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6HE-7K9CB  
(For CFO  
Copy)

**ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ**  
**KARNATAKA STATE POLLUTION CONTROL BOARD**

6, 7, 8 ಮತ್ತು 9ನೇ ಅಂತಸ್ತು (ಜನೋಪಯೋಗಿ ಕಟ್ಟಡ)  
ಸುಭಾಷ್ ಚಂದ್ರ ಬೋಸ್ ಕಟ್ಟಡ  
ಮಹಾತ್ಮಗಾಂಧಿ ರಸ್ತೆ, ಬೆಂಗಳೂರು - 560 001.  
ಕರ್ನಾಟಕ, ಭಾರತ.

6, 7, 8 & 9th Floor, (Public Utility Building)  
Subhas Chandra Bose Building  
M. G. Road, Bangalore-560 001  
Karnataka, INDIA

101

// BY REGD. POST WITH ACK. DUE//

NO.KSPCB/CFE-CELL/DEO/AEO-2/JTPCL/2001-2002/01

DATED:

To

11 JUL 2001

M/s. Jindal Tractebel Power Company Limited,  
Post Box No.9, Village & P.O. Toranagallu,  
Bellary District.

Sir,

Sub: Consent for Establishment and clearance from Water and Air pollution control point of view for setting up of 2 x 250 MW indigenous Coal based thermal power plant and to change of fuel configuration in existing 2 x 130 MW power plant by using corex gas at 20% imported coal at 80% and also for firing of corex gas or coal in any combination of 0 to 100% at Toranagallu, Bellary District by M/s. Jindal Tractebel Power Co. Ltd.,

- Ref: 1. Your application No.1117 A & 1925 A dated 16.6.2000 for change of fuel configuration in existing 2 x 130 MW power plant.
2. Your application No.1117B & 1925 B dated 16.6.2000 for the proposed 2 x 250 MW Power Plant.
3. Inspection of your site by AEO, Bellary on 17.6.2000.
4. Inspection of your site by Environmental Officer, Gulbarga on 4.1.2001.
5. Technical Advisory Committee meeting held on 24.3.2001 and its proceedings.
6. Environmental Public Hearing held on 5.5.2001 and its proceedings.
7. Technical Advisory Committee meeting held on 16.6.2001 and its proceedings.

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**PREAMBLE:**

The existing industry has obtained consent for establishment for 2 x 130 MW thermal power plant by using corex gas at 80% and coal at 20% as fuel vide KSPCB/BLY/RJ JPC/DEO-

...2/-

: 2 :

6/96/879 dated 6.3.96. Now the project proponent have applied for change in fuel configuration in existing 2 x 130 MW power Plant using imported coal at 80% and corex gas at 20% or and any combination of 0 to 100% corex gas and coal and consent for expansion to set up 2 x 250 MW thermal power plant using indigenous coal by conventional method vide reference (1) & (2) along with REIA report.

As the project attracts EIA notification, 1994 amended on 1997 under Environment (Protection) Act, 1986, Environmental Public Hearing was conducted on 5.5.2001 and the proceedings of the same was verified by the Board during Technical Advisory Committee meetings and recommended for issue of consent for establishment subject to the conditions outlined by public hearing panel vide reference (7).

With reference to the above, it is be informed that this Board has cleared the project from the water and air pollution control point of view for setting up of 2 x 250 MW thermal power plant (expansion scheme), adjacent to existing plant and to change of fuel configuration in existing 2 x 130 MW power plant by using corex gas at 20% and coal at 80% or firing of corex gas or coal in any combination of 0 to 100% at above premises provided the following conditions stated below are complied with.

1. The project is to be cleared from all others angles of environment by the Committee constituted by Ministry of Environment and Forest, Government of India, New Delhi.

2. The industry shall not undertake expansion/diversification/modernisation, change of location of site etc., without the prior clearance from this Board.

3. The industry shall take afforestation measures in the factory area, so that green belt around the factory premises is maintained as committed in REIA report.

