication Phone :044-2536789
Fax :044-25340858
e- mail :
Web:
- 4 Occupier details Sri. K. Srinivasan
- 5 Survey Number 114/1,2,1151/2,1150/2
- 6 Village Kizhakkummuri
- 7 Taluk Mukundapuram
- 8 District Thrissur
- 9 Panchayat/Municipality/Corporation Koratty Panchayat
- 10 Category RED
- 11 Scale Large
- 12 Annual Fee remitted Rs. 70,000/-
- 13 Capital Investment Rs. 14.18 crore.

14 Water consumption

Purpose	Quantity in litre/day
Processing	45000
Domestic	5000
Irrigation	1000
Cooling(contact),humidification	5000
Total	56,000

15 Products

Silicon carbide macro & micro grit- 250 t/month
White fused alumina micro grit- 18 t/month
Brown fused alumina - 15 t/month

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2. GENERAL CONDITIONS

- 2.1. This integrated consent/ authorisation is granted subject to the power of the Board to review and make variation in all or any of the conditions.
- 2.2. The applicant shall comply with the instructions that the Board may issue from time to time regarding prevention and control of air, water, land and sound pollution.
- 2.3. For renewal of the integrated consent/ authorisation, application in the prescribed form shall be submitted to the Board between 3 and 4 months in advance of the date of expiry of the consent/ authorisation.
- 2.4. No change or alteration of the industrial plant is to be made without the prior permission of the Board. Any change in the particulars furnished and/or in the identity of the occupier/authorised agent is to be intimated to the Board forthwith.

3. CONDITIONS AS PER Water (Prevention & Control of Pollution) Act

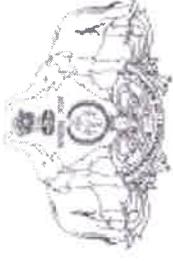
- 3.1. The characteristics of treated effluent discharge shall conform to the following tolerance limits:

Sl. No.	Characteristics	Unit	Tolerance limit
1.	pH	-	5.5-9.0
2.	Suspended Solids	mg/l, max	100
3.	Oil and grease	"	10

Effluent should not contain any other pollutant

- 3.2. Maximum quantity of effluent discharged per day shall be as follows:
Outlet 1: 45,000 L/day.
- 3.3. Samples of effluent shall be collected from the outlet and analysed in any laboratory approved by Board at least once in a month.
- 3.4. There shall be easy access to each and every effluent treatment unit and the final outlet for inspection and drawing of effluent samples.
- 3.5. Water consumption returns under the Water (Prevention and Control of Pollution) Cess Act shall be furnished on or before 5th of every calendar month in Form-I showing the quantity of water consumed in the previous month.
- 3.6. Water meter shall be fixed to record consumption of water. Separate meters should be fixed if cess at differential rates is claimed for use of water such as cooling/boiler feed, domestic, process where the effluent is easily biodegradable and / or not toxic and process where the effluent is not easily biodegradable and / or toxic.

- 3.7. Arrangements for rainwater harvesting provided shall be maintained and utilised properly.
- 3.8. Sewage effluent shall be treated in septic tanks and treated effluent shall be dispensed through soak pits with concreted bottom, honeycomb brick or perforated ring side wall and 45 cm thick 2 mm sand envelope around that.



GOVERNMENT OF KERALA
DEPARTMENT OF FACTORIES AND BOILERS

Form-4

(Prescribed under Rule 5)

License is hereby granted to Shri/Smt. SRIDHARAN RANGARAJAN (Managing Director) for the premises detailed hereunder for the use as a factory within the limits specified in the Permit (s) and for the manufacturing process stated herein after subject to the provision of the Factories Act 1948 and the Kerala Factories Rules 1957.

The license shall remain in force till the 31st day of December 2024.

1.	Registration No	IJK/12/136/1988	5.	Permit No & Date	12/2024 (08-01-2024)
2.	Name & Address of the Factory	CARBORUNDUM UNIVERSAL LIMITED P.B. No.3., Nalukettu, Koratty P.O., Thrissur Dt. 680 308.	6.	Name of the Region	Ernakulam
3.	Registration Date	23-08-1988	7.	Name of the Division	Irinjalakkuda
4.	Details of the premises		8.	Manufacturing Process & NIC Code	
	Panchayat	Koratty			
	Village	Kizhakkumuri			
	Survey No	114/12,1149/1,893/1,1153/1,1150/2,3,1115/1,2,1118/1,2, 1169/1,3			
	Taluk	Chalakkudy			
	District	Thrissur			
					1. Silicon carbide Various grade of Fused Alumina Special ceramic Micro Grits (20119)

Place : Ernakulam

Date : 23-04-2024

Annexure 6 & 8
6 & 8

(Issued under Rule 5, renewed under Rule 7)

License Details									
Calendar Year	No. of Workers	Power	Fees	Additional Fee	Excess Fee	Remittance Date	Renewed Date	Sign of Official	
2024	199	9805.71 KW +0 KVA KVA	103340.00			26-10-2023	21-11-2023		
Amendment Details									
Factory Name	No. of Workers	Power(KW)	Fees	Additional Fee	Remittance Date	Amendment Year	Amendment Date	Sign of Official	
CARBORUNDUM UNIVERSAL LIMITED	98	9688.25 (0 KVA)	1660	0.0	19-06-2019	2019	21-08-2019		
CARBORUNDUM UNIVERSAL LIMITED	149	9688.25 (0 KVA)	830	16490.0	06-09-2019	2019	09-10-2019		
CARBORUNDUM UNIVERSAL LIMITED	199	9805.705 (0 KVA)	1660	0.0	26-02-2024	2024	23-04-2024		
Transfer Details									
Transferred From	Transferred To		Transfer Fee	Remittance Date	Year of Transfer	Transfer Date	Sign of Official		
K.SRINIVASAN (PRESIDENT AND DIRECTOR) (null)	N ANANTHASESHAN (Managing Director)		830.00		2019	19-02-2020			
N ANANTHASESHAN (null)	SRIDHARAN RANGARAJAN (Managing Director)		830.00	26-10-2023	2023	21-11-2023			

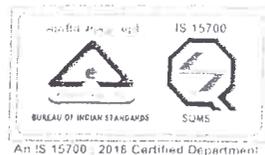
88

Renewal application for 2025 should be submitted on or before 31-10-2024)

- * This is a computer generated certificate.Hence there is no need for a Physical Signature
- * Third Party Verification is enabled for Digitally Signed License.Please visit <http://localhost:8081/fabnet/verifyLicense.do>

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Government of Kerala
Department of Electrical Inspectorate
Office of the Electrical Inspector
Bellmouth Buildings, Round South, Kuruppam Road, Thrissur-680001.
Email: eithrissur@gmail.com,
Phone:- 0487-2973280



Proceedings of the
Deputy Electrical Inspector Incharge, Thrissur

(Present:- Murali P.K)

Subject:- MV addition at the premises of M/s.Carborandum Universal Ltd., Koratty - Sanction for energisation - orders issued – reg:-

- Read:-**
1. Scheme approval No B1-2403/22/EIR dated
 2. Completion report No. Nil received on of M/s.Ideal Datacom, Sindooram, Trippunithura South, Ernakulam. Pin-682 301
 3. Inspection conducted on 23/06/22
 4. Nonconformities reported under letter number B1-2403/22/EIR dated 25/06/22
 5. Compliance report furnished under cover of letter No.Nil received on 26/07/22 of M/s Ideal Datacom, Sindooram, Trippunithura South, Ernakulam. Pin-682 301

Order No. B1-2403/22/EIR dated 30/08/22

Sanction under Section 54 of The Electricity Act, 2003 and Regulation 43(7) of the CEA (Measures relating to Safety and Electric Supply) Regulations, 2010 is hereby accorded for energisation of the electrical installation covered under the Completion Report read as 2nd above and installed at the premises of M/s.Carborandum Universal Ltd., Koratty with the following specifications subject to the conditions mentioned here under.

Conditions:-

1. Any addition or alteration to the existing installation shall be carried out only after getting prior written approval from this office.
2. The owner should rectify any defects that may be pointed out during subsequent inspection of the installation by the Electrical Inspector.
3. Date of energisation should be intimated to this office.
4. The maintenance of all major equipments should be carried out periodically as prescribed by the manufacturer and as per Indian Standard Specifications and a register shall be maintained for recording maintenance activity and periodic checking. The register shall be kept upto date and submitted for perusal during periodical inspection.
5. All the pre-commissioning tests shall be recorded for ready reference.
6. Only authorised person shall be in charge of the operation and maintenance of the installation.
7. Power allocation for additional loads, if necessary, should be obtained from KSEB/Licensee.

Specifications:-

HT Switch Gears

VCB

1250A 1No.

VCB

Vacuum Circuit Breaker

Make: Siemens
SI No: N843782
Rating: 12kV, 1250A

HT Equipments

Transformer

<u>Rating</u>	<u>Voltage Ratio</u>	<u>Make</u>	<u>SI No</u>	<u>Type</u>
300kVA	11kV/90V	Abirami Engineering	VSJ 143/365	Indoor

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Electrical Inspector

To

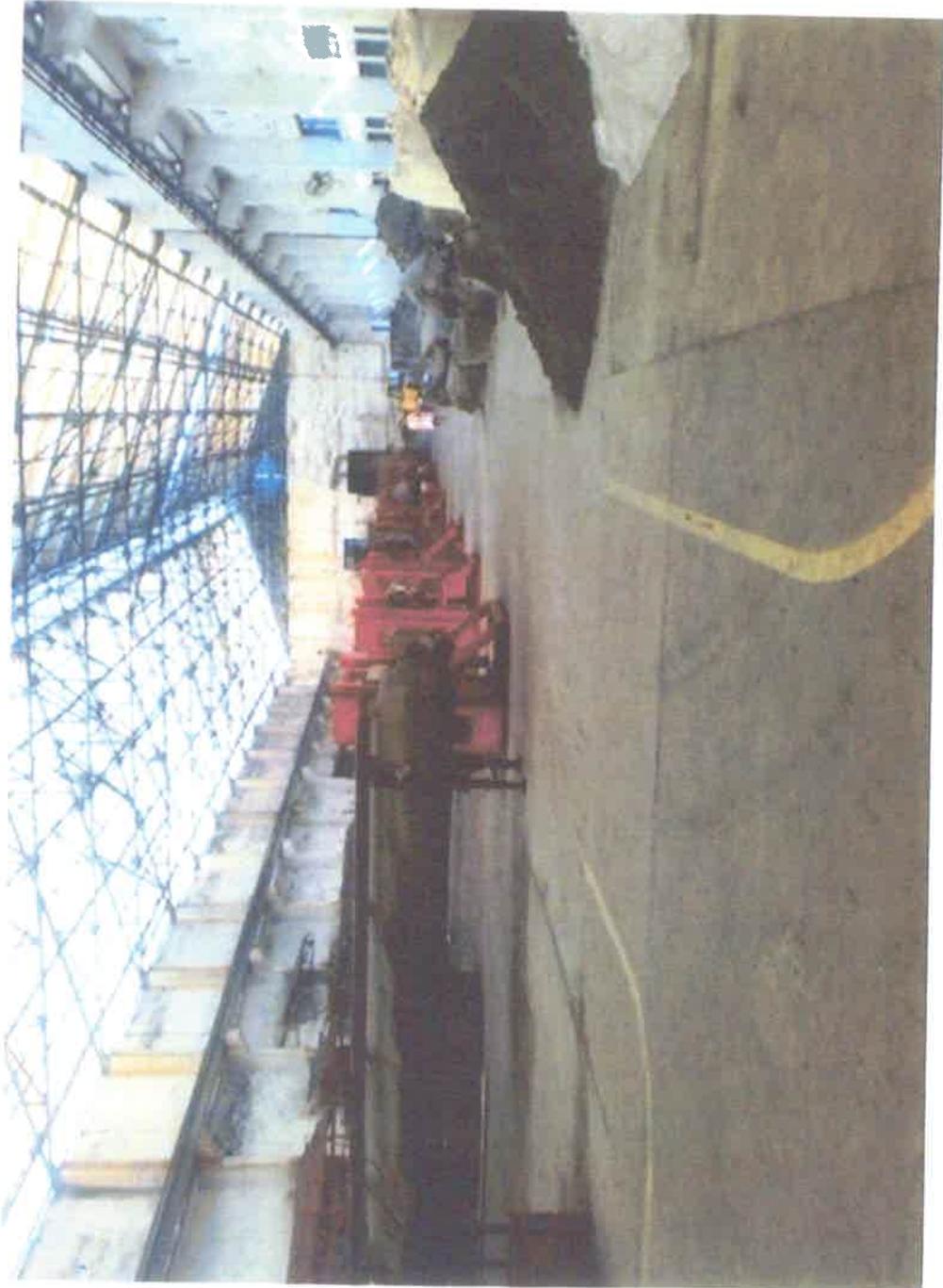
M/s.Carborandum Universal Ltd.,
Koratty

Copy to:

1. M/s.Ideal Datacom, Sindooram, Trippunithura South, Ernakulam. Pin-682 301 [Lic. No.:- CB4317]
2. The Assistant Engineer, KSEB, Electrical Section:- Koratty (through:- The Deputy Chief Engineer, KSEB, Electrical Circle:- Irinjalakkuda)
3. Stock File/Computer Data
4. Office Copy

IIR Case No.2082 Existing PIR Case No.0143

e.solutions-7.7



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Annexure 9

ANNEXURE 9

Prescribed under Rule 129 A- Schedule
 Register containing particulars of working environment required under section 7-A (2) (e)
 1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308
 2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
 Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
iii	Furnace Plant / Batch Mixer Area	SO2 (PPM)	Gas Detector	5	0	0	5	Electro chemical sensor	1	Monitoring date :04/04/2024		JISHNURAJ
iv		Nox (PPM)	Gas Detector	5	0	0	6	Electro chemical sensor	1	Monitoring date :04/04/2024		
v		CO (PPM)	Gas Detector	5	0	0	55	Electro chemical sensor	1	Monitoring date :04/04/2024		
vi		T VOC (mg/m3)	Air Quality Detector	5	0.230 - 0.238	0.236	Not Specified	Electro chemical sensor	1	Monitoring date :04/04/2024		

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Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (2) (e)

1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains

Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
i	2	3	4	5	6	7	8	9	10	11	12	13
iii	Furnace Plant / Jaw crusher area	SO2 (PPM)	Gas Detector	5	0	0	5	Electro chemical sensor	2	Monitoring date :04/04/2024		JISHNURAJ
iv		Nox (PPM)	Gas Detector	5	0	0	6	Electro chemical sensor	2	Monitoring date :04/04/2024		
v		CO (PPM)	Gas Detector	5	0	0	55	Electro chemical sensor	2	Monitoring date :04/04/2024		
vi		T VOC (mg/m3)	Air Quality Detector	5	0.234 - 0.238	0.236	Not Specified	Electro chemical sensor	2	Monitoring date :04/04/2024		

