

MAHARASHTRA POLLUTION CONTROL BOARD

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Kalpataru Point, 2nd - 4th Floor

Opp. Cine Planet Cinema,

Near Sion Circle, Sion (E)

Mumbai-400 022.

Red/L.S.I

Date: 17/12/2011

Consent No: BO/JD-PAMS/RO-KP/EIC- KP-7856-11/R/ CC- cA(- 75

Consent to Operate under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization / Renewal of Authorization under Rule 5 of the Hazardous Wastes (Management, Handling & Transboundary Movement) Rules 2008

[To be referred as Water Act, Air Act and HW (M&H) Rules respectively].

.....
CONSENT is hereby granted to

Finolex Industries Ltd.,
 A/P Ranpar-Golap,
 Survey No. 133-144, 146, 165-174, 154-162,
 126, 178-180, 186-193, 199, 202, 205-205, 252 & 254
 Tal. & Dist. Ratnagiri
 ,Maharastra-415614

located in the area declared under the provisions of the Water Act, Air act and Authorization under the provisions of HW(M&H) Rules and amendments thereto subject to the provisions of the Act and the Rules and the Orders that may be made further and subject to the following terms and conditions:

1. **The Consent to Operate is granted for a period up to: 31.07.2012**
2. **The Consent is valid for the manufacture of -**
 (A)

Sr. No.	Product Name	Maximum Quantity	UOM
1	S-PVC (Suspension- Ploy Vinyl Chloride)	22000	MT/M
2	E-PVC (Emulsion - Poly Vinyl Chloride)	883	MT/M
3	Compounds/Profiles	6500	MT/M
4	Pipes	6000	MT/M
5	Water Desalination Plant for Captive use only	2400	M ³ /Day.
BY-PRODUCTS			
1	30 % HCL	783	MT/M.
2	Low Boiling Components	75	MT/M.

B) For the activity of Imports, Storage and Handling Facilities (Ethylene terminal Facilities) for Ethylene, Ethylene Di-Chloride (EDC), Vinyl Chloride Monomer, LPG and Methanol at Survey No. 134 & 139. The capacity of storages is as follows:

Sr. No.	Name of Chemical	Quantity	Location of Storage
1	Ethylene	21,000 MT (2 Tanks of 5,500 MT each & 1 tank of capacity 10,000 MT which was earlier used for storage of LPG)	At Terminal*

2	Ethylene Di-Chloride (EDC)	54,500 MT (4 Tanks of 10,000 & 1 Tank of capacity 14,500 KL which was earlier used for storage of Methanol)	At Tank farm in main plant area *
3	LPG	10,000 MT (1 Tank of 10,000 MT)	At Terminal*
4	VCM	8908 MT (2 Tanks of 4454 MT each)	At Terminal*

* the waste water let out arising due to above activity, if any, shall be collected separately and treated in the existing ETP.

3. CONDITIONS UNDER WATER ACT:

(i) The daily quantity of trade effluent from the factory shall not exceed 4020 M³ (The industry should recycle and reuse the effluent in the tune of 2160.0 M³) and also the daily quantity of desalination water reject back to sea should not exceed 4000 m³.

(ii) The daily quantity of sewage effluent from the factory shall not exceed 128M³.

(iii) Trade Effluent :

Treatment: The applicant shall provide comprehensive treatment system consisting of primary / secondary and/or tertiary treatment as is warranted with reference to influent quality and operate and maintain the same continuously so as to achieve the quality of the treated effluent to the following standards.

1	pH	Between	5.5 to 9.0
2	Suspended Solids	Not to exceed	100 mg/l.
	a) Floatable solids	Not to exceed	3.0 mg/l.
	b) Settlable solids	Not to exceed	856 microns
3	BOD 3 days 27 Deg.C	Not to exceed	100 mg/l
4	COD	Not to exceed	250 mg/l.
5	Oil & Grease	Not to exceed	10 mg/l.
6	Dissolved Oxygen	Shall not be less than 3 mg/l or 40% of saturation values whichever is less.	
7	Iron	Not to exceed	5.0 mg/l.
8	Total Ammonical Nitrogen	Not to exceed	50 mg/l
9	Temperature	Shall not to exceed 5 °C above the receiving body temperature.	
10	Bio assay test	90% survival of fish after 96 hrs. in 100% effluent	