4. The industry shall take prior permission for abstraction of ground water from Central Water Authority, Government of India and provide water meters for measuring the quantity of ground water abstracted.

#### I. WATER POLLUTION CONTROL :

1. The effluent treatment flow sheet submitted by the industry as enclosed in Annexure-I are generally agreeable and the industry may go ahead with the implementation of the same. However, the industry shall comply alongwith the observations and suggestions as indicated in ANNEXURE-I & V.

2. All the treatment units shall be totally impervious with solid impervious material on both sides and bottom. The industry should submit detailed plans, structures indicating the premises. The ETP units shall be operated scientifically and continuously.

: 3 :

3. The industry shall submit to the Board a detailed treatment proposals of trade/domestic/combined effluents along with the design details to treat the effluent to the standards laid down in ANNEXURE-II along with the proposed time schedule for implementation of effluent treatment plant in the form of PERT chart, so as to complete the entire work atleast 30 days before the commissioning of the plant for trial/regular production. The industry shall submit physical and financial progress every month.

4. The industry shall use the entire treated effluent on land for irrigation or on land owned by the industry. The effluent applied on land shall conform to the standards stipulated in ANNEXURE-II.

5. The industry shall submit the extent and Survey No. of land utilised, the ownership of the land and the consent of the land owner within 30 days from the date of issue of this consent, if the effluent is applied on land for irrigation.

6. The industry shall treat the domestic waste water from the factory in septic tank with soak pits. No overflow from the soak pit allowed. The septic tank and soak pit shall be designed as per IS 2470 Part-I and Part-II.

#### II. AIR POLLUTION CONTROL :

1. The discharge of emission from the premises of the applicant shall pass through the stacks/chimneys wherefrom the Board shall be free to collect the samples at any time in accordance with the provisions of the Act and Rules made thereunder.

2. The daily/hourly rate of emissions discharged and the tolerance limits of the constituents forming the emissions in each of the stacks/chimneys shall not exceed the limits laid down in ANNEXURE-III.

3. a) The industry shall take immediate action to install adequate equipments for the control of constituents in the emissions so as to conform to the tolerance limits as per Condition No.2 within the date noted against them indicated in ANNEXURE-III.

b) The industry shall provide 100% standby air pollution control equipments on line so that in case of failure of the existing equipments, the standby equipments should be used, so as to maintain 100% capacity of control equipments at all times.

4.a) The chimney heights shall be provided as per the guidelines for stack heights given in ANNEXURE-III. The proposals for which, shall be submitted to the Board within 30 days from the receipt of this consent for establishment and shall be implemented before commissioning the plant.

b) The industry shall provide port holes for sampling the emissions and access platforms for carrying out stack sampling and provide electrical outlet points and other arrangements for

all stacks/chimneys and other sources of emissions so as to collect samples of emissions by the Board or the applicant at any time in accordance with the provisions of the Act and Rules made therein. The details of the location of sampling port holes, the platforms, the electrical outlet point etc., are detailed in ANNEXURE-IV.

5. The industry shall at his own cost get the samples of emissions collected and get them analysed in any laboratory every week for the parameters indicated in Condition No.2 from the sampling port holes provided as per Condition No.4 and shall submit in duplicate, the analysis results to the Board within seven days from the date of collection of samples.

6. The applicant shall provide acoustic measures to steam turbines and there shall not be any complaint on noise pollution or air pollution due to steam turbines.

7. The industry shall not change or alter either the quality or quantity or rate of emission or install/replace or alter the air pollution control equipments, change in raw material or manufacturing process resulting in change in quality and/or quantity of emissions, shall be intimated to Board and shall obtain prior approval of the Board by furnishing all the information.