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Prescribed under Rule 129 A- Schedule

- Register containing particulars of working environment required under section 7-A (2) (e)
 1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308
 2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
 Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
iii	Furnace Plant / Shaker Unit Area	SO2 (PPM)	Gas Detector	5	0	0	5	Electro chemical sensor	2	Monitoring date :04/04/2024		JISHNURA
iv		Nox (PPM)	Gas Detector	5	0	0	6	Electro chemical sensor	2	Monitoring date :04/04/2024		
v		CO (PPM)	Gas Detector	5	0	0	55	Electro chemical sensor	2	Monitoring date :04/04/2024		
vi		T VOC (mg/m3)	Air Quality Detector	5	0.239 - 0.245	0.242	Not Specified	Electro chemical sensor	2	Monitoring date :04/04/2024		

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Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (2) (e)

1. Name of the Department/Plant : Carborundum universal Limited, Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
i	Grain Processing floor	PM 2.5 (RSPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	32 - 36	34	N.A	Electro chemical sensor	3	Monitoring date :04/04/2024		NISHANTH S
ii		PM 10 (SPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	37 - 41	39	NA	Electro chemical sensor	3	Monitoring date :04/04/2024		

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Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (2) (e)

1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains

Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
i	Grain Processing Plant / Sizing area -1st Floor	PM 2.5 (RSPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	24 - 26	25.6	N.A	Electro chemical sensor	3	Monitoring date :04/04/2024		NISHANTH S
ii		PM 10 (SPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	27 - 29	28.2	NA	Electro chemical sensor	3	Monitoring date :04/04/2024		

Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (2) (e)

1. Name of the Department/Plant : Carborandum universal Limited ,Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
i	Grain Processing area - 2nd Floor	PM 2.5 (RSPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	19 - 21	20.6	N.A	Electro chemical sensor	3	Monitoring date :04/04/2024		NISHANTH S
ii		PM 10 (SPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	22 - 24	23	NA	Electro chemical sensor	3	Monitoring date :04/04/2024		

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Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (2) (e)

1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
i	Micro Grit Plant /Ground floor	PM 2.5 (RSPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	29 - 31	30.4	N.A	Electro chemical sensor	3	Monitoring date :04/04/2024		NISHANTH S
ii		PM 10 (SPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	32 - 34	33.3	NA	Electro chemical sensor	3	Monitoring date :04/04/2024		

Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (2) (e)

1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
iii	Furnace Plant / Batch Mixer Area	SO2 (PPM)	Gas Detector	5	0	0	5	Electro chemical sensor	1	Monitoring date :04/03/2024		JISHNURAJ P
iv		Nox (PPM)	Gas Detector	5	0	0	6	Electro chemical sensor	1	Monitoring date :04/03/2024		
v		CO (PPM)	Gas Detector	5	0	0	55	Electro chemical sensor	1	Monitoring date :04/03/2024		
vi		T VOC (mg/m3)	Air Quality Detector	5	0.244-0.25	0.248	Not Specified	Electro chemical sensor	1	Monitoring date :04/03/2024		

Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (2) (e)

1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
iii	Furnace Plant / Jaw crusher area	SO2 (PPM)	Gas Detector	5	0	0	5	Electro chemical sensor	2	Monitoring date :04/03/2024		JISHNURAJ P
iv		Nox (PPM)	Gas Detector	5	0	0	6	Electro chemical sensor	2	Monitoring date :04/03/2024		
v		CO (PPM)	Gas Detector	5	0	0	55	Electro chemical sensor	2	Monitoring date :04/03/2024		
vi		T VOC (mg/m3)	Air Quality Detector	5	0.311-0.316	0.314	Not Specified	Electro chemical sensor	2	Monitoring date :04/03/2024		

Prescribed under Rule 129 A- Schedule

- Register containing particulars of working environment required under section 7-A (2) (e)
 1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308
 2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
 Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
I	2	3	4	5	6	7	8	9	10	11	12	13
iii	Furnace Plant / Shaker Unit Area	SO2 (PPM)	Gas Detector	5	0	0	5	Electro chemical sensor	2	Monitoring date :04/03/2024		JISHNURAJ P
iv		Nox (PPM)	Gas Detector	5	0	0	6	Electro chemical sensor	2	Monitoring date :04/03/2024		
v		CO (PPM)	Gas Detector	5	0	0	55	Electro chemical sensor	2	Monitoring date :04/03/2024		
vi		T VOC (mg/m3)	Air Quality Detector	5	0.300-0.307	0.305	Not Specified	Electro chemical sensor	2	Monitoring date :04/03/2024		

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Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (2) (e)

1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains

Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
i	Grain Processing Plant / Ground floor	PM 2.5 (RSPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	34-38	35.6	N.A	Electro chemical sensor	3	Monitoring date :04/03/2024		NISHANTH S
ii		PM 10 (SPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	35-40	38.1	NA	Electro chemical sensor	3	Monitoring date :04/03/2024		

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Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (2) (e)

1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
i	Grain Processing area - 1st Floor	PM 2.5 (RSPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	28-32	30.4	N.A	Electro chemical sensor	3	Monitoring date :04/03/2024		NISHANTH S
ii		PM 10 (SPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	30-33	31.2	NA	Electro chemical sensor	3	Monitoring date :04/03/2024		

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Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (2) (e)

1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
i	Grain Processing area - 2nd Floor Plant / Sizing	PM 2.5 (RSPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	25-27	26.3	N.A	Electro chemical sensor	3	Monitoring date :04/03/2024		NISHANTH S
ii		PM 10 (SPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	27-28	27.6	NA	Electro chemical sensor	3	Monitoring date :04/03/2024		

Prescribed under Rule 129 A- Schedule

- Register containing particulars of working environment required under section 7-A (2) (e)
 1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308
 2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
 Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(A s given Second	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
i	2	3	4	5	6	7	8	9	10	11	12	13
iii	Furnace Plant / Batch Mixer Area	SO2 (PPM)	Gas Detector	5	0	0	5	Electro chemical sensor	1	Monitoring date :04/02/2024		MANU MADHAV
iv		Nox (PPM)	Gas Detector	5	0	0	6	Electro chemical sensor	1	Monitoring date :04/02/2024		
v		CO (PPM)	Gas Detector	5	0	0	55	Electro chemical sensor	1	Monitoring date :04/02/2024		
vi		T VOC (mg/m3)	Air Quality Detector	5	0.265-0.29	0.276	Not Specified	Electro chemical sensor	1	Monitoring date :04/02/2024		

Prescribed under Rule 129 A- Schedule

- Register containing particulars of working environment required under section 7-A (2) (e)
1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308
 2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains

Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As Given Second	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
iii	Furnace Plant / Jaw crusher area	SO2 (PPM)	Gas Detector	5	0	0	5	Electro chemical sensor	2	Monitoring date :04/02/2024		MANU MADHAV
iv		Nox (PPM)	Gas Detector	5	0	0	6	Electro chemical sensor	2	Monitoring date :04/02/2024		
v		CO (PPM)	Gas Detector	5	0	0	55	Electro chemical sensor	2	Monitoring date :04/02/2024		
vi		T VOC (mg/m3)	Air Quality Detector	5	0.31-0.333	0.319	Not Specified	Electro chemical sensor	2	Monitoring date :04/02/2024		

Prescribed under Rule 129 A- Schedule

- Register containing particulars of working environment required under section 7-A (2) (c)
- Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308
 - Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
iii	Furnace Plant / Shaker Unit Area	SO2 (PPM)	Gas Detector	5	0	0	5	Electro chemical sensor	2	Monitoring date :04/02/2024		MANU MADHAV
iv		Nox (PPM)	Gas Detector	5	0	0	6	Electro chemical sensor	2	Monitoring date :04/02/2024		
v		CO (PPM)	Gas Detector	5	0	0	55	Electro chemical sensor	2	Monitoring date :04/02/2024		
		T VOC (mg/m3)	Air Quality Detector	5	0.306-0.317	0.311	Not Specified	Electro chemical sensor	2	Monitoring date :04/02/2024		
vi												

Prescribed under Rule 129 A- Schedule

- Register containing particulars of working environment required under section 7-A (2) (e)
1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308
 2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains

Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second Schedule	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
i	Grain Processing floor	PM 2.5 (RSPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	29-30	29.7	N.A	Electro chemical sensor	3	Monitoring date :04/02/2024		MANU MADHAV
ii		PM 10 (SPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	31-34	32	NA	Electro chemical sensor	3	Monitoring date :04/02/2024		

Prescribed under Rule 129 A- Schedule

- Register containing particulars of working environment required under section 7-A (2) (e)
1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308
 2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
- Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As Given Second	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
i	Grain Processing Plant / Sizing area -1st Floor	PM 2.5 (RSPM) (µg/m ³)	Air Quality Detector	5	25-26	25.4	N.A	Electro chemical sensor	3	Monitoring date :04/02/2024		MANU MADHAV
ii		PM 10 (SPM) (µg/m ³)	Air Quality Detector	5	27-30	28.2	NA	Electro chemical sensor	3	Monitoring date :04/02/2024		

Prescribed under Rule 129 A- Schedule

- Register containing particulars of working environment required under section 7-A (2) (e)
 1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308
 2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains
 Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As Given Second	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
I	Grain Processing Plant / Sizing area - 2nd Floor	PM 2.5 (RSPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	6	7	8	9	10	11	12	13
		PM 10 (SPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	24-24	24	N.A	Electro chemical sensor	3	Monitoring date :04/02/2024		MANU MADHAV
ii			Air Quality Detector	5	25-27	25.8	NA	Electro chemical sensor	3	Monitoring date :04/02/2024		

Prescribed under Rule 129 A- Schedule

Register containing particulars of working environment required under section 7-A (Z) (e)

1. Name of the Department/Plant : Carborundum universal Limited ,Nalukettu PO-680308

2. Raw materials, by-products and furnished Products involved in the process : Silicon carbide grains

Particulars of sampling

Sl.No.	Location/Operation	Identified contaminant	Sampling instrument used	Number of samples	Range	Average	TWA Concentration(As given Second	Reference/method	Number of workers exposed at the location	Remarks	Signature of person Taking samples	Name (in Block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
i	Micro Grit Plant/Ground floor	PM 2.5 (RSPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	31-34	32	N.A	Electro chemical sensor	3	Monitoring date :04/02/2024		MANU MADHAV
ii		PM 10 (SPM) ($\mu\text{g}/\text{m}^3$)	Air Quality Detector	5	33-35	34.5	NA	Electro chemical sensor	3	Monitoring date :04/02/2024		

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Annexure 1

Annexure 10



Form IV A/IA
KERALA STATE POLLUTION CONTROL BOARD

APPLICATION FOR CONSENT/AUTHORISATION/REGISTRATION
(INDUSTRIES/ESTABLISHMENTS)

PART I

NAME AND ADDRESS OF INDUSTRY/ESTABLISHMENT : CARBORUNDUM UNIVERSAL LIMITED

PB.NO.3,NALUKETTU P.O,KORATTY

I am the occupier of above industry/establishment. I hereby apply for clearance/s under :

NAME OF STATUTE	ESTABLISH	OPERATE	RENEW/AUTORENEW
Water (Prevention and Control of Pollution) Act, 1974			✓
Air (Prevention and Control of Pollution) Act, 1981			
Environment (Protection) Act, 1986			

* The entries in the application/s are true to the best of my knowledge,information and belief. I have signed hereunder,at the end of the application and on enclosure in affirmation of that.

* I undertake to furnish any information, explanation and/or clarification within 15 days of it being called for to make my application complete. I understand that the date on which the application is made complete in all respect will only be counted as the date of the application.

* I agree to abide by the conditions of the Consent/Authorisation/Registration and the pertinent legal provisions.

* I undertake to render access to functionaries and empowered officers of the Board to inspect the industry/establishment and its premises and peruse records thereof.

Any change in line of activity/pollution load will be effected only after obtaining the Consent/ Authorisation/Registration for which a fresh application will be made.

PART II

GENERAL INFORMATION

1.

	REGISTERED OFFICE/ ADMINISTRATIVE OFFICE	OCCUPIER
Postal Address	PB.NO.3,NALUKETTU P.O,KORATTY	PREMANATH K.N. CARBORUNDUM UNIVERSAL LIMITED,NALUKETTU P.O,KORATTY,THRISSUR DIST,PIN- 680308
PIN	680308	680308
Telephone	9645238258	
Fax	04802732821	04802732821
e-mail	Kuruvillarajeshj@cumi.murugappa.com	Kuruvillarajeshj@cumi.murugappa.com
Website	https://www.cumi-murugappa.com/	https://www.cumi-murugappa.com/

2.

	OWNERSHIP	AREA In SQUARE METRE	ADDRESS OF LESSOR, IF ON LEASE
Built up area	11787.49	11787.49	
Total area	90730.5	90730.5	
Survey No.	KIZHAKKUMURI	Ward NO.& Name	6 & Valungamuri

Village	Kizhakkumuri	Panchayat/ Municipality/ Corporation	KORATTY
Taluk	Chalakkudy	District	THRISSUR

(Possession certificate from Taluk Office in support of ownership of land shall be furnished in case of application for stone crushers)

3.