(iv) **Trade Effluent Disposal:** a) The treated trade effluent should be recycled to maximum extent and remaining should be used on land for gardening / plantation site as shown in company's drawing no. FIL/C/97/014 only. In rainy season, the treated effluent should be discharged into sea through pipeline.

b) The incremental BOD value (desalination plant reject) at a distance of 5 kms from the diffuser should not be more than 3 mg/l.

c) The reject water from the desalination plant should be discharged in Arabian sea with diffuser system at a point suggested by NIO and mentioned in the Environmental Clearance accorded by the Ministry of Environment and Forests, New Delhi on 8th October, 2008.

(v) **Sewage Effluent Treatment:** The applicant shall provide comprehensive treatment system as is warranted with reference to influent quality and operate and maintain the same continuously so as to achieve the quality of treated effluent to the following standards.

(1)	Suspended Solids	Not to exceed	100	mg/l.
(2)	BOD 3 days 27o C.	Not to exceed	100	mg/l.

(vi) **Sewage Effluent Disposal:** The treated domestic effluent shall be soaked in a soak pit, which shall be got cleaned periodically. Overflow, if any, shall be used on land for gardening / plantation only.

(vii) **Non-Hazardous Solid Wastes:**

Sr. No.	Type Of Waste	Quantity	Treatment & Disposal
1	Biological ETP Sludge	70 MT/A	Used as manure
2	Insulation waste	24 MT/A	Land filling
3	Garbage	100 MT/A	Biodegradable composting & used as Manure . Rest will be incineration.
4	Canteen waste	12 MT/A	Composting & used as manure
5	PVC scrap pipes	36 MT/M	Sale
6	Rejected filters & Scrap	6 MT/A	Sale

(viii) **Other Conditions:** Industry should monitor effluent quality regularly

4. The applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Cess Act, 1977 (to be referred as Cess Act) and amendment Rules, 2003 there under

The daily water consumption for the following categories is as under:

(i) Domestic purpose	...	160.00 CMD
(ii) Water gets Polluted & Pollutants are Biodegradable	...	266.00 CMD
(iii) Water gets Polluted, Pollutants are not Biodegradable & Toxic	...	0.00 CMD
(iv) Industrial Cooling, spraying in mine pits or boiler feed	...	2569.00 CMD

The applicant shall regularly submit to the Board the returns of water consumption in the prescribed form and pay the Cess as specified under Section 3 of the said Act.

5. CONDITIONS UNDER AIR ACT :

(i) The applicant shall install a comprehensive control system consisting of control equipments as is warranted with reference to generation of emission and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards:

a. Control Equipment:

1. Air pollution control equipments of adequate capacity shall be provide to limit the emissions. Separate scrubbing system should be provide to solid and liquid incinerations. Cyclone separators followed by scrubbing system to each S-PVC drying lines (3 nos.)
2. Bag filter system should be provided to each E-PVC drier and processing stack and also for Flare stack for H.C. ESP/Bag filter/Venturi-scrubber/Dust collector of sufficient capacity shall be provided.
3. Stack of sufficient height shall be provided to the Boiler & DG set.

Conditions for D.G. Set

- a. Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
- b. Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The

measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.

- c. The industry shall take adequate measures for control of noise levels from its own sources within the premises in respect of noise to less than 55 dB(A) during day time and 45 dB(A) during the night time. Day time is reckoned between 6 a.m. to 10 p.m and night time is reckoned between 10 p.m to 6 a.m.
- d. Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
- e. Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
- f. A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use
- g. D.G. Set shall be operated only in case of power failure
- h. The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set

Standards for Incinerator as per CPCB guidelines :

Applicant shall provide and/or upgrade the existing incinerator so as to comply the following standards and conditions.

A) Emission limit of Incineration while operating properly at 100 % rated capacity, shall have an emission limit from the discharge stack to atmosphere of less than or equal to :

Parameter	Emission limit (mg/Nm ³)
Particulate Matter	50
HCl	50
SO ₂	200
CO	100
Total Organic Carbon	20
HF	4
NO _x	400

All values corrected to 11% oxygen on a dry basis.