8. a) The industry shall provide and maintain at its own cost three Ambient Air Quality Monitoring stations for monitoring suspended particulate matter, Sulphur Dioxide, Nitrogen Oxide, Hydro carbons, carbon monoxide and monitor the same twice in a week as per N.A.A.Q. standard as per Annexure-VI. The data collected shall be maintained in a Register and a monthly extract be sent to the Board.

b) The ambient air quality monitoring station shall be located in consultation with this Board. The period of 8 hours monitoring shall be such as to cover the cycle of 24 hours as per N.A.A.Q. standards.

9. The industry shall provide and maintain an automatic weather monitoring stations with continuous data logger at his own cost a meteorological station to collect the data on wind velocity, direction, temperature, humidity, rainfall etc.. The monthly windroses shall be compared and sent to the Board along with the Ambient Air Quality monitoring reports.

10. The industry shall submit process flow sheet and particulars of proposed control equipments, monitoring equipments and time schedule for the installation of the same so as to reach the Board within 30 days from the date of grant of this consent for establishment.

### III. SOLID WASTE DISPOSAL :

The factory shall dispose off all solid waste generated from the process and from the effluent treatment plant in a scientific manner without causing underground and surface water pollution directly or indirectly. The solid waste shall be disposed off

without causing eye sores to the Public. The factory premises and the surroundings shall be kept clean. The mode of disposal of solid waste and the area selected for the same shall be got approved by the Board duly furnishing the relevant information within 30 days from the receipt of this consent for establishment.

#### IV. WATER CESS :

1. It is binding on the factory as per Section 3(3) and 3(4) of Water (Prevention and Control of Pollution) Cess Act, 1977, to provide for :

a) Water meter at the entrance of the water supply connection within the premises of the consumer or at any other place to be approved by the Assessing Authority so that such meter are easily accessible for inspection and maintenance and for other purposes of the Act, provided that the place where it is affixed shall be in no case be at a point before which water has been tapped by the consumer for utilisation for any purposes whatsoever.

b) Separate meters with necessary pipeline for assessing the quantity of water used for each of the four purposes mentioned below before the factory is commissioned.

- i) Industrial cooling, spraying in mine pits or boiler fed.
- ii) Domestic purpose.
- iii) Processing whereby water gets polluted and the pollutants are easily bio-degradable.
- iv) Processing whereby water gets polluted and the pollutants are not easily bio-degradable and are toxic.

Every industry after fixing the water meters, intimate the initial meter reading to the Assessing Authority and after the industry is commissioned even for trial production, file cess returns in the Form-I.

#### V. G E N E R A L :

1. The industry shall provide separate Energy meter and D.G.Set of sufficient capacity to run and operate the essential units of effluent treatment plant/control equipments, in event of brake down of power supply from the power plant. The industry shall provide necessary connection from D.G.Set to the effluent treatment plant power line. The action taken by the industry in this regard shall be informed to the Board within 30 days from the receipt of this consent for establishment.

2. The industry shall not be commissioned for trial or regular production unless the effluent treatment plant as approved by the Board is completed in all respects and necessary air pollution control equipments are installed to the satisfaction of the Board. The industry shall ensure that the treatment plant and control equipments are completed and commissioned simultaneously along with construction of the factory and erection of machineries.

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: 6 :

3. The industry shall furnish the detailed programme of work in the form of Pert Chart for implementation of water and air pollution control works. Physical progress on the works shall be informed to the Board every month in a proforma ANNEXURE.

4. If any complaints received against the unit for establishing industrial activity by neighbouring habitat/agricultural land owners/local people or any organisation and if the same is proved then the applicant shall close down the establishing activities/ industrial activity immediately and shift from the said location with prior CFE of the Board.

6. The applicant shall comply with all other conditions laid down in Annexure-V.

7. During the operation of the plant, if either the emissions from the stacks, chimney or the liquid effluents from the industry or solid waste disposal do not conform to the standards prescribed by the Board and incase of any complaints on water pollution, air pollution or noise pollution, the industry shall shut down the plant for effecting modification to the treatment works/control equipments so as to render the effluent and emissions to the prescribed standards.