Management	Public Limited Company
Scale	Large
Category	RED

4. Particulars of last clearance/s obtained :

CLEARANCE	GRANT/ REFUSAL, No., Date, Validity
Consent Under Water Act	PCB/HO/TSR/ICO-R/11/2018
Consent Under Air Act	PCB/HO/TSR/ICO-R/11/2018
ICE/ICO/ICO(R)	PCB/HO/TSR/ICO-R/11/2018
Authorisation under BMW Rules	
Registration under HW Rules	PCB/HO/TSR/ICO-R/11/2018

5. Date of Commissioning: 1985-11
(if new, anticipated date)

6. Nearest building/water body within 100m:

	OWNERSHIP , USE ,DISTANCE (In Meter) (to be marked on site plan)
From The Building	
From Effluent Treatment Plant	
Dug well/tube/pond	
Stream/river/lake/backwater/sea	

7. Raw materials(including fuels & lubricants)and products

(A)

RAW MATERIAL	QUANTITY PER DAY	UNIT
Raw Petroleum Coke per Day	20.0	Metric Tonnes
Quartz per Day	24.0	Metric Tonnes
Silicon Carbide Crude per Day	20.0	Metric Tonnes
Silicon Carbide Grains, Brown Fused Alumina Grains, White Fused Alumina Grains, Special Ceramic Grains per Day	25.0	Metric Tonnes

(B)

PRODUCT	UNIT	QUANTITY PER DAY
Silicon Carbide Macro Grains	Metric Tonnes	60 Tons per Day
Microgrits of SiC and Special Ceramics	Metric Tonnes	30 Tons per Day

8. In case of manufacture of plastic carry bag/container :

(Plastic Manufacture and Usage Rules)

Types	QUANTITY	Minimum sizes of carry bags(not be less than 8 * 12)	Status of compliance with Rules 5,6,7&8
-- N/A --			

9. Total manpower: 96

10. Working season: Full Year

11. No. of working days per year days / shifts: 3

12. Number of staff quarters within the premises : 0

Number of residents: 0

13. Production process:

(Attach flow sheet and project report)

14. Gross Fixed Capital Investment(Rs in lakhs): 3521.0

(Rs. in Lakhs)

AMOUNT(Rs.)	MODE OF PAYMENT	Receipt No.	PERIOD
1.0	NB	100962119	5 Year 0 Month

PART III

WASTE WATER MANAGEMENT

1. Water consumption details:

SI.No.	PURPOSE	CONSUMPTION l/d
1	Process	4500.0
2	Cooling	94500.0
3	Others	42000.0
4	Domestic	9000.0

2. Source/s of water with quantity(KL/D):

SI.No.	Source Type	Source Name	Quantity KL/D
1	Ground Water(within premises)	Bore Well	140.0
2	Municipal Supply	KWA	10.0

3. Effluent treatment details:

Sl.No.	Uses	Effluent Generation(KL/D)	Treatment Arrangement Status	Treatment Details
1	Domestic Effluent	0.5	Yes	Septic Tank
2	Trade Effluent	0.0	Not Required	0

4. Effluent quantity and quality:

OUTLET NUMBER	QUANTITY (m3/d)	QUALITY			RECIPIENT BODY
		PARAMETER	UNIT	CONCENTRATION	
-- N/A --					

** In case of discharge to land, extent and survey number shall be provided)*

5. Recycle/Reuse of treated waste water:

QUANTITY (l/d)	USE
-- N/A --	

6. Water Budget: 150 KL per Day

(Account for difference between water consumption and effluent generated)

7. Details of rain water harvesting :
50KL Rain Water Harvesting Tank

PART IV

AIR POLLUTION MANAGEMENT

1. Fuel consumption:

FUEL	CONSUMPTION tpd/kld	USE
Diesel	0.05	For Vehicle

2. Fugitive emission:

Sl.No.	Sources	Control Measures
-- N/A --		

3. Stack details:

StackNo.	Material of Construction	Dimension			Height above roof level, m (for generation only)	Source of Emission			Fuel	
		Height (m)	Diameter Top (cm)	Diameter Bottom (cm)		Equipment	Capacity	Unit	Type	Quantity (tpd or kld)
1	Mild Steel	15.0	0.608	0.608	6.0	Dust Collector	40	Metric Tonnes	NA	NA
1	Mild Steel	18.0	0.475	0.475	6.0	Dust Collector	15	Metric Tonnes	NA	NA
1	Mild Steel	18.0	0.82	0.82	6.0	Dust Collector	15	Metric Tonnes	NA	NA

4. Emission Details:

Stack No.	Stack Name.	Design Flow (Nm ³ /h)	Concentration in mg/Nm ³ , at 12% CO ₂ correction				
			PM	SO ₂	NO _x	CO	Others
1	Numbers	72300	53.0	0.0	0.0	0.0	0
1	Numbers	62000	56.0	0.0	0.0	0.0	0
1	Numbers	7700	58.0	0.0	0.0	0.0	0

5. Emission control & monitoring:

Stack	Stack	Port Hole	Platform	Ladder (Y/N)	On-Line Monitoring	Sources	Sources
-------	-------	-----------	----------	--------------	--------------------	---------	---------

No.	Name.	(Y/N)	(Y/N)					Measures
					Continuous (Y/N)	Periodic (Y/N)		
1	Numbers	Yes	Yes	Yes			Particulate Matter - Reclaims and Quartz Dust Collector in Furnace Plant	Monthly Stack Emission Measurement by KSPCB Approved Agency and Reporting to KSPCB
1	Numbers	Yes	Yes	Yes			Particulate Matter - Crude Crushing Dust Collector in Furnace Plant	Monthly Stack Emission Measurement by KSPCB Approved Agency and Reporting to KSPCB
1	Numbers	Yes	Yes	Yes			Particulate Matter - Grain Crushing and Sizing	Monthly Stack Emission Measurement by KSPCB Approved Agency and Reporting to KSPCB

6. Ambient air quality:

(applicable for large scale red category units only)

Location	Air quality (microgram/m3)						Sound (dB(A)Leq)	
	SPM	So2	NOx	RSPM	H2S	Others		

(D Day time- 6 a.m to 10 p.m; N* Night time- 10 p.m to 6 a.m.)*

**PART V
SOLID WASTE MANAGEMENT**

HAZARDOUS WASTE MANAGEMENT

1. Activity for which authorisation is sought:

Collection

Disposal

Generation

Storage

2. Details of hazardous waste as defined in the Hazardous Wastes Rules:

Sl.No.	Type of Waste	Category of waste	Quantity	Quality
	Used/Spent Oil	Spent Oil	2500.0	2500.0

3. Mode of Hazardous Waste:

Sl.No.	Type of waste	Mode of		
		Storage	Treatment	Disposal

4. Details of Registration Obtained from Central Pollution Control Board:

(In the case waste re-processors/refiners only, attach copy of Registration Certificate)

5. Isolated storage of hazardous chemicals: N/A

(Schedule II of the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989)

Chemical	Use	Mode of Storage	Capacity in t

6. Whether emergency plans are prepared for taking

*on-site measures Yes/No :N/A

*off-site measures Yes/No :N/A

7. NON-HAZARDOUS WASTE MANAGEMENT

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Category	Quantity(in t/y)	Details of storage treatment & disposal
-- N/A --		

OTHER PARTICULARS

8. Green-belt details(%): 30%

(also to be shown in site plan)

9. Details of litigation pending, if any, against pollution due to your establishment:

10. Details of separate energy meters, if provided, for pollution control equipments:

11. Details of stand-by power, if provided, for pollution control equipments:

12. Any other pertinent matter:

Accompaniments :

1. BUILDING PLAN

2. Site planing(in A4/A3)showing residences/structures, water bodies, roads etc, within 100m radius of the industry(200m in case of crusher industry)

3. LETTER

4. CAPITAL INVESTMENT

5. SAMATHAPATHRAM

6. Details of production process

7. Process flow diagram

8. Copy of Address Proof

9. Copy of possession certificate

10. Copy of Land Tax Receipt(Self attested)

11. Affidavit in Rs. 100/- stamp paper or C.A.'s certificate regarding undepreciated value of the fixed assets of the industry/project clearly indicating the value of Land, Plant & Machinery and other Miscellaneous Fixed Assets etc. on a particular date (along with a copy of the balance sheet of the industry/project as applicable)

INSTRUCTIONS

1. The Application is to be made by the occupier.
2. State NA if any item is not applicable.
3. The gross fixed capital investment shall include the cost of land, building, plant, machinery, etc. without depreciation upto the date of application. If the land is on lease 20 times of the annual lease amount shall be taken as cost of land.
4. Consent fee shall be paid for a period of 5 years. In case fees under Water act, Air Act, BMW Rules, Plastic rules are already paid for part of the period, proportionate fees for the balance period are to be paid. For the purpose of calculation of consent fee, part of a year shall be counted as one year.
5. The consent fees is to be paid online.
6. The water consumption in part III shall not exceed that specified in the schedule of the Water Cess Rules, 1978. In case that is exceeded, the reason thereof is to be stated.
7. The analytical part in Part III and Part IV shall be supported by reports of analysis done by laboratory approved by the Board.
8. Pollution prevention, control and monitoring facilities may be got designed and installed preferably by consultants approved by the Board.
9. The following documents are available at the Board offices on request, free of cost.
 - (a) Chart of consent fee payable.
 - (b) Categorisation of industries into red/orange/green
 - (c) Schedule of Water Cess rules, 1978.
 - (d) List of laboratories/consultants approved by the Board.

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Attachment for Compliance with Hazardous Wastes
(Management and Handling) Rules, 1989

Form-I

[(See Rule 2(b), 5(2), (3) and (6) (ii)]

**APPLICATION FOR AUTHORISATION/RENEWAL OF AUTHORISATION
FOR COLLECTION / RECEPTION / TREATMENT / TRANSPORT / STORAGE /
DISPOSAL OF HAZARDOUS WASTES**

From : CARBORUNDUM UNIVERSAL LIMITED
PB.NO.3,NALUKETTU P.O,KORATTY

To,

The Member Secretary,

Kerala State Pollution Control Board

Sir,

I/We hereby apply for authorisation / renewal of authorisation under sub-rule (3) of Rule 5 of the Hazardous Waste (Management and Handling) Rules, 1989 for collection/ reception/ treatment/ transport/ storage/ disposal of hazardous wastes.

(FOR OFFICE USE ONLY)

1. Code. No:

2. Whether the unit is situated in a critically polluted area as identified by Ministry of Environment & Forests :

TO BE FILLED IN BY APPLICANT

PART - A

GENERAL

3. (a) Name of the Owner/Occupier: PREMANATH K.N.

(b) Name and address of the unit and location of activity: CARBORUNDUM UNIVERSAL LIMITED
PB.NO.3,NALUKETTU P.O,KORATTY

(c) Authorisation required for (please tick mark appropriate activity/ activities):

(d) In case of renewal of authorisation, previous authorisation number and date:

4. (a) Whether the unit is generating hazardous waste as defined in the Hazardous Wastes (Management and Handling) Rules, 1989

(b) If so, the Category No.

5. (a) Total capital invested on the project: null

(b) Year of commencement of production: null

(c) Whether the industry works general/2 shifts/round the clock:3

6. (a) List and quantum of products and by-products:

PRODUCT	UNIT	QUANTITY PER DAY
Silicon Carbide Macro Grains	Metric Tonnes	25 Tons per Day
Microgrits of SiC and Special Ceramics	Metric Tonnes	14 Tons per Day

By-PRODUCT	UNIT	QUANTITY PER DAY
-- N/A --		

(b) List and quantum of raw materials used:

RAW MATERIAL	UNIT	QUANTITY PER DAY
Raw Petroleum Coke per Day	Metric Tonnes	20.0
Quartz per Day	Metric Tonnes	24.0

Silicon Carbide Crude per Day	Metric Tonnes	20.0
Silicon Carbide Grains, Brown Fused Alumina Grains, White Fused Alumina Grains, Special Ceramic Grains per Day	Metric Tonnes	25.0

7. Furnish a flow diagram of manufacturing process showing input and output in terms of products and waste generated including for captive power generation and demineralised Water.

PART-B

PERTRAINING TO SEWAGE AND TRADE EFFLUENT

8. Quantity and source of water for:

S.No	PURPOSE	CONSUMPTION(L/D)
1	Process	4500.0
2	Cooling	94500.0
3	Others	42000.0
4	Domestic	9000.0

9. Sewage and trade effluent discharge:

(a) quantum of discharge m³/d

(b) Is there any effluent treatment plant:

(c) If yes, a brief description of unit operations with Capacity:

Suspended solids

Dissolved solids

Chemical Oxygen Demand (COD)

Biochemical Oxygen Demand [(BOD₅/20°C)]

Oil and grease

(Additional parameters as specified by the concerned Pollution Control Board)

(e) Mode of disposal and final discharge point (enclose map showing discharge point):

(f) Parameters and Frequency of self monitoring:

PART-C

PERTAINING OF STACK (CHIMNEY) AND VENT EMISSIONS

10. (a) Number of stacks and vents with height and dia (m)

(b) Quality and quantity of stack emission from each of the above stacks-particulate matter and sulphur dioxide (SO₂) (Additional parameters as specified by the concerned Pollution Control Board):

(c) A brief account of the air pollution control unit to deal with the emission:

(d) Parameters and Frequency of self monitoring:

PART-D

PERTAINING TO HAZARDOUS WASTE AND HAZARDOUS CHEMICAL

11. Solid Wastes:

(a) Total Quantum of generation : N/A

(b) Quantum of hazardous waste generated and its nature, as defined under the Environment (Protection) Act, 1986. (See the Hazardous Wastes (Management and Handling) Rules, 1989):

(c) Mode of storage within the plant, method of disposal and any other information sought by the concerned Pollution Control Board:

(c) Mode of storage within the plant, method of disposal and any other information sought by the concerned Pollution Control Board:

12. (a) Hazardous Chemicals as defined under Environment (Protection) Act, 1986 ("See the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989):

(b) Whether any isolated storage is involved if yes, attach details

Chemical	Use	Mode of Storage	Capacity in t

(c) Whether emergency plans are prepared for taking

- On site measures :

- Off site measures : No

13) Annexure 11 A
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Annexure 11 & 16

Carborundum Universal Limited

Post Bag No. 3, Koratty - 680 308,

Thrissur Dist., Kerala, India.

Tel +91 480 3023044, 2732061

Website www.cumi-murugappa.com

CUMI/KOR/PCB/Ret 10

Date: 01/02/2024

The Member Secretary
Kerala State Pollution Control Board
Plamood Junction
Pattom Palace P.O
Thiruvananthapuram 695004

Dear Sir,

Sub: Emission monitoring reports and Storm water analysis report for the month January 2024.

Ref: Our consent # PCB/HO/TSR/ICO-R/11/2018.

Enclosed please find the Emission monitoring reports and Storm water analysis report for the month of January 2024.