- B) Hydro carbons 10 ppm over an hourly rolling average dry basis, measured as propane.
- C) Capacity : While operating properly at 100% rated capacity, the system shall be have a visible emission rate of less than or equal to 10% except for condensed water vapour from the discharge stack to atmosphere (one hour rolling averages).
- D) Dioxin Furans : While operating properly at 100% rated capacity, the system shall be an emission of dioxins and furans of less than of equal to 0.1 manogram TEQ/NM3 corrected to 10% oxygen, Sampling period shall be minimum 5 hours and maximum 8 hours. Analysis at dioxin and furans as well as reference measurement methods to calibrate authomated measurement system shall be carried out as given by CEN standards. II CEN standards are not available, ISO Standards, National or International Standards which will ensure the provision of data of an equivalent scientific quality shall apply.
- E) Metals: While operating properly at rated capacity, the system shall have an emission rate from the discharge of stack to atmosphere less than or equal to:

Metal	
Cd+Th (and its compounds)	0.05Mg/NM3
Hg (and its compounds)	0.05
Sb+As+Pb+Cr+Co+Mn+Nr+V (and their compounds)	0.5

All values corrected to 11% oxygen on a dry volume basis.

F] Operating Standards:

1. Combustion efficiency (CE) shall be at least 99.9% and shall be computed as follows-

$$CE = \% \text{CO}_2 / [\% \text{CO}_2 + \% \text{CO}] \times 100$$
2. Temperature of the primary chamber shall be at least 850°C.
3. Secondary chamber gas residence time shall be at least 2 (two) second at 1100°C will minimum 3% oxygen in the stack gas.
4. Destruction and Removal Efficiency (DRE) for each principal Organic hazardous constituent (POHC) in the waste lead shall be at least 99.99%.
5. DRE for hazardous waste containing PCBs, PCTs and other chlornated compounds shall be 99.9999%.

G] Air pollution control devices: The emission control system shall be installed for cleaning and removal of air pollutants. The system shall comprises of following equipment. Singly or in combination with design efficiencies to meet the emission norms:

- i) Waste heat boiler/heat exchange/quench
- ii) Bag filters (ESP)/Cyclone
- iii) Dry/wet scrubber with hydrated lime or sodium hydroxide injection.
- iv) Chimney/stack of minimum 30 m height or as per formula 14
 $(Q)^{0.1}$ [Where Q is emission rate of SO₂ in Kg hr]
 which ever is more and designed as per GEP.
 [Note Dry/wet ESP, spray dryer, dediex filter and mist eliminator shall also be considered as may be required.]

H] Operating Conditions: Incineration plants shall be operated in order to achieve a level of incineration such that the slag and bottom ashes Total Organic Carbon (TOC) content is less than 3% or their loss on ignition is less than 5 of the dry weight of the material. If necessary, appropriate techniques of waste pre-treatmetn shallbe used. Incineration plants shall be designed, equipped, built and operated in such a way that the gas resulting from the process is raised after the last injection of combustion air, in a controlled and homogenous fashion and even under the most unfavorable conditions to a temperature of 850°C as measured near the inner wall or at another representative point of the combustion chamber as authorosed by the Competent Authority for two seconds. If hazardous wastes with a content of more than 1% of halogenated organic substances, expressed as chlorine, are incinerated, the temperature has to be raised to 1200°C + 100 for at least two seconds.

Each line of the incineration plant shall be equipped with at least one auxiliary burner. This burner must be switched on automatically when the temperature of the combustion gases after the last injection of combustion air falls below 850°C or 1100°C as the case may be is maintained at all times during these operations and as long as unburned wastes is in the combustion chamber.

During the start up and shut down or when temperature of the combustion gas falls below : 850°C or 1100°C as line the case may be, the auxiliary burner shall not be fed with fuels emissions than those permitted.

- I] Monitoring requirements: Continuous monitoring and recording system for opacity CO, SO₂ and NO_x shall be installed and reported shall be sent to the State Pollution Control Boards on regular basis. Interlocking arrangements for CO and temperature controls (in primary and secondary chamber) with feeding devices shall also be provided waste feed has also to be terminated on loss of ignition in the after burner safety valve in case of high pressure development in the furnace.
- J] Notification of Compliance: The operator of the incinerator shall undertake comprehensive performance test. Within 90 days of completion of comprehensive performance test. The operator shall issue a notification of compliance documenting compliance or non compliance, as the case may be, for public information.