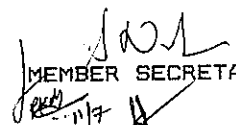
8. The applicant shall furnish compliance to the above within 30 days.

7. Exact date of commissioning of the plant shall be informed to this Board 45 days in advance so as to make necessary inspection of the plant and the pollution control measures provided by the industry.

Please note that this is only a consent for establishment issued to you to proceed with the formalities to establish the industry and does not give any right to proceed with trial/regular production. For this purposes, a separate consent of the Board for discharge of liquid effluent and the atmospheric emissions shall have to be obtained by remitting prescribed consent fee, separately, for air emissions and waste water discharged as per ANNEXURE enclosed. The application for consent has to be made 45 days in advance to your commissioning for trial production of the plant. Issue of consent will be considered only after completion of effluent treatment plant both for domestic and industrial effluent and installing air pollution control equipments as required.

The receipt of this letter may please be acknowledged.

Yours faithfully,

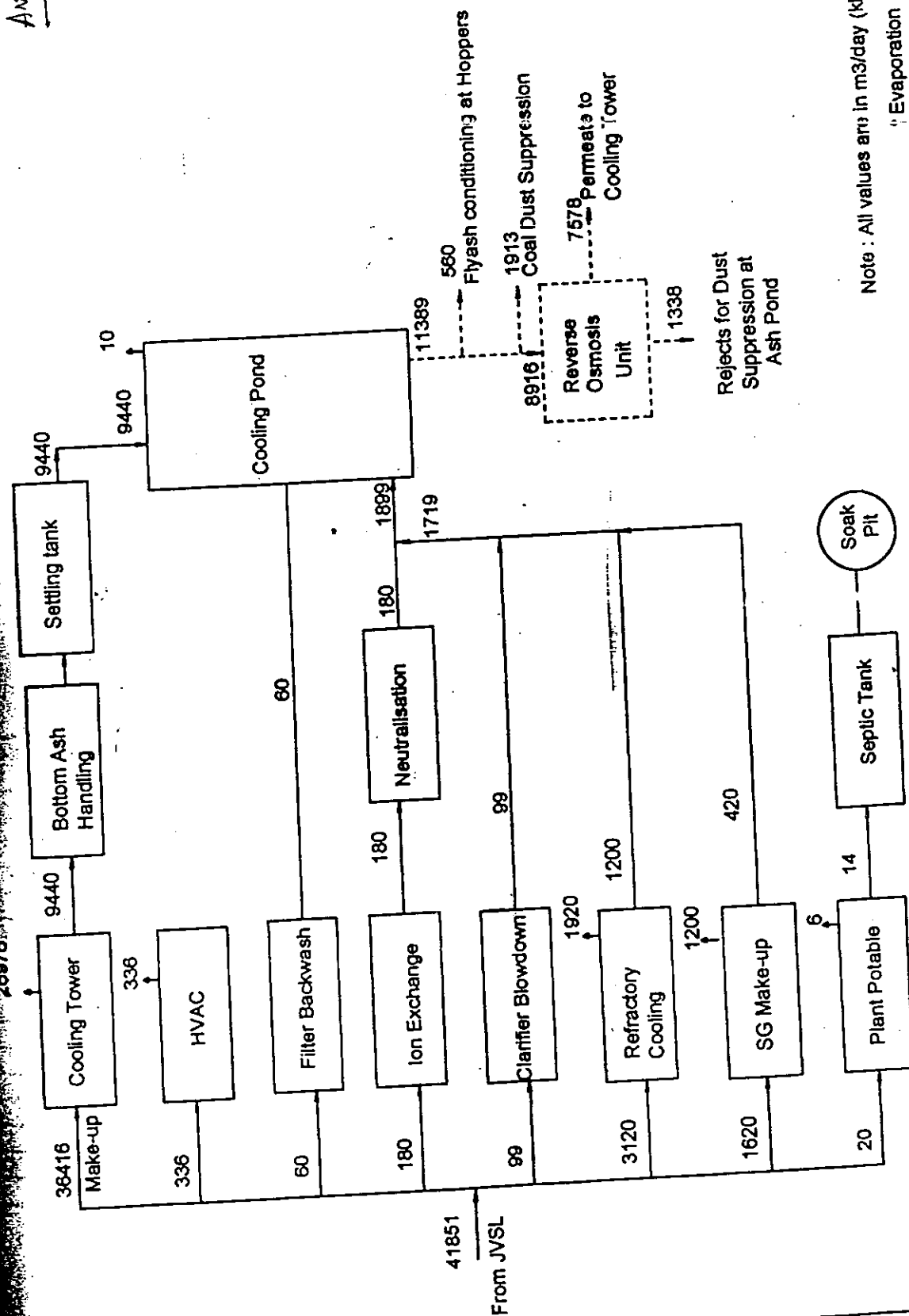
  
MEMBER SECRETARY.

Encl: as above.

Shiva/JINDA-TR

25976

ANNEXURE - I



Member Secretary  
11/4

# ANNEXURE-II

Sl. No.	Characteristics.	Tolerance Limits.
1.	Colour & Odour.	See Note.
2.	Suspended Solids, mg/l. Max.	100