Trust this is in order

Yours faithfully,

For CARBORUNDUM UNIVERSAL LTD

Rajesh J Kuruvilla
DGM-Manufacturing

Encl: as above

Copy To: The Environmental Engineer,
Kerala State Pollution Control Board
District Office,
Majestic Square building, 3rd floor, Paravattam P.O, Ottukkottai
Thrissur 680655

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CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY
PALLATH BUILDING, NORTH KALAMASSERY, ERNAKULAM - 683104
 Phone : 0484-2544030, 8281982322, 9747400085

TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No	PL/AMB/RT/403/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of issue	23/01/2024
	Date of monitoring	18/01/2024
	Date of sample received	19/01/2024
	Date of analysis Started	19/01/2024
	Sample description	Ambient air -Near Compressor
	Sample code given by client	Nil

Parameters	Test Method	Result	Limits as per NAAQS
Particulate Matter (PM ₁₀)	I S 5182 Part 23 2006 RA2012	63.4 µg/m ³	100 µg/m ³
Particulate Matter (PM _{2.5})	CPCB	26.2 µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	I S 5182 Part 2 2001 RA2017	11.4 µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 Part 06 2006 RA2017	16.3 µg/m ³	80 µg/m ³
Carbon monoxide (CO)	SOP/PCL/COA/17	0.8 mg/m ³	4 mg/m ³
Ammonia (NH ₃)	CPCB	< 1 µg/m ³	400 µg/m ³
Lead (Pb)	IS 5182 Part 22 2004 RA2017	< 0.1 µg/m ³	1 µg/m ³
Arsenic (As)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	6 ng/m ³
Nickel (Ni)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	20 ng/m ³
Ozone (O ₃)	IS 5182 Part 09 1974 RA2017	< 1 µg/m ³	180 µg/m ³
Benzene (C ₆ H ₆)	IS 5182 Part 11 2006 RA2014	< 0.1 µg/m ³	5 µg/m ³
Benzo (a) pyrene (BaP)	IS 5182 Part 12 2004 RA2014	< 0.1 ng/m ³	1 ng/m ³

Note: NAAQS-National Ambient Air Quality Standards

End of the Report

The results are related only to the sample submitted for analysis. This certificate shall not be reproduced except in full and without the written permission with authorized signatory	For and on behalf of POLUCHEM LABORATORIES (P) LTD
	 REVIEWED & AUTHORIZED BY

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CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY
PALLATH BUILDING, NORTH KALAMASSERY, ERNAKULAM - 683104
 Phone : 0484-2544030, 8281982322, 9747400085

TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No	PL/AMB/RT/402/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of issue	23/01/2024
	Date of monitoring	18/01/2024
	Date of sample received	19/01/2024
	Date of analysis Started	19/01/2024
	Sample description	Ambient air –Near Canteen
	Sample code given by client	Nil

Parameters	Test Method	Result	Limits as per NAAQS
Particulate Matter (PM ₁₀)	IS 5182 Part 23 2006RA2012	61.3 µg/m ³	100 µg/m ³
Particulate Matter (PM _{2.5})	CPCB	24.2 µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	IS 5182 Part 2 2001 RA 2017	10.4 µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 Part 06 2006 RA2017	18.4 µg/m ³	80 µg/m ³
Carbon monoxide (CO)	SOP/PCL/COA/17	0.9 mg/m ³	4 mg/m ³
Ammonia (NH ₃)	CPCB	< 1 µg/m ³	400 µg/m ³
Lead (Pb)	IS 5182 Part 22 2004RA2017	< 0.1 µg/m ³	1 µg/m ³
Arsenic (As)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	6 ng/m ³
Nickel (Ni)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	20 ng/m ³
Ozone (O ₃)	IS 5182 Part 09 1974 RA2017	< 1 µg/m ³	180 µg/m ³
Benzene (C ₆ H ₆)	IS 5182 Part 11 2006 RA2014	< 0.1 µg/m ³	5 µg/m ³
Benzo (a) pyrene (BaP)	IS 5182 Part 12 2004 RA2014	< 0.1 ng/m ³	1 ng/m ³

Note: NAAQS-National Ambient Air Quality Standards

End of the Report

<p>The results are related only to the sample submitted for analysis. This certificate shall not be reproduced except in full and without the written permission with authorized signatory</p>	<p align="center">For and on behalf of POLUCHEM LABORATORIES (P) LTD</p> <p align="center"></p> <p align="center">REVIEWED & AUTHORIZED BY</p>
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CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY
PALLATH BUILDING, NORTH KALAMASSERY, ERNAKULAM - 683104
 Phone : 0484-2544030, 8281982322 9747400085.

TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No	PL/AMB/RT/401/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of issue	23/01/2024
	Date of monitoring	18/01/2024
	Date of sample received	19/01/2024
	Date of analysis Started	19/01/2024
	Sample description	Ambient air - Near Main Gate Assembly Point
	Sample code given by client	Nil

Parameters	Test Method	Result	Limits as per NAAQS
Particulate Matter (PM ₁₀)	IS 5182 Part 23 2006RA2012	48.6 µg/m ³	100 µg/m ³
Particulate Matter (PM _{2.5})	CPCB	23.4 µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	IS 5182 Part 2 2001 RA 2017	12.4 µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 Part 06 2006 RA2017	18.7 µg/m ³	80 µg/m ³
Carbon monoxide (CO)	SOP/PCL/COA/17	0.8 mg/m ³	4 mg/m ³
Ammonia (NH ₃)	CPCB	< 1 µg/m ³	400 µg/m ³
Lead (Pb)	IS 5182 Part 22 2004RA2017	< 0.1 µg/m ³	1 µg/m ³
Arsenic (As)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	6 ng/m ³
Nickel (Ni)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	20 ng/m ³
Ozone (O ₃)	IS 5182 Part 09 1974 RA2017	< 1 µg/m ³	180 µg/m ³
Benzene (C ₆ H ₆)	IS 5182 Part 11 2006 RA2014	< 0.1 µg/m ³	5 µg/m ³
Benzo (a) pyrene (BaP)	IS 5182 Part 12 2004 RA2014	< 0.1 ng/m ³	1 ng/m ³

Note: NAAQS-National Ambient Air Quality Standards

End of the Report

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TEST REPORT

Client Name & Address	Certificate No:	PL/ST/RT/1203/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of Issue:	26/02/2024
	Date of monitoring	21/02/2024
	Date of sample received:	22/02/2024
	Date of Analysis Started	22/02/2024
	Sample Description	C 4 – Crusher Grander
	Sample Code given by client	Nil

SL NO	PARAMETERS	TEST METHOD	RESULTS	Limits
01	Temperature of emission	IS 11255 part 3 2008	51 °C	---
02	Velocity of emission	IS 11255 part 3 2008	2.14 m/sec	---
03	Volume of emission	IS 11255 part 3 2008	3684 Nm ³ /hr	---
04	Particulate matter	IS 11255 part 1 1985RA 2014	27 mg/Nm ³	250 mg/Nm ³

End of The Report

The results are related only to the sample collected for analysis. This certificate shall not be reproduced except in full and without the written permission with authorized signatory	For and on behalf of POLUCHEM LABORATORIES (P) LTD.
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TEST REPORT

Client Name & Address	Certificate No:	PL/ST/RT/1204/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of Issue:	26/02/2024
	Date of monitoring	21/02/2024
	Date of sample received:	22/02/2024
	Date of Analysis Started	22/02/2024
	Sample Description	C 2 – Jaw Crusher
	Sample Code given by client	Nil

SL NO	PARAMETERS	TEST METHOD	RESULTS	Limits
01	Temperature of emission	I S 11255 part 3 2008	60 °C	---
02	Velocity of emission	I S 11255 part 3 2008	2.17 m/sec	---
03	Volume of emission	I S 11255 part 3 2008	1957 Nm ³ /hr	---
04	Particulate matter	I S 11255 part 1 1985RA 2014	35 mg/Nm ³	250 mg/Nm ³

End of the Report

The results are related only to the sample collected for analysis. This certificate shall not be reproduced except in full and without the written permission with authorized signatory	For and on behalf of POLUCHEM LABORATORIES (P) LTD
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TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No:	PL/ST/RT/1205/2024
M/s. Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of Issue:	26/02/2024
	Date of monitoring	21/02/2024
	Date of sample received:	22/02/2024
	Date of Analysis	22/02/2024
	Sample Description	C 1 -- Reclaim Elevator
	Sample Code given by client	Nil

SL NO	PARAMETERS	TEST METHOD	RESULTS	Limits
01	Temperature of emission	I S 11255 part 3 2008	57 °C	---
02	Velocity of emission	I S 11255 part 3 2008	2.19 m/sec	---
03	Volume of emission	I S 11255 part 3 2008	1118 Nm ³ /hr	---
04	Particulate matter	I S 11255 part 1 1985RA 2014	42 mg/Nm ³	250 mg/Nm ³

End of The Report

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CERTIFICATE OF MONITORING

Page 01 of 01

Ref No: PL/SL/RT/1206/2024 Date of Issue: 26/02/2024

Client: M/s Carborandum Universal Ltd., Chalakkudy, Koratty, Thrissur Dist.

Test Certificate No. : 1206/2024 Date of Monitoring: 21/02/2024

Sample Description: Sound Level Monitoring

Sl. No.	Monitoring Location	Results	
		Day Time	Night Time
01	South side Boundary	50.3 dB (A)	40.1 dB (A)
02	West Side Boundary	50.1 dB (A)	41.7 dB (A)
03	Security Main Gate	49.8 dB (A)	40.3 dB (A)
Limits		55 dB (A)	45 dB (A)

For Poluchem Laboratories (P) Ltd.

Reviewed & Authorized By

SREEJA RAMESH
 QUALITY MANAGER
 POLUCHEM LABORATORIES PVT. LTD

End of the report

The above results are related only to the sample submitted for analysis. This test report shall not be reproduced except in full, without the written approval of the laboratory.

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CERTIFICATE OF ANALYSIS

Ref No: PL/LW/RT/1207/2024 Date of Issue: 26/02/2024

Client: M/s Carborandum Universal Ltd.,Chalakkudy, Koratty, Thrissur Dist

Test Certificate No. : 1207/2024 Date of Sample collected: 21/02/2024

Sample Name: Storm Water (Outlet)

Parameters	Test Method	Results	Limits
pH	IS 3025 (P) 11 – 1983RA 2017	6.98	6.5 – 8.8
Total Suspended Solids	IS 3025 (P) 15 – 1984RA 2014	16 mg/l	100 mg/l
BOD (3 days at 27 ^o C)	IS 3025 (P) 44 – 1993RA 2014	10.5 mg/l	30 mg/l
Oil & Grease	IS 3025 (P) 39 – 1991RA 2014	BDL	10 mg/l

Note: BDL.-Below Detection Level

For Poluchem Laboratories (P) Ltd.

Reviewed & Authorized By

BREENA RAMESH
 QUALITY MANAGER

End of the report

The above results are related only to the sample submitted for analysis. This test report shall not be reproduced except in full, without the written approval of the laboratory.

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Carborundum Universal Limited

Post Bag No. 3, Koratty - 680 308

Thrissur Dist., Kerala, India

Tel: +91 480 3023044, 2732061

Website: www.cumi.murugappa.com

CUMI/KOR/PCB/Ret 11

Date: 04/03/2024

The Member Secretary
Kerala State Pollution Control Board
Plamood Junction
Pattom Palace P.O
Thiruvananthapuram 695004

Dear Sir,

Sub: Emission monitoring reports and Storm water analysis report for the month February 2024.

Ref: Our consent # **KSPCB/TS/ICO/10041755/2023**

Enclosed please find the Emission monitoring reports and Storm water analysis report for the month of February 2024.

Trust this is in order

Yours faithfully,

For CARBORUNDUM UNIVERSAL LTD

Rajesh J Kuruvilla
DGM-Manufacturing

Encl: as above

Copy To: The Environmental Engineer,
Kerala State Pollution Control Board
District Office,
Majestic Square building, 3rd floor, Paravattani P.O, Ollukkara,
Thrissur-680655

Corporate Identity Number: L29224TN1954PLC000318
REGD OFFICE "PARRY HOUSE" 43, MOORE STREET,
CHENNAI 600 001, INDIA Tel: 044-30006199



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POLUCHEM LABORATORIES PVT LTD
CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY
 PALLATH BUILDING, NORTH KALAMASSERY, ERNAKULAM - 683104
 Phone : 0484-2544030, 8281982322, 9747400085

TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No	PL/AMB/RT/1200/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of issue	26/02/2024
	Date of monitoring	21/02/2024
	Date of sample received	22/02/2024
	Date of analysis Started	22/02/2024
	Sample description	Ambient air - Near Main Gate Assembly Point
	Sample code given by client	Nil

Parameters	Test Method	Result	Limits as per NAAQS
Particulate Matter (PM ₁₀)	IS 5182 Part 23 2006RA2012	54.3 µg/m ³	100 µg/m ³
Particulate Matter (PM _{2.5})	CPCB	24.6 µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	IS 5182 Part 2 2001 RA 2017	14.5 µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 Part 06 2006 RA2017	21.4 µg/m ³	80 µg/m ³
Carbon monoxide (CO)	SOP/PCL/COA/17	1.1 mg/m ³	4 mg/m ³
Ammonia (NH ₃)	CPCB	< 1 µg/m ³	400 µg/m ³
Lead (Pb)	IS 5182 Part 22 2004RA2017	< 0.1 µg/m ³	1 µg/m ³
Arsenic (As)	IS 5182 Part 22 2004 RA2017	< 0.1 ng/m ³	6 ng/m ³
Nickel (Ni)	IS 5182 Part 22 2004 RA2017	< 0.1 ng/m ³	20 ng/m ³
Ozone (O ₃)	IS 5182 Part 09 1974 RA2017	< 1 µg/m ³	180 µg/m ³
Benzene (C ₆ H ₆)	IS 5182 Part 11 2006 RA2014	< 0.1 µg/m ³	5 µg/m ³
Benzo (a) pyrene (BaP)	IS 5182 Part 12 2004 RA2014	< 0.1 ng/m ³	1 ng/m ³

Note: NAAQS-National Ambient Air Quality Standards

End of the Report

The results are related only to the sample submitted for analysis. This certificate shall not be reproduced except in full and without the written permission with authorized signatory	For and on behalf of POLUCHEM LABORATORIES (P) LTD REVIEWED & AUTHORIZED BY
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CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY

PALLATH BUILDING, NORTH KALAMASSERY, ERNAKULAM - 683104

Phone : 0484-2544030, 8281982322, 9747400085

TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No	PL/AMB/R1/1201/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of issue	26/02/2024
	Date of monitoring	21/02/2024
	Date of sample received	22/02/2024
	Date of analysis Started	22/02/2024
	Sample description	Ambient air -Near Canteen
	Sample code given by client	Nil

Parameters	Test Method	Result	Limits as per NAAQS
Particulate Matter (PM ₁₀)	IS 5182 Part 23 2006RA2012	56.3 µg/m ³	100 µg/m ³
Particulate Matter (PM _{2.5})	CPCB	27.4 µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	IS 5182 Part 2 2001 RA 2017	15.4 µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 Part 06 2006 RA2017	23.7 µg/m ³	80 µg/m ³
Carbon monoxide (CO)	SOP/PCL/COA/17	0.8 mg/m ³	4 mg/m ³
Ammonia (NH ₃)	CPCB	< 1 µg/m ³	400 µg/m ³
Lead (Pb)	IS 5182 Part 22 2004RA2017	< 0.1 µg/m ³	1 µg/m ³
Arsenic (As)	IS 5182 Part 22 2004 RA2017	< 0.1 ng/m ³	6 ng/m ³
Nickel (Ni)	IS 5182 Part 22 2004 RA2017	< 0.1 ng/m ³	20 ng/m ³
Ozone (O ₃)	IS 5182 Part 09 1974 RA2017	< 1 µg/m ³	180 µg/m ³
Benzene (C ₆ H ₆)	IS 5182 Part 11 2006 RA2014	< 0.1 µg/m ³	5 µg/m ³
Benzo (a) pyrene (BaP)	IS 5182 Part 12 2004 RA2014	< 0.1 ng/m ³	1 ng/m ³

Note: NAAQS-National Ambient Air Quality Standards

End of the Report

The results are related only to the sample submitted for analysis. This certificate shall not be reproduced except in full and without the written permission with authorized signatory	For and on behalf of POLUCHEM LABORATORIES (P) LTD REVIEWED & AUTHORIZED BY
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CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY

PALLATH BUILDING, NORTH KALAMASSERY, ERNAKULAM - 683104

Phone : 0484-2544030, 8281982322, 9747400085.

TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No	PL/AMB/RT/1202/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of issue	26/02/2024
	Date of monitoring	21/02/2024
	Date of sample received	22/02/2024
	Date of analysis Started	22/02/2024
	Sample description	Ambient air -Near Compressor
	Sample code given by client	Nil

Parameters	Test Method	Result	Limits as per NAAQS
Particulate Matter (PM ₁₀)	IS 5182 Part 23 2006 RA2012	59.8 µg/m ³	100 µg/m ³
Particulate Matter (PM _{2.5})	CPCB	24.3 µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	IS 5182 Part 2 2001 RA2017	13.2 µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 Part 06 2006 RA2017	19.5 µg/m ³	80 µg/m ³
Carbon monoxide (CO)	SOP/PCL/COA/17	0.9 mg/m ³	4 mg/m ³
Ammonia (NH ₃)	CPCB	< 1 µg/m ³	400 µg/m ³
Lead (Pb)	IS 5182 Part 22 2004 RA2017	< 0.1 µg/m ³	1 µg/m ³
Arsenic (As)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	6 ng/m ³
Nickel (Ni)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	20 ng/m ³
Ozone (O ₃)	IS 5182 Part 09 1974 RA2017	< 1 µg/m ³	180 µg/m ³
Benzene (C ₆ H ₆)	IS 5182 Part 11 2006 RA2014	< 0.1 µg/m ³	5 µg/m ³
Benzo (a) pyrene (BaP)	IS 5182 Part 12 2004 RA2014	< 0.1 ng/m ³	1 ng/m ³

Note: NAAQS-National Ambient Air Quality Standards

End of the Report

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TEST REPORT

Client Name & Address	Certificate No:	PL/SI/RT/2236/2024
M/s. Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of Issue:	27/03/2024
	Date of monitoring	22/03/2024
	Date of sample received:	23/03/2024
	Date of Analysis	23/03/2024
	Sample Description	C 1 – Reclaim Elevator
	Sample Code given by client	Nil

SL NO	PARAMETERS	TEST METHOD	RESULTS	Limits
01	Temperature of emission	I S 11255 part 3 2008	56 °C	---
02	Velocity of emission	I S 11255 part 3 2008	2.08 m/sec	---
03	Volume of emission	I S 11255 part 3 2008	1094 Nm ³ /hr	---
04	Particulate matter	I S 11255 part 1 1985RA 2014	39 mg/Nm ³	250 mg/Nm ³

End of The Report

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CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY

PALLATH BUILDING, NORTH KALAMASSERY, ERNAKULAM - 683104

Phone : 0484-2544030, 8281982322, 9747400085

TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No:	PL/ST/RT/2235/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of Issue:	27/03/2024
	Date of monitoring	22/03/2024
	Date of sample received:	23/03/2024
	Date of Analysis Started	23/03/2024
	Sample Description	C 2 – Jaw Crusher
	Sample Code given by client	Nil

SL NO	PARAMETERS	TEST METHOD	RESULTS	Limits
01	Temperature of emission	I S 11255 part 3 2008	57 °C	---
02	Velocity of emission	I S 11255 part 3 2008	2.04 m/sec	---
03	Volume of emission	I S 11255 part 3 2008	1856 Nm ³ /hr	---
04	Particulate matter	I S 11255 part 1 1985RA 2014	38 mg/Nm ³	250 mg/Nm ³

End of the Report

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TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No:	PL/ST/RT/2234/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of Issue:	27/03/2024
	Date of monitoring	22/03/2024
	Date of sample received:	23/03/2024
	Date of Analysis Started	23/03/2024
	Sample Description	C 4 – Crusher Grander
	Sample Code given by client	Nil

SL NO	PARAMETERS	TEST METHOD	RESULTS	Limits
01	Temperature of emission	IS 11255 part 3 2008	53 °C	---
02	Velocity of emission	IS 11255 part 3 2008	2.18 m/sec	---
03	Volume of emission	IS 11255 part 3 2008	3753 Nm ³ /hr	---
04	Particulate matter	IS 11255 part 1 1985RA 2014	34 mg/Nm ³	250 mg/Nm ³

End of The Report

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CERTIFICATE OF MONITORING

Page 01 of 01

Ref No: PL/SL/RT/2237/2024 Date of Issue: 27/03/2024

Client: M/s Carborandum Universal Ltd., Chalakkudy, Koratty, Thrissur Dist.

Test Certificate No. : 2237/2024 Date of Monitoring: 22/03/2024

Sample Description: Sound Level Monitoring

Sl. No.	Monitoring Location	Results	
		Day Time	Night Time
01	South side Boundary	50.1 dB (A)	41.2 dB (A)
02	West Side Boundary	50.2 dB (A)	40.4 dB (A)
03	Security Main Gate	48.7 dB (A)	42.3 dB (A)
Limits		55 dB (A)	45 dB (A)

For Poluchem Laboratories (P) Ltd.

Reviewed & Authorized By

End of the report

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CERTIFICATE OF ANALYSIS

Ref No: PL/EW/RT/2238/2024 Date of Issue: 27/03/2024
Client: M/s Carborandum Universal Ltd.,Chalakkudy, Koratty, Thrissur Dist
Test Certificate No. : 2238/2024 Date of Sample collected: 22/03/2024
Sample Name: Storm Water (Outlet)

Parameters	Test Method	Results	Limits
pH	IS 3025 (P) 11 – 1983RA 2017	6.74	6.5 – 8.8
Total Suspended Solids	IS 3025 (P) 15 – 1984RA 2014	18 mg/l	100 mg/l
BOD (3 days at 27 ^o C)	IS 3025 (P) 44 – 1993RA 2014	12.3 mg/l	30 mg/l
Oil & Grease	IS 3025 (P) 39 – 1991RA 2014	BDL	10 mg/l

Note: BDL-Below Detection Level

For Poluchem Laboratories (P) Ltd.

Reviewed & Authorized By

End of the report

The above results are related only to the sample submitted for analysis. This test report shall not be reproduced except in full, without the written approval of the laboratory.

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Carborundum Universal Limited

Post Bag No. 3, Koratty - 680 308,

Thrissur Dist., Kerala India

Tel : +91 480 3023044, 2732061

Website: www.cumi-murugappa.com

CUMI/KOR/PCB/Ret 12

Date: 06/04/2024

The Member Secretary
Kerala State Pollution Control Board
Plamood Junction
Pattom Palace P.O
Thiruvananthapuram 695004

Dear Sir,

Sub: Emission monitoring reports and Storm water analysis report for the month March 2024.

Ref: Our consent # **KSPCB/TS/ICO/10041755/2023**

Enclosed please find the Emission monitoring reports and Storm water analysis report for the month of March 2024.

Trust this is in order

Yours faithfully,

For CARBORUNDUM UNIVERSAL LTD


Rajesh J Kuruvilla
DGM-Manufacturing

Encl: as above

Copy To: The Environmental Engineer,
Kerala State Pollution Control Board
District Office,
Majestic Square building, 3rd floor, Paravattani P.O, Ollukkara,
Thrissur 680655



Corporate Identity Number L29224TN1954PLC000318
REGD OFFICE "PARRY HOUSE" 43, MOORE STREET
CHENNAI 600 001, INDIA Tel: 044-30006199



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TEST REPORT

Client Name & Address M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Certificate No	PI./AMB/RT/2231/2024
	Date of issue	27/03/2024
	Date of monitoring	22/03/2024
	Date of sample received	23/03/2024
	Date of analysis Started	23/03/2024
	Sample description	Ambient air - Near Main Gate Assembly Point
	Sample code given by client	Nil

Parameters	Test Method	Result	Limits as per NAAQS
Particulate Matter (PM ₁₀)	I S 5182 Part 23 2006RA2012	56.2 µg/m ³	100 µg/m ³
Particulate Matter (PM _{2.5})	CPCB	23.4 µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	I S 5182 Part 2 2001 RA 2017	12.3 µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 Part 06 2006 RA2017	15.6 µg/m ³	80 µg/m ³
Carbon monoxide (CO)	SOP/PCI/COA/17	0.9 mg/m ³	4 mg/m ³
Ammonia (NH ₃)	CPCB	< 1 µg/m ³	400 µg/m ³
Lead (Pb)	IS 5182 Part 22 2004RA2017	< 0.1 µg/m ³	1 µg/m ³
Arsenic (As)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	6 ng/m ³
Nickel (Ni)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	20 ng/m ³
Ozone (O ₃)	IS 5182 Part 09 1974 RA2017	< 1 µg/m ³	180 µg/m ³
Benzene (C ₆ H ₆)	IS 5182 Part 11 2006 RA2014	< 0.1 µg/m ³	5 µg/m ³
Benzo (a) pyrene (BaP)	IS 5182 Part 12 2004 RA2014	< 0.1 ng/m ³	1 ng/m ³

Note: NAAQS-National Ambient Air Quality Standards

End of the Report

The results are related only to the sample submitted for analysis. This certificate shall not be reproduced except in full and without the written permission with authorized signatory	For and on behalf of POLUCHEM LABORATORIES (P) LTD REVIEWED & AUTHORIZED BY
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CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY

PALLATH BUILDING, NORTH KALAMASSERY, ERNAKULAM - 683104

Phone : 0484-2544030, 8281982322, 9747400085.

TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No	PL/AMB/RT/2233/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of issue	27/03/2024
	Date of monitoring	22/03/2024
	Date of sample received	23/03/2024
	Date of analysis Started	23/03/2024
	Sample description	Ambient air -Near Compressor
	Sample code given by client	Nil

Parameters	Test Method	Result	— Limits as per NAAQS
Particulate Matter (PM ₁₀)	I S 5182 Part 23 2006 RA2012	53.2 µg/m ³	100 µg/m ³
Particulate Matter (PM _{2.5})	CPCB	22.1 µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	I S 5182 Part 2 2001 RA2017	10.3 µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 Part 06 2006 RA2017	14.2 µg/m ³	80 µg/m ³
Carbon monoxide (CO)	SOP/PCL/COA/17	0.8 mg/m ³	4 mg/m ³
Ammonia (NH ₃)	CPCB	< 1 µg/m ³	400 µg/m ³
Lead (Pb)	IS 5182 Part 22 2004 RA2017	< 0.1 µg/m ³	1 µg/m ³
Arsenic (As)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	6 ng/m ³
Nickel (Ni)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	— 20 ng/m ³
Ozone (O ₃)	IS 5182 Part 09 1974 RA2017	< 1 µg/m ³	180 µg/m ³
Benzene (C ₆ H ₆)	IS 5182 Part 11 2006 RA2014	< 0.1 µg/m ³	5 µg/m ³
Benzo (a) pyrene (BaP)	IS 5182 Part 12 2004 RA2014	< 0.1 ng/m ³	1 ng/m ³

Note: NAAQS-National Ambient Air Quality Standards

End of the Report

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POLUCHEM LABORATORIES PVT LTD
CHEMICAL, ENVIRONMENTAL AND MICROBIOLOGY LABORATORY

PALLATH BUILDING, NORTH KALAMASSERY, ERNAKULAM - 683104

Phone : 0484-2544030, 8281982322, 9747400085.

TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No	PL/AMB/RT/2232/2024
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of issue	27/03/2024
	Date of monitoring	22/03/2024
	Date of sample received	23/03/2024
	Date of analysis Started	23/03/2024
	Sample description	Ambient air - Near Canteen
	Sample code given by client	Nil

Parameters	Test Method	Result	Limits as per NAAQS
Particulate Matter (PM ₁₀)	I S 5182 Part 23 2006RA2012	58.7 µg/m ³	100 µg/m ³
Particulate Matter (PM _{2.5})	CPCB	29.5 µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	I S 5182 Part 2 2001 RA 2017	10.2 µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 Part 06 2006 RA2017	19.8 µg/m ³	80 µg/m ³
Carbon monoxide (CO)	SOP/PCL/COA/17	0.9 mg/m ³	4 mg/m ³
Ammonia (NH ₃)	CPCB	< 1 µg/m ³	400 µg/m ³
Lead (Pb)	IS 5182 Part 22 2004RA2017	< 0.1 µg/m ³	1 µg/m ³
Arsenic (As)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	6 ng/m ³
Nickel (Ni)	IS 5182 Part 22 2004 RA2017	<0.1 ng/m ³	20 ng/m ³
Ozone (O ₃)	IS 5182 Part 09 1974 RA2017	< 1 µg/m ³	180 µg/m ³
Benzene (C ₆ H ₆)	IS 5182 Part 11 2006 RA2014	< 0.1 µg/m ³	5 µg/m ³
Benzo (a) pyrene (BaP)	IS 5182 Part 12 2004 RA2014	< 0.1 ng/m ³	1 ng/m ³

Note: NAAQS-National Ambient Air Quality Standards

End of the Report

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TEST REPORT

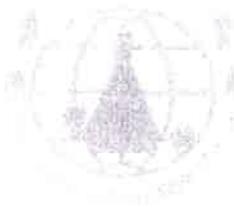
Page 01 of 01

Client Name & Address	Certificate No:	PL/ST/RT/3076/2022
M/s. Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of Issue:	28/04/2022
	Date of monitoring	23/04/2022
	Date of sample received:	25/04/2022
	Date of Analysis	25/04/2022
	Sample Description	C 1 – Reclaim Elevator
	Sample Code given by client	Nil

SL NO	PARAMETERS	TEST METHOD	RESULTS	Limits
01	Temperature of emission	I S 11255 part 3 2008	54 °C	---
02	Velocity of emission	I S 11255 part 3 2008	3.54 m/sec	---
03	Volume of emission	I S 11255 part 3 2008	1974 Nm ³ /hr	---
04	Particulate matter	I S 11255 part 1 1985RA 2014	38 mg/Nm ³	250 mg/Nm ³

End of The Report

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TEST REPORT

Page 01 of 01

Client Name & Address	Certificate No:	PL/ST/RT/3075/2022
M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Date of Issue:	28/04/2022
	Date of monitoring	23/04/2022
	Date of sample received:	25/04/2022
	Date of Analysis Started	25/04/2022
	Sample Description	C 2 – Jaw Crusher
	Sample Code given by client	Nil

SL NO	PARAMETERS	TEST METHOD	RESULTS	Limits
01	Temperature of emission	I S 11255 part 3 2008	54 °C	---
02	Velocity of emission	I S 11255 part 3 2008	2.18 m/sec	---
03	Volume of emission	I S 11255 part 3 2008	2074 Nm ³ /hr	---
04	Particulate matter	I S 11255 part 1 1985RA 2014	50 mg/Nm ³	250 mg/Nm ³

End of the Report

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TEST REPORT

Client Name & Address M/s Carborandum Universal Ltd Chalakkudy, Koratty, Thrissur Dist	Certificate No:	PL/ST/RT/3074/2022
	Date of Issue:	28/04/2022
	Date of monitoring	23/04/2022
	Date of sample received:	25/04/2022
	Date of Analysis Started	25/04/2022
	Sample Description	C 4 – Crusher Grander
	Sample Code given by client	Nil

Sl. NO	PARAMETERS	TEST METHOD	RESULTS	Limits
01	Temperature of emission	I S 11255 part 3 2008	56 °C	---
02	Velocity of emission	I S 11255 part 3 2008	2.24 m/sec	---
03	Volume of emission	I S 11255 part 3 2008	3798 Nm ³ /hr	---
04	Particulate matter	I S 11255 part 1 1985RA 2014	62 mg/Nm ³	250 mg/Nm ³

End of The Report

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CERTIFICATE OF ANALYSIS

Ref No: PL/AMB/RT/3070/2022

Date of Issue: 28/04/2022

Client: M/s Carborandum Universal Ltd. Koratty, Thrissur Dist.