Standards for Emissions of Air Pollutants from Process and Boiler :

(i)	SPM	Not to exceed	150 mg/Nm ³ .
(ii)	SO ₂	Not to exceed	3052 kg/day
(iii)	SO ₂ (Process)	Not to exceed	50 ppm
(iv)	Acid Mist	Not to exceed	35 mg/Nm ₃
(v)	Nox from process	Not to exceed	50 ppm.

Standards for Emissions due to Incineration of Industrial effluent:

Sr. No.	Pollutants	Limit
1.	Particulate	30 mg/Nm ³
2.	HCl	50 mg/Nm ³
3.	SO ₂	200 mg/Nm ³
4.	CO	100 mg/Nm ³
5.	HBr	60 mg/Nm ³
6.	Dioxin/Furan	0.1 µg TEQ/Nm ³
7.	Opacity	10%
8.	Cadmium (Cd)	0.05 mg/Nm ³
9.	Thallium (Tl)	0.05 mg/Nm ³
10.	Mercury (Hg)	0.05 mg/Nm ³
11.	Antimony (Sb)	0.5 mg/Nm ³
12.	Arsenic (As)	0.5 mg/Nm ³
13.	Lead (Pb)	0.5 mg/Nm ³
14.	Chromium (Cr)	0.5 mg/Nm ³
15.	Cobalt (Co)	0.5 mg/Nm ³
16.	Copper (Cr)	0.5 mg/Nm ³
17.	Manganese (Mn)	0.5 mg/Nm ³
18.	Nickel (Ni)	0.5 mg/Nm ³
19.	Vanadium (V)	0.5 mg/Nm ³
20.	Tin (Sn)	0.5 mg/Nm ³

Standards for Stack Emissions:

- (i) The applicant shall observe the following fuel pattern:-

Sr. No.	Type Of Fuel	Quantity	UOM
1	LSHS	95	MT/day.
2	LDO/HSD/SKO/NAPHTHA	32	MT/day.
3	LPG	2.8	MT/day.

- (ii) The applicant shall erect the chimney(s) of the following specifications:-

Sr. No.	Chimney Attached To	Height in Mtrs.
1	Boilers (3) Common stack	61.0
2	VCM Liquid Incinerator	32.0
3	Flare stack with 2 risers (Plant)	50.0
4	Flare stack (Terminal)	30.0
5	D G Sets 1000 KVA (6 Nos)	6.32 above roof
6	D G Set 75 KVA (1 No)	1.75 above roof
7	EDC Cracker R-1401	40.0
8	EDC Cracker R-1402	40.0
9	S-PVC Drying Line-1	44.0
10	S-PVC Drying Line-2	44.0
11	E-PVC Drying U-66	40.0
12	E-PVC Processing U-67	40.0
13	S-PVC Drying Line-3	46.0
14	Solid Incinerator	32.0

- (iii) The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
- (iv) The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB(A) during day time and 70 dB(A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
- (vi) **Other Conditions:**
- 1) The industry should not cause any nuisance in surrounding area.
 - 2) The industry should monitor stack emissions and ambient air quality Regularly.

6. CONDITIONS UNDER HAZARDOUS WASTE (MANAGEMENT, HANDLING & TRANSBOUNDRY MOVEMENT) RULES, 2008:

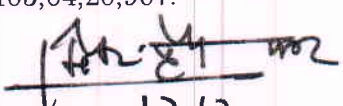
- (i) The Industry shall handle hazardous wastes as specified below.