3.	Particle Size of suspended solids.	Shall pass 850 micron IS Sieve.
4.	Dissolved Solids (Inorganic), mg/l. Max.	2100
5.	Temperature °C Max.	Shall not exceed 50C above the receiving Water temperature.
6.	pH Value.	5.5 to 9.0
7.	Oils and Grease mg/l. Max.	10
8.	Total Residual Chlorine mg/l.	1.0
9.	Ammonical Nitrogen (as N) mg/l. Max.	50
10.	Total Kjeldhal Nitrogen (as N) mg/l. Max.	100
11.	Free Ammonia (as NH3) mg/l. Max.	5.0
12.	Biochemical Oxygen Demand, mg/l. (5 days at 20°C) Max.	30.0
13.	Chemical Oxygen Demand mg/l. Max.	250.0
14.	Arsenic (as AS), mg/l. Max.	0.2
15.	Mercury (as Hg), mg/l. Max.	0.01
16.	Lead (as Cd) mg/l. Max.	0.10
17.	Cadmium (as Cd) mg/l. Max.	2.0
18.	Hexavalent Chromium (as Cr )mg/l. Max.	0.1
19.	Copper (as Cu), mg/l. Max.	3.0
20.	Total Chromium (as Cr), mg/l. Max.	2.0
21.	Zinc (as Zn), mg/l. Max.	5.0
22.	Selenium (as Se), mg/l. Max.	0.05
23.	Nickel (as Ni), mg/l. Max.	3.0
24.	Cyanide (as CN) mg/l. Max.	0.2
25.	Fluoride (as F), mg/l. Max.	2.0
26.	Dissolved Phosphates (as P) mg/l. Max.	5.0
27.	Sulphide (as S), mg/l. Max.	2.0
28.	Phenolic Compounds (as C6H5OH) mg/l max.	1.0
29.	Bio-assay test.	90 % survival of fish after 96 hours in 100% effluent.
30.	Manganese (as Mn) mg/l.	2.0
31.	Iron (as Fe) mg/l.	3.0
32.	Vanadium (as V) mg/l.	0.2
33.	Nitrate Nitrogen mg/l.	10.0
34.	Sulphate as (SO4) mg/l. Max.	1000

NOTE : All efforts should be made to remove colour and unpleasant odour as far as practicable.

MEMBER SECRETARY.