Test Certificate No.: 3070/2022

Description of Sample: Ambient Air

Sampling Stations	Date of Monitoring	Parameters	
		SPM	RPM
GP I st Floor	23.04.2022	2.54 mg/m ³	2.16 mg/m ³
GP II nd Floor	23.04.2022	3.29 mg/m ³	2.84 mg/m ³
Jaw Crusher Area	23.04.2022	2.94 mg/m ³	2.71 mg/m ³
Limit as per OSHA(Occupational Safety and Health Administration)Permissible exposure limit		15 mg/m ³	5 mg/m ³

For PoluChem Laboratories (P) Ltd.

Authorized Signatory.

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CERTIFICATE OF MONITORING

Ref No: PL/SL/RT/3077/2022

Date of Issue: 28/04/2022

Client: M/s Carborandum Universal Ltd., Chalakkudy, Koratty, Thrissur Dist.

Test Certificate No. : 3077/2022

Date of Monitoring: 23/04/2022

Sample Description: Sound Level Monitoring

Sl. No.	Monitoring Location	Results	
		Day Time	Night Time
01	South side Boundary	53.4 dB (A)	43.4 dB (A)
02	West Side Boundary	51.3 dB (A)	42.1dB (A)
03	Security Main Gate	50.4 dB (A)	41.7 dB (A)
	Limits	55 dB (A)	45 dB (A)

For Poluchem Laboratories (P) Ltd.

Authorized Signatory

ITEM NO.47

COURT NO.4

SECTION PIL-W

S U P R E M E C O U R T O F I N D I A
R E C O R D O F P R O C E E D I N G S

Annexure 12

Writ Petition(s) (Civil) No(s). 13029/1985

M.C. MEHTA

Petitioner(s)

VERSUS

UNION OF INDIA & ORS.

Respondent(s)

(1) In Re: REPORT NO. 71 AND 78 FILED BY EPCA
(REGARDING COMPREHENSIVE ACTION PLAN FOR AIR POLLUTION CONTROL AND
SUPPLEMENTARY REPORT ON THE COMPREHENSIVE ACTION PLAN WITH
TIMELINES)

2) IN Re: REPORT NO. 73 AND 75 FILED BY EPCA (ON THE ASSESSMENT OF
POLLUTION UNDER CONTROL (PUC) PROGRAMME IN DELHI AND NCR)

Date : 17-11-2017 These applications were called on for hearing
today.

CORAM : HON'BLE MR. JUSTICE MADAN B. LOKUR
HON'BLE MR. JUSTICE DEEPAK GUPTA

For Petitioner(s) Mr. Harish N. Salve, Sr. Advocate (A.C.)
Ms. Aparajita Singh, Advocate (A.C.)
Mr. A.D.N. Rao, Advocate (A.C.) [Np]
Mr. Siddhartha Chowdhury, Advocate (A.C.) [Np]

Petitioner-In-Person

For Respondent(S) Mr. A.N.S. Nadkarni, ASG
Mr. S.Wasim A. Qadri, Adv.
Mr. D.L. Chidanand, Adv.
Mr. Ritesh Kumar, Adv.
Mr. Zaid Ali, Adv.
Mr. Saeed Qadri, Adv.
Mr. S.S. Rebello, Adv.
Ms. Nivedita Nair, Adv.
Mr. Abhisekh Bharadwaj, Adv.
Mr. Jai Dehadrai, Adv.
Ms. Divya Prakash Pandey, Adv.
Mr. Ajit Yadav, Adv.
Ms. Saudamini Sharma, Adv.
Ms. Pallavi Chopra, Adv.
Mr. G.S. Makker, Advocate.

Signature Not Verified

Digitally signed by
MEENAKSHI KOHLI
Date: 2017.11.17
14:52:38 IST
Reason: []

- Mr. Ajit Yadav, Adv.
- CPCB Mr. Vijay Panjwani, Advocate
- U.P. Ms. Aishwarya Bhati, AAG
Ms. Rachna Gupta, Adv.
Mr. Siddhant S. Malik, Adv.
- Haryana Mr. Anil Grover, AAG
Ms. Noopur Singhal, Adv.
Mr. Satish Kumar, Adv.
Mr. Ajay Bansal, Adv.
Mr. Gaurav Yadav, Adv.
Mr. Sanjay Kr. Visen, Advocate
- Mr. Samir Ali Khan, Advocate
- Rajasthan Mr. S.S. Shamsbery, AAG
Mr. Amit Sharma, Adv.
Mr. Ankit Raj, Adv.
Ms. Indira Bhakar, Adv.
Ms. Ruchi Kohli, Advocate
- NCT Mr. Chirag M. Shroff, Adv.
Ms. Neha Sangwan, Adv.
- Mr. B.K. Prasad, Advocate.
- M/S S Narain
- Mercedes Benz Mr. Gopal Subramaniam, Sr. Adv.
Mr. Akshat Hansaria, Adv.
Mr. Amit K. Mishra, Adv.
Mr. Pavan Bhushan, Adv.
Mr. Ritesh Bajaj, Adv.

UPON hearing the counsel the Court made the following

O R D E R

Report Nos. 72 and 76

On 13.11.2017, we had reserved orders on various applications filed for recall of the order dated 24.10.2017 regarding the ban on use of furnace oil and pet coke in the States of U.P., Haryana and Rajasthan.

Today, the learned ASG has placed before us a decision taken

by the Ministry of Environment, Forests and Climate Change of the Government of India on 15.11.2017 requiring the Central Pollution Control Board to issue a direction under Section 5 of the Environment (Protection) Act 1986 to the States of U.P., Haryana and Rajasthan prohibiting any industry, operation or processes using pet coke and furnace oil as fuel with immediate effect until further orders. It is clarified by the learned ASG that this is with respect to entire State and not only NCR region.

Pursuant to the communication dated 15.11.2017, a direction has been issued on the same date i.e. 15.11.2017 by the Chairman, CPCB under Section 5 of the Environment (Protection) Act, 1986. The direction is to the effect that there will be a prohibition on the use of pet coke and furnace oil by any industry, operation or processes within the the States of U.P., Haryana and Rajasthan with immediate effect until further orders.

It is submitted by the learned Amicus that a prohibition on the use of pet coke and furnace oil will solve only a part of the problem. A direction should also be issued to the effect there is a ban on the sale of pet coke and furnace oil in all these three States for being used as fuel.

The learned ASG says that he will look into the matter and will get back to us within a week or so.

We may note that pollution caused by pet coke and furnace oil is not a problem confined only to the NCR region but appears to be a problem faced by almost all the States and Union Territories in the country.

For the present, we do not propose to give any direction to

any other State and Union Territory but we request all the State Governments and Union Territories to consider taking similar measures as have been taken by the Government of India and the Chairman of the Central Pollution Control Board under Section 5 of the Environment (Protection) Act, 1986.

List on 4th December, 2017.

Report Nos. 71 and 78 (REGARDING COMPREHENSIVE ACTION PLAN FOR AIR POLLUTION CONTROL AND SUPPLEMENTARY REPORT ON THE COMPREHENSIVE ACTION PLAN WITH TIMELINES)

List on 4th December, 2017 for final orders.

Report Nos. 73 and 75 (ON THE ASSESSMENT OF POLLUTION UNDER CONTROL (PUC) PROGRAMME IN DELHI AND NCR)

List on 4th December, 2017 for final orders.

Application for Direction by the Amicus Curiae

Learned Amicus has moved an application in which it is prayed as follows:

- a) Direct the collection of a compensatory sum on petrol and diesel in NCR to be used for measures to deal with pollution in the NCR region.
- b) Direct that the charge so collected should be utilized by the Union of India to procure the requisite agricultural equipments for the farmers of Punjab and Haryana.
- c) Further direct that the Ministry of Petroleum and Natural Gas examine the feasibility of existing technologies and present a workable scheme on the use and disposal of the crop stubble to this

Hon'ble Court.

It is our impression that a prayer similar to prayer (c) has already been made in a writ petition filed and is perhaps pending before Hon'ble the Chief Justice.

On the request of the learned Amicus , we take the application on record but do not pass any orders since the learned Amicus says that he will move Hon'ble the Chief Justice.

Application for Direction by the Amicus Curiae

The learned Amicus has moved another application in which it is prayed as follows:

- a) Direct that sufficeint gas supply be made available so that all power generation in the NCR region is from power plants using gas as their principal fuel.
- b) Direct a ban on import of pet coke and furnace oil and confine the use of domestic pet coke for the sole purpose of feedstock.
- c) Direct the implementation of the 2015 emission standards for power plants as per schedule i.e. by December 2017
- d) Direct the review of the status of existing coal based power plants and a timebound switch over to natural gas.
- e) Direct the Union to oversee measures to strengthen the distribution of electricity in the NCR region to ensure that there is no shortfall in availability of electricity on 24/7 basis.

Issue notice returnable on 04.12.2017.

Mr. Qadri, learned counsel accepts notice.

Learned ASG seeks some time to have instructions and file a response, if necessary.

50/163

Writ Petition(s) (Civil) No(s). 13029/1985

Several amounts running into hundreds if not thousand crores have been collected under various heads/accounts pursuant to various orders passed by this Court from time to time. We request the learned ASG appearing for the Union of India, Mr. Vijay Panjwani, learned counsel for CPCB and Ms. Aprajita Singh, the learned Amicus before us to sit together and identify all the heads and the amounts lying under those heads / accounts so that there can be proper utilization of these funds. The Registry is directed to give access to the relevant records, if necessary.

The learned ASG, Mr. Vijay Panjwani and Ms. Aprajita Singh, the learned Amicus may take the assistance of any other person that they feel necessary.

(MEENAKSHI KOHLI)
COURT MASTER

(KAILASH CHANDER)
COURT MASTER

201 164 Annexure 13

Annexure 13

Item No.02 & 03

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 67/2019
(I.A. No. 32/2019)

WITH

Original Application No. 138/2019
(I.A. No. 65/2019)

Sumit Kumar Applicant(s)

Versus

State of Himachal Pradesh & Ors. Respondent(s)

WITH

Amarjeet Kumar Applicant(s)

Versus

Union of India & Ors. Respondent(s)

(I.A. No. 32/2019 for stay and I.A. No. 65/2019 for stay)

Date of hearing: 04.07.2019

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

For Applicant(s): Mr. Arvind Nayar, Senior Advocate with Mr. Soumik Ghoshal, Advocate
Dr. Sandeep Singh, Advocate

For Respondent (s): Mr. Alok Kumar Aggarwal, Mr. Panni Poddar, Advocates for R-11
Mr. Rajkumar, Advocate for CPCB
Mr. Sharat Kapoor, Advocate for SAIL
Mr. Sanjay Kumar and Ms. Kalpana Devi, Advocates for R-5

ORDER

1. The issue for consideration is the steps to be taken for controlling the use of Pet-coke and furnace oil as fuel. The matter was dealt with vide order dated 28.03.2019 in the light of the Report of the Central Pollution Control Board (CPCB) dated 15.02.2019 to the effect that use of Pet coke and furnace oil can be allowed only in

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industries/processes either as feed stock (Calcined Pet-Coke (CPC) units, Aluminum industries) or where they get absorbed along with product in manufacturing process (cement, Lime Kiln, calcium carbide industries). Raw Petroleum Coke (RPC) in CPC units can be allowed with condition of 90% recovery of SO₂ emission.

2. The objection to the use of Pet coke and furnace oil, which has already been banned in certain States, is causing of huge emission of SO₂ and other pollutants. The pollution load of SO₂ is four times higher when Low Sulphur Heavy Stock (LSHS) and LDO are used.
3. Accordingly, the Tribunal directed the CPCB to take further measures for enforcing the above directions and to give a report to the Tribunal.
4. The report of the CPCB dated 28.06.2019 is as follows:

“MoEF&CC has replied to CPCB vide letter dated 14.06.2019 that as per Supreme Court orders use and sale of Pet-coke and furnace oil is banned in Delhi and NCR states with exemption granted for certain industries and import of Pet-coke across the country is also restricted to the specified industries, and that in reference to the other areas that are outside NCR states, the Ministry is in the process of consultation with State Government and other stakeholders, as mentioned in Supreme Court order dated 27.11.2018 – “discussion are being held in a consultative manner with regard to import of pet-coke. During the consultation process, the Union of India, Ministry of Environment, Forest and Climate Change and Ministry of Commerce and Industry should consider limiting the use of Pet-coke to industries as per letter issued by the Directorate General of Foreign Trade to the EPCA.”