Sr.No	Item No. of process substance generating HW as per Schedule-I/II	Type of Waste	Quantity	Disposal
1.	5.1	Other spent & Lubricating Oil	22,500 MT/M	Sale to authorized Recycler/ Preprocessor
2.	22.3	Residue from vinyl Chloride monomer production (CoKe)	9.0 TPA	Incineration
3.	3.3	Sludge & Filter contaminated with Oil	15 T/A	Incineration

4.	33.3	Discarded containers & Barrels	10,500 Nos /A	Sale to scrap dealer after decontamination / detoxification
5.	33.4	Chemical sludge from waste water treatment	175 MT/A	CHWTSDf
6.	35.1	Filter & Filter material (Organic Liquid)	450 Nos/A	Incineration
7.	36.2	Incineration ash	4.0 T/A	CHWTSDf
8.	1.7 (B6)	Spent Hydrogenation Catalyst	5.0 TPA	Sale to authorized recyclers
9.	1.7 (B7)	Spent Oxy catalyst	18 TPA	Sent to TTCWMA for disposal
10.	12.5	Phosphate sludge from recycling plant	162 MT/A	Used as manure

7. Whenever due to any accident or release of gases or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body and the production process should be stopped by taking all necessary safety measures. The industry shall also monitor the emissions and ensure that the emissions do not cause any harm or nuisance in the surrounding. The industry should not restart the process without permission of the Board and other statutory organizations as require under the law.
- 8. Industry shall comply with following additional conditions:**
- The applicant shall maintain good housekeeping and take adequate measures for control of pollution from all sources so as not to cause nuisance to surrounding area / inhabitants.
 - The applicant shall bring minimum 33% of the available open land under green coverage/ tree plantation.
 - Solid waste – The non hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal to dumping ground.
 - The applicant shall provide for an alternate electric power source sufficient to operate all pollution control facilities installed by he applicant to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms & conditions of this consent regarding pollution levels.
 - The applicant shall not change or alter quantity, quality, the rate of discharge, temperature or the mode of the effluent / emissions or hazardous wastes or control equipments provided for without previous written permission of the Board.
 - The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous wastes to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
 - The applicant shall make an application for renewal of the consent at least 60 days before the date of the expiry of the consent.
 - The firm shall submit to this office, the 30th day of September every year, the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as pre the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992.

- ix. As inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
- x. The applicant shall install a separate electric meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
- xi. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes / sewers down- stream of the terminal manholes. No effluent shall find its way other than in designed and provided collection System.
- xii. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
9. The consent should not be construed as any exemption from obtaining necessary NOC from other Govt. agencies as may deemed fit necessary.
10. The industry should comply the standards of CPCB guidelines for Hazardous Waste incinerator and submit the report to sub-regional officer (Ratnagiri) within three months period.
11. The industry should comply with conditions of MSIHC Rules, 1989 with reference to Imports, Storage & Handling facilities (Ethylene terminal Facilities) for Ethylene, Ethylene Di-Chloride (EDC), Vinyl Chloride Monomer, LPG and Methanol.
12. Industry shall install and operate online monitoring system with MPCB web linkage for ambient and stack at the emission discharge points identified by MPCB.
13. The industry shall also comply with the Industry specific standards notified under Environment Protection Act.
14. Industry shall submit Bank Guarantee of Rs. 5 Lakhs for O & M of ETP so as to achieve effluent standards. Also industry shall submit Bank Guarantee of Rs. 5 lakhs to provide on-line monitoring with in four months period.
15. This consent is issued pursuant to the decision taken in the meeting of Consent Appraisal Committee of the Board held on 07.12.2011.
16. The Capital investment of the industry is Rs. 1105,04,20,967.


 (Milind Mhaiskar, IAS)
 Member Secretary

To,
 M/s. Finolex Industries Ltd.,
 Village: Ranpar-Golap,
 Survey No. 133-144, 146, 165-174, 154-162, 126,
 178-180, 186-193, 199,202, 205-205, 252 & 254,
 Tal. & Dist. Ratnagiri

Copy to:

- 1) Regional Officer, MPCB, Mumbai.
- 2) Sub-Regional Officer, MPCB, Ratnagiri.
- 3) Chief Accounts Officer, MPCB, Mumbai
- 4) Cess Wing/Master file.

Received Consent fee of -

Sr. No.	Amount(Rs.)	DD. No.	Date	Drawn On
1	1110844	826138	28 .05. 2011	Bank of Maharashtra
2	90000	836317	05 .10.2011	Bank of Maharashtra
3	1110844	932976	01.12.2011	Bank of Maharashtra