# ANNEXURE -III

Chimney	Chimney Attached to	Minimum Chimney height to be provided above ground level.	Rate of emission NMS/Day NMS/Hr.	Constituents to be controlled in the emission.	Tolerance limits mg/NMS	Air Pollution Control equipment to be installed, in addition to chimney height as per Col. (3)	Date on which air pollution control equipments shall be provided to achieve the stipulated tolerance limits and chimney heights conforming to stipulated heights.	REMARKS.
1	2	3	4	5	6	7	8	9
<b>2 x 250 MW Expansion scheme: (Indigenous coal firing)</b>								
1.	Boiler of capacity 757 TPH of super heated steam (new source)	Common chimney of 275 Mtrs. AGL. with two flues.	16,00,000	SPM SO <sub>2</sub>	150	Chimney height as per Col. (3) with Electro-static precipitator as APC equipment.	Before commissioning.	1) The emission rate of all chimneys shall be reported within 30 days. 2) Details of D.S.Sets. if any like KVA rating fuel consumption in Kg/Hr., chimney height above roof level and dia to be furnished within 30 days. D.S. Sets and other noise generating machinery to be provided with Silencers/Mufflers to reduce the noise pollution.
2.	Boiler of capacity 757 TPH of super heated steam (New source)		16,00,000	SPM SO <sub>2</sub>	150	- do -	- do -	3) There shall be no smell or odour nuisance from the industry. 4) There shall be no other sources of air pollution.
<b>NOTE: 1. Due to change of fuel infiquation from 20% to 80% of imported coal firing in the change of emission rate with reference to existing sources</b>								
<b>Existing 2 x 130 MW Power Plants Under expansion scheme.</b>								
	Boiler of capacity 450 TPH (existing)	115 mtrs. AGL.	2,91,470	S.P.M. SO <sub>2</sub>	150	As per Col. (3) with ESP.	Already installed.	
	Boiler of capacity 450 TPH (existing)	115 mtr. AGL.	2,91,470	S.P.M. SO <sub>2</sub>	150	- do -	- do -	

(2) The noise level shall not exceed 75 B(A) lq. at day time and 70 B(A) lq. at night time.

*[Signature]*  
MEMBER SECRETARY  
KARNATAKA STATE POLLUTION CONTROL BOARD  
BANGALORE - 560 001.

## ಅನುಬಂಧ II

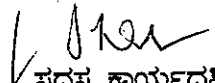
### ಹೊಗೆ ಕೊಳವೆಯಿಂದ ಮಾದರಿ ತೆಗೆದುಕೊಳ್ಳುವುದಕ್ಕಾಗಿ ಹೊಗೆ ಮಾಪನ ಕಿಂಡಿಗಳ ಮತ್ತು ಫ್ಲಾಟ್‌ಪಾರ್ಕ್‌ಗಳ, ವಿದ್ಯುತ್ ಸಂಪರ್ಕಗಳ ಸ್ಥಳ

1. ಹೊಗೆ ಮಾಪನ ಕಿಂಡಿಗಳ ಮತ್ತು ಅವುಗಳ ಬಳಿಗೆ ಹೋಗುವ ಫ್ಲಾಟ್‌ಪಾರ್ಕ್‌ನ ಸ್ಥಳ :