Submissions:

In view of the above, it is prayed that MoEF&CC may also be heard in the matter considering the consultations being held by the MoEF&CC with States in light of the proceedings in Writ Petition (Civil) No. 13029 of 1985 in the Hon'ble Supreme Court, and thereafter Hon'ble NGT may be pleased to pass orders as appropriate, which shall be abided by the CPCB.”

5. We do not find it necessary to hear the Ministry of Environment, Forest and Climate Change (MoEF&CC). MoEF&CC is free to hold discussions on the subject of limiting the use of Pet-coke as per letter of the DGFT and as per the orders of the Hon'ble Supreme Court. Subject to that, the CPCB may proceed to take further action in the matter. The Pet-coke and furnace oil may not be allowed except in terms of the Report of the CPCB dated 15.02.2019 as follows:

“Considering the various directions and orders of Hon'ble Supreme Court regarding use of Pet-coke and furnace oil containing higher sulphur, it is required that States and UTs, including Himachal Pradesh, formulate fuel policies regarding use of Pet-coke and FO in light of Hon'ble Supreme Court order dated 24.10.2017 (banning use of Pet-coke and FO in NCR States) and 17.11.2017 (suggesting States/UTs to take similar measures) and further Hon'ble Supreme Court order dated 13.12.2017, 05.02.2018 and 26.07.2017 allowing use of Pet-coke in industries/processes which use Pet-coke and furnace oil either as feed stock (Calcined Pet Coke (CPC) units, Aluminum industries) or where they get absorbed along with product in manufacturing process (cement, Lime Kiln, calcium carbide industries). It is relevant to mention that use of Raw Petroleum Coke (RPC) in CPC units has been allowed with condition of 90% recovery of SO₂ emission. The same principle may be followed in industrial processes where use of FO as feed stock is considered by States/UTs.”

6. Further report in the matter be furnished by the CPCB after three months by e-mail at judicial-ngt@gov.in.

The application will otherwise stand disposed of.

List for consideration of the report on 06.11.2019.

Adarsh Kumar Goel, CP

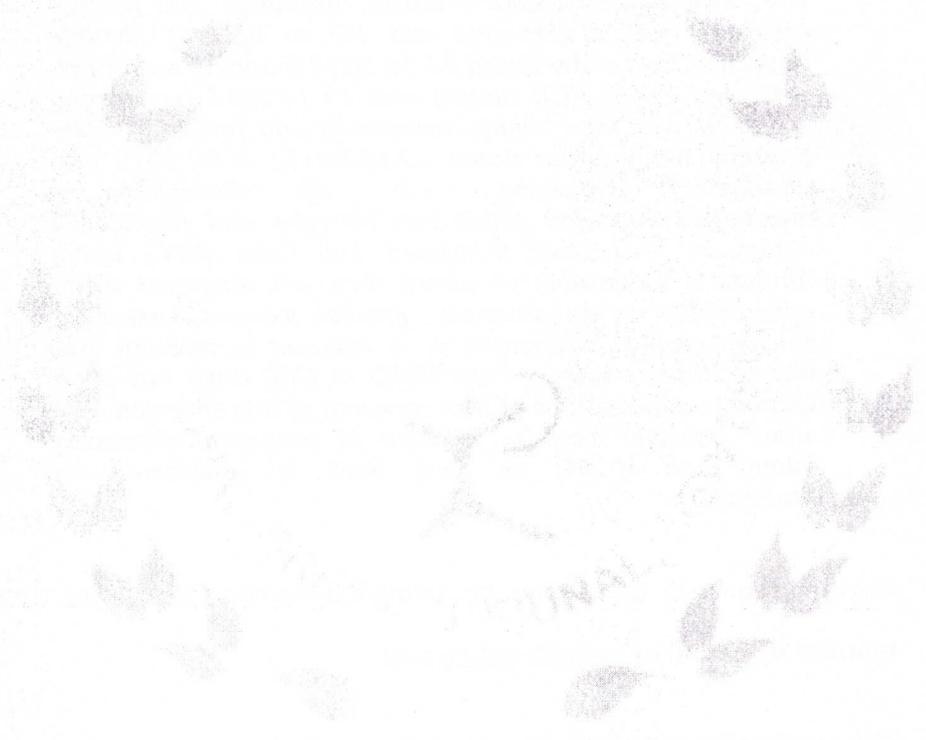
S.P. Wangdi, JM

dd/167

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

July 04, 2019
Original Application No. 67/2019
WITH
Original Application No. 138/2019
DV



Pd/168
Annexure 15

Annexure 15



Carborundum Universal Limited

Post Bag No. 3, Koratty - 680 308
Thrissur Dist., Kerala, India.
Tel: +91 480 3023044, 2732061
Website: www.cumi.murugappa.com
12th Feb 2024

To,
The Member Secretary
Kerala State Pollution Control Board.
Plamoodu - Thekkamoodu Rd,
Thiruvananthapuram, Kerala 695004

Dear Madam,

Sub: Review of condition in the consent referred below

Ref: Consent No. KSPCB/TS/ICO/10041755/2023 issued to M/s Carborundum Universal Limited, PB.NO.3,Nalukettu P.O,Koratty

We refer the integrated consent order in reference above duly issued by your good office and our sincere thanks for extending the support. We hereby confirm that we will fulfil the conditions stipulated in the consent by your good office; however, we would also like to highlight few concerns to your kind consideration.

Condition No.2.7: to provide stack for emission as per the consent condition, we are working out the installation of the stack and the work will be completed within 6 months.

The condition no. 2.6 as per the consent suggest to use ordinary coke in place of raw petroleum coke. We would like to give you a detailed note on the challenges in meeting the condition 2.6.

Globally the manufacturing process of Silicon carbide adopts usage of raw petroleum coke as a source of carbon. Kindly note the raw petroleum coke is not used as a source of fuel, but as a raw material. The detailed description of the process is given below-

1.0 Manufacturing process:

Silicon carbide plant at Nalukettu, Koratty was started in the year 1985. There are 200+ people are employed directly or indirectly. The factory premises is spread to an extent of 20 acres with constructed area of about 13148 sq. metre is built up area. The plant premises is well surrounded by Bamboo Garden and trees which ensure and provide a green belt to the factory premises.

The furnace plant has a production capacity of 20 MT of black silicon carbide crude per day. The grain plant has a capacity to convert 40 MT of crude into grain.

The furnace plant uses 20 MT of petroleum coke and 24 MT of Quartz per day as raw material. Attached below the process flow of the plant.



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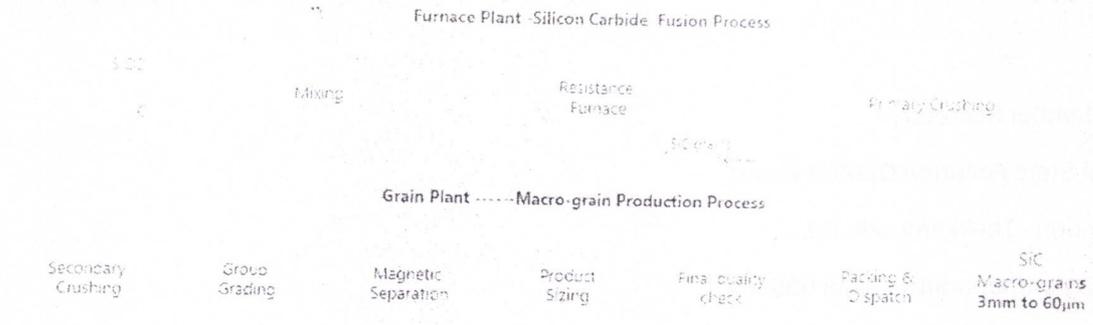
Carborundum Universal Limited

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Thrissur Dist., Kerala, India.

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Process Flow diagram of Furnace and grain processing.

Silicon carbide furnace process in detail:

Raw petroleum coke is being used for the production of silicon carbide(SiC) at the global level including US and Europe. The largest silicon carbide plant is in Russia which has a capacity to process 90000 MT per year in which petroleum coke is being used for the manufacturing of SiC.

The silicon carbide is produced by an electro chemical reaction of high-grade silica sand (Quartz) and low ash carbon source which is petroleum coke. The process is carried out in an electrical resistance furnace (popularly known as Acheson Furnace). The heat needed for driving the reaction between silica and carbon is generated by a graphite core, which acts as a resistor submerged in the raw material mix.

The furnace is fired electrically using 1800 KVA single phase transformer. There are 3 such transformers units and 9 furnaces in the plant. At any time only three furnaces will be under operation

The furnaces are electrically fired for a duration of 48 hours. The furnace power is controlled by means of tap changing, which is controlled by a PLC system. A reducing atmosphere is created inside the furnace by a thick layer of non-reacting mix which avoids the contact of coke with atmospheric oxygen and make it available for the reaction. The role of coke is to supply carbon for the reaction, and it works only as a raw material. A report vide dated 04.06.2018 to this effect from IISC Bangalore stating the role of raw petroleum coke is attached (Annexure-1).

Silicon carbide grains and powders finds applications in Semiconductors, diesel particulate filters manufacturing, surface engineering, technical ceramics and refractory applications. The use of low ash carbon source is very critical for good quality silicon carbide crude production required for various applications. The two criteria for selecting the carbon source used in silicon carbide production are the economic viability and the quality which is measured as the ash content. All major manufacturers of Silicon carbide follow a low specification of Ash % for the silicon carbide production. We follow a specification of <1% for ash content in raw petroleum coke for the production of SiC at Koratty.



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Ordinary coal has very high ash content. Ash content of coal varies from 15% to 45% with majority of coal produced falls under 35% to 45% range. Indian Coal due its drift origin contains higher percentage of ash. During the reaction for the formation of silicon carbide the ash remains in the system along with silicon carbide produced making it non viable to use this as a source for making good quality silicon carbide grains and powders for applications like semiconductors, Diesel particulate filters, abrasives and refractories. These applications need to have stringent control on the Silicon Carbide content which is normally above 98%.

The ash content of petroleum coke meets the requirement of Silicon carbide production compared to any other commercially viable carbon sources like ordinary coal. The change of raw material ie ordinary coke in lieu of raw petroleum coke will lead to stoppage of factory operations. Hence we request you to kindly reconsider the suggestions to use ordinary coke in the condition 2.6 and allow us to use raw petroleum coke for the reasons explained herein above. We would also be initiating following actions as per the conditions stipulated in the consent.

2.0 Compliance plan for the conditions 2.7 and 2.8

We proposed the installation of Hood and Common Stack for Furnaces to control the emissions wide our letter CUMIKOR/PCB/L2/23-24 dated 27/11/2023. We give below a brief description of the implementation plan of the stack.

Design of stack:

To collect gas effectively from furnace, a moving hood is designed and this can be placed over the furnace. The hood is designed to connect to a wet scrubber which is made up of SS316. The sorbent used is NaOH. Entire gases collected are passed through the scrubber which is in contact with sorbent and neutralize sulphur bearing gases to within the accepted limits. Scrubber is connected to a centrifugal blower to provide required suction to collect the gases from the furnace through hood. This also in SS 316 construction.

Stack details:

Stack height and top diameter are calculated based on norms provided by CPCB Emission Regulation Part2 Feb.1998. Based on this total height of stack considered as 60 meters. This is constructed with latest precast technology with steel tower to support the chimney. Suitable sorbent disposal system also will be provided.



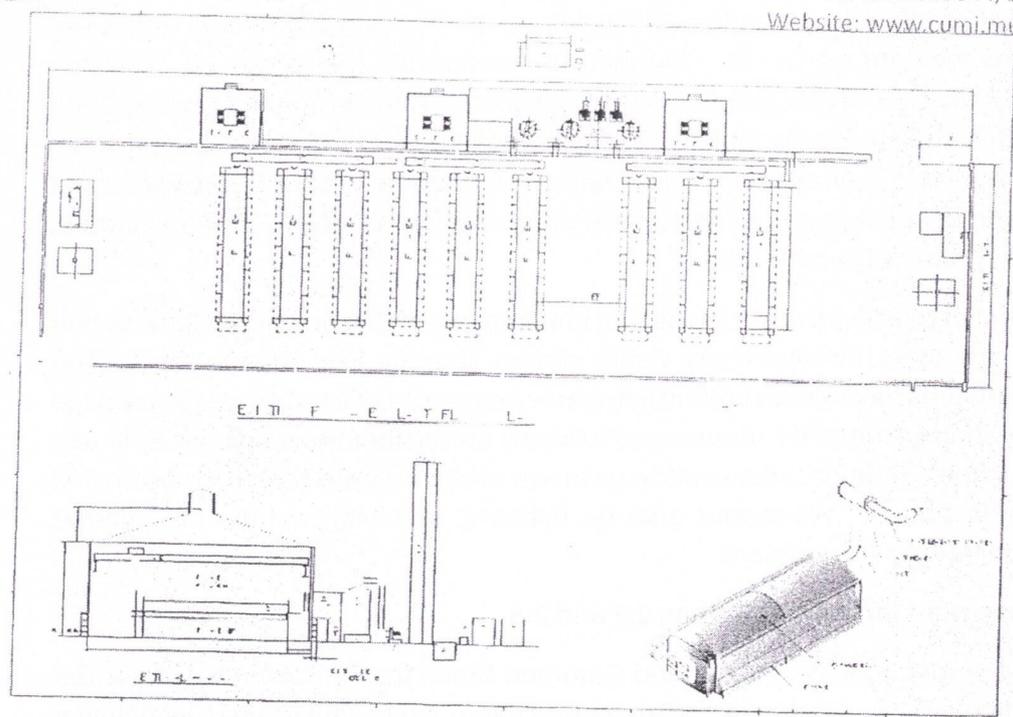
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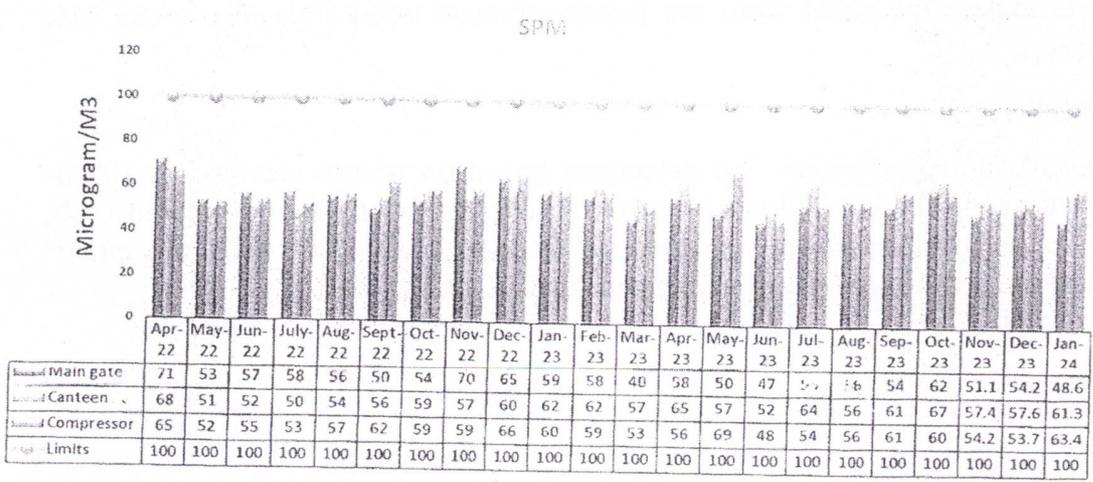


The proposed scheme for gas collection and stack is shown as above.