ಎಲ್ಲಾ ಚಿಮಣಿಗಳಲ್ಲಿ ಹೊಗೆಕೊಳವೆಗಳಲ್ಲಿ ಮತ್ತು ಇತರ ವಿಸರ್ಜನಾ ಫಾರ್ಮ್‌ಮೂಲದಲ್ಲಿ ಹೊಗೆ ಮಾಪನ ಕಿಂಡಿಗಳನ್ನು ಒದಗಿಸತಕ್ಕದ್ದು. ಇವು ಮಾದರಿಗಳನ್ನು ತೆಗೆದುಕೊಳ್ಳುವ ಪಾಯಿಂಟ್‌ಗಳಾಗಿ ಸೇವೆ ಸಲ್ಲಿಸುತ್ತವೆ. ಮಾದರಿಗಳನ್ನು ತೆಗೆದುಕೊಳ್ಳುವ ಪಾಯಿಂಟ್ ಬಾಗಿರುವುದು, ವಿಸ್ತರಣೆ ನಿರ್ಮಾಣಕವಾಟ, ಫಿಟ್ಟಿಂಗ್ ಅಥವಾ ಕಣ್ಣಿಗೆ ಕಾಣುವ ಜ್ವಾಲೆಯಂಥ ಚಲನೆಗೆ ತಡೆಯುಂಟು ಮಾಡುವಂಥ ಮೂಲದಿಂದ ಕೆಳಗೆ ಹೊಗೆಕೊಳವೆಯ ಅಥವಾ ನಾಳದ ವ್ಯಾಸದ ಕೊನೆಯಪಕ್ಕ ಎಂಟರಷ್ಟಕ್ಕೆ ಸಮನಾದ ಅಂತರದಲ್ಲಿ ಮತ್ತು ಮೇಲೆ ಎರಡರಷ್ಟು ವ್ಯಾಸಕ್ಕೆ ಸಮನಾದ ಅಂತರದಲ್ಲಿರತಕ್ಕದ್ದು. ಅಯುತಾಕಾರದ ಹೊಗೆಕೊಳವೆಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಸಮಾನ ವ್ಯಾಸವನ್ನು ಈ ಮುಂದಿನ ಸಮೀಕರಣದಿಂದ ಲೆಕ್ಕಹಾಕಬಹುದು :

$$\text{ಸಮಾನ ವ್ಯಾಸ} = \frac{2 (\text{ಉದ್ದ} \times \text{ಅಗಲ})}{(\text{ಉದ್ದ} + \text{ಅಗಲ})}$$

- 2) ಮಾದರಿಗಳನ್ನು ಪಡೆಯುವಂಥ ಹೊಗೆ ಮಾಪನ ಕಿಂಡಿಯ ವ್ಯಾಸವು 3" ಗಿಂತ ಹೆಚ್ಚಾಗಿರತಕ್ಕದ್ದಲ್ಲ. ಮಾದರಿಗಳನ್ನು ತೆಗೆದುಕೊಳ್ಳುವುದು ಹೊರತು ಬೇರೆ ಅವಧಿಯಲ್ಲಿ ಹೊಗೆ ಮಾಪನ ಕಿಂಡಿಗಳನ್ನು ಭದ್ರವಾಗಿ ಮುಚ್ಚುವುದಕ್ಕೆ ವ್ಯವಸ್ಥೆ ಮಾಡತಕ್ಕದ್ದು.
- 3) ಹೊಗೆಕೊಳವೆಯ ಮೂಲಕ ವಿಸರ್ಜಿಸುವ ವಸ್ತುವನ್ನು ಹೊಗೆ ಮಾಪನ ಕಿಂಡಿಗಳಿಂದ ಅನುಕೂಲಕರವಾಗಿ ಮಾಪನ ಮಾಡಲು 3ರಿಂದ 4 ಮಂದಿ ಸ್ಥಳಾವಕಾಶವಿರುವ ಹಾಗೆ ಸುಲಭವಾಗಿ ಪ್ರವೇಶಿಸಲು ಸಾಧ್ಯವಾಗುವಂಥ ಫ್ಲಾಟ್‌ಪಾರ್ಕ್‌ನ್ನು ಒದಗಿಸತಕ್ಕದ್ದು. ಸೂಕ್ತ ಕಂಟ್ರೋಲ್ ಸ್ವಿಚ್ ಮತ್ತು 3 ಪಿನ್ ಪಾಯಿಂಟ್ ಸಹಿತವಾಗಿ 230 ವೋ. 15 ಎ ವಿದ್ಯುತ್ ಔಟ್‌ಲೆಟ್ ಪಾಯಿಂಟನ್ನು ಹೊಗೆ ಮಾಪನ ಕಿಂಡಿ ಸ್ಥಳದಲ್ಲಿ ಒದಗಿಸುವುದಕ್ಕೆ ವ್ಯವಸ್ಥೆ ಮಾಡತಕ್ಕದ್ದು.

  
ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ

ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ

  
11/7 ಬೆಂಗಳೂರು.