3. Back ground of current system controls in place:

Ambient air monitoring.

We regularly monitor the ambient air quality parameters and the trend of the same is given below. The ambient air quality monitoring data shows the values are well within the limits. The trend of ambient air quality monitoring is given below-



Test Method : IS5182 Part 23 2006 RA 2012



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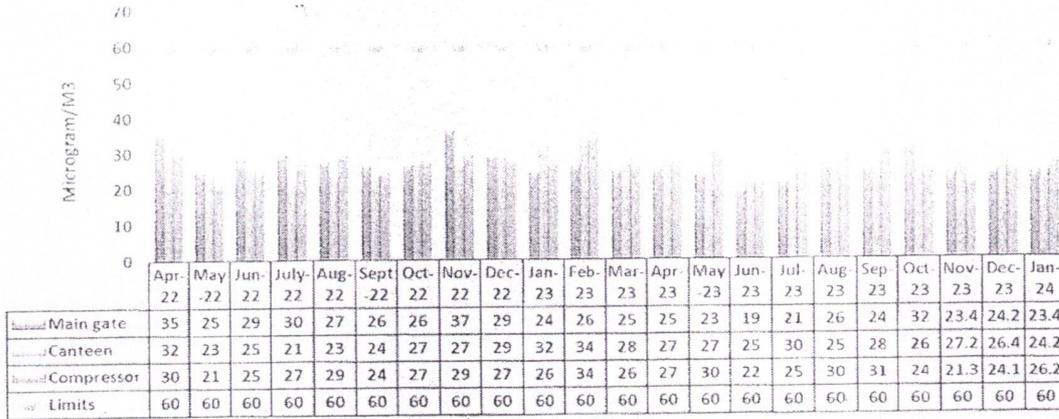


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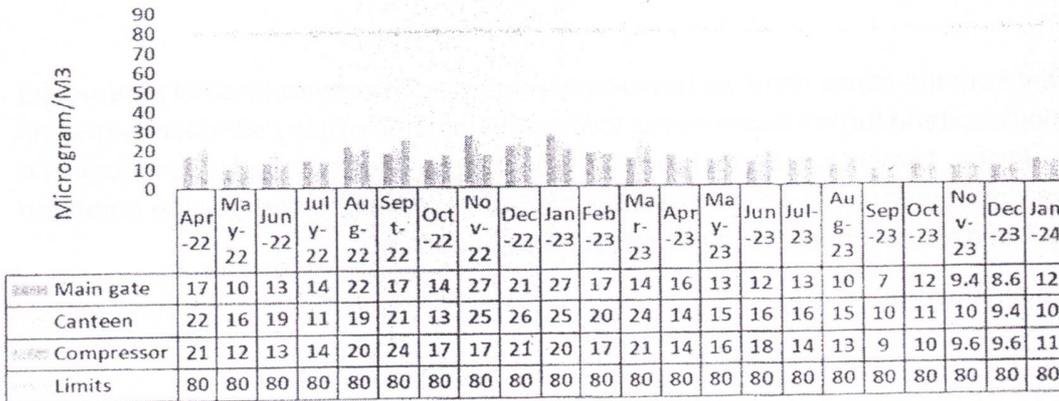
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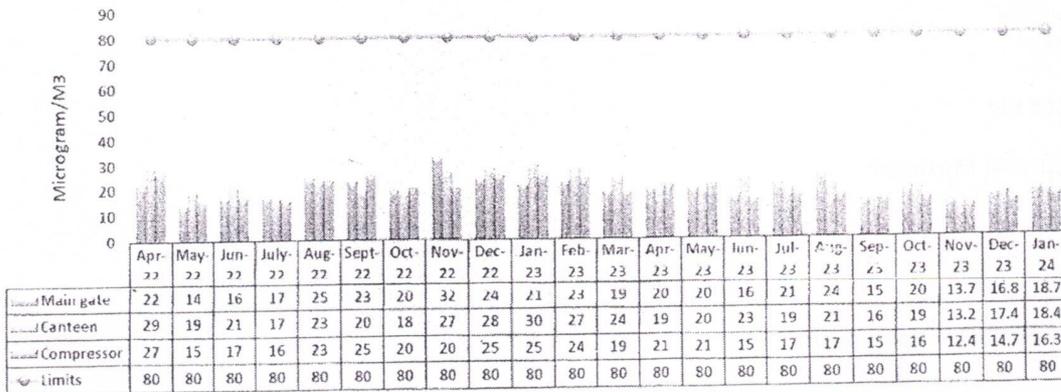
Test Method : CPCB

SO2



Test Method IS 5182 Part 2 2001 RA 2017

NO2



Test Method : IS 5182 Part 6 2006 RA 2017



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Carborundum Universal Limited

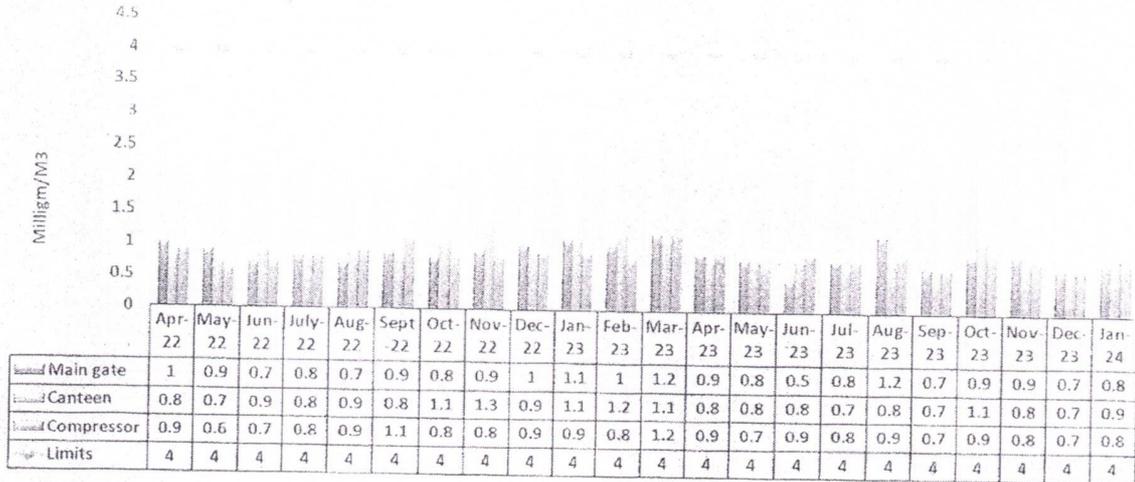
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CO



Test Method : SOP/PCL/COA/17

As evident from the above chart we have always complied the environmental parameters and willing to extend further investments towards installation of gas collection system as per your advice. Hence, we request you kindly consider this consent change request(i.e use of raw petroleum coke as raw material instead of ordinary coke) for the condition clause 2.6 and the amendment to this effect be kindly issued.

Kindly do the needful.

Yours Sincerely,

For Carborundum Universal Limited,

Premanath KN

Senior General Manager

Annexures

1. Letter from IISc- Bangalore



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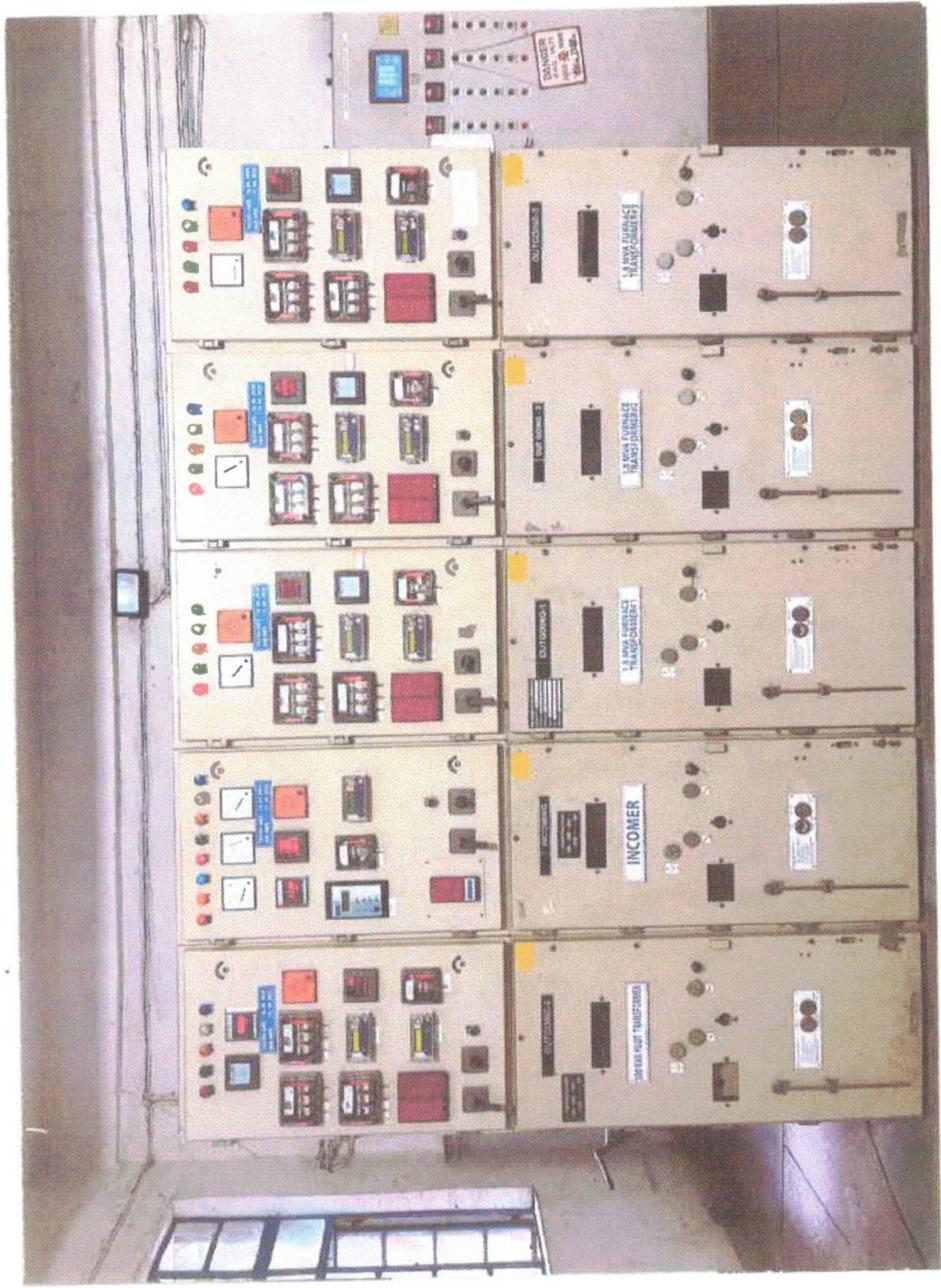


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Answer - 17



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	UNIT 1	UNIT 2	UNIT 3	
BATCH ENERGY (KWH)	11094	28992	75000	UNIT-1 BATCH RUNNING
VOLTAGE (KV)	11.40	11.06	11.24	
CURRENT (A)	124.0	152.1	0.0	
TAP POSITION	1	6	15	
START TIME (HH:MM)	02 : 48	16 : 35	23 : 17	UNIT-2 BATCH RUNNING
DURATION (HH:MM)	10 : 27	20 : 40	45 : 52	
POWER (KVA)	1413	1682	0	
RUN NUMBER	16986	16985	0	
FURNACE NUMBER	3	6	9	UNIT-3 BATCH STOPPED
VCB	ON	ON		ENERGY LIMIT TRIP
TAP CHANGE				
TAP CHANGE (9 TO 1)				

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Annexure 18

Annexure 18



DEPARTMENT OF MATERIALS ENGINEERING
INDIAN INSTITUTE OF SCIENCE
BANGALORE - 560012 INDIA

A Centre for Advanced Study Supported by the University Grants Commission

TO WHOMSOEVER IT MAY CONCERN

Silicon carbide (SiC) also known as Carborundum is one of the hardest material synthetically produced. SiC is a versatile material which finds lot of application in the area of abrasive, refractories, engineered ceramics, energy, environment and defence.

Silicon carbide is commercially produced by the Acheson process in an electric resistance furnace which uses electricity as a source of energy. The raw materials used for mass production of silicon carbide are silica, in the form of quartz, and carbon derived from the raw petroleum coke. These raw materials are heated to a temperature above 2000⁰C in an Acheson furnace. Here, the heat needed for driving the reaction is generated by the electrical resistance offered by a graphite core which is submerged in the raw material mix. A reducing atmosphere is created inside the furnace by covering the active materials with non-oxidising thick layer of unreacted mix, which diminishes the contact of reacting coke with air. By avoiding the burning of coke, carbothermic reduction reaction in which the carbon is covalently bonded to silicon to form SiC crystals is initiated. The purity of silicon carbide is a function of raw material purity and hence that of the raw petroleum coke and silica used. Hence, the intention of using raw petroleum coke is to make it react in a controlled atmosphere with silica to form silicon carbide.

G. S. Gupta
(G. S. Gupta) 04/06/18
Professor FOR CUMI, KERALA

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Annexure-19



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Annexure 20



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Annexure 20



BEFORE THE NATIONAL
GREEN TRIBUNAL SOUTHERN ZONE
BENCH AT CHENNAI
O. APPL. No. 39 of 2024 (SZ)

Mr. Jonatt Jose

... Applicant

Versus

The Secretary and 8 Ors.

... Respondents

COUNTER AFFIDAVIT FILED ON
BEHALF OF 5TH RESPONDENT



Counsel For Respondent No.5

M/s. Prasad Vijayakumar (Ms.1254/1999)

Vignesh Sekar (Ms.3281/2018)

Pranav. R (Ms.3700/2023)

No. 52 Law Chambers, High Court

Buildings, Chennai- 600 104

Ph: 9003271435