



Letter No. - TSTD/EC/2025/NOV/01

26th Nov' 2025

To,

Deputy Director General of Forests (C),
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office, 2nd Floor,
Headquarter- Jharkhand State Housing Board,
Harmu Chowk, Ranchi, Jharkhand - 834002

Subject: - Half yearly environmental compliance report of Tata Steel Limited, Tinplate Division, Golmuri, Jamshedpur for the Period April 2025 to September 2025

Reference: - (i) EC letter No.- EC/SEIAA/2020-21/2480/2021/367 dated 30/01/2023
(ii) EC Corrigendum Letter No. EC/SEIAA/2022-23/265& EC2/453 dated 24.03.2023
(iii) EC Transfer Memo No. 153 dated 16.07.2024 issued on 24.07.2024

Sir,

With reference to the above, please find enclosed our half yearly compliance report of Tata Steel Limited, Tinplate Division for Operation of current plant of capacity 415,000 TPA and proposed phase-wise expansion to 1,015,000 TPA capacity of Electrolytic Tinplate and Tin-Free Steel material including 28,000 TPA Printed and Lacquered sheets at Golmuri, Jamshedpur, East Singhbhum, Jharkhand to the period from April 2025 to September 2025.

Thanking you,

Yours Faithfully,

For Tata Steel Limited, Tinplate Division

Dr. Sourajyoti Dey
Chief Works - Tinplate

Cc:

1. The Member Secretary, SEIAA, Dhurwa Nursery Complex, Dhurwa Bus Stand, Ranchi, Jharkhand – 834004
2. The Zonal Head, CPCB Kolkata, 'South end Conclave' Block-502, 5th and 6th Floor, 1582, Razidanga, Main Road, Kolkata-700107
3. The Member Secretary, JSPCB, H.E.C., Dhurwa, Ranchi-834004 (Jharkhand)
4. The Regional Officer, JSPCB, M 15, New Housing Colony, Adityapur - 839018

TATA STEEL LIMITED

Tinplate Division Golmuri Works Jamshedpur 831 003 Jharkhand India
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India Tel 91 22 6665 8282 Fax 91 22 6665 7724 Website www.tatasteel.com
Corporate Identity Number L27100MH1907PLC000260

Arup

Operation of current plant of capacity 415,000 TPA and proposed phase-wise expansion to 1,015,000 TPA capacity of Electrolytic Tinplate and Tin-Free Steel material including 28,000 TPA Printed and Lacquered sheets of M/s Tata Steel Limited, Tinplate Division at Golmuri Works, Jamshedpur, East Singhbhum, Jharkhand for the Period April 2025 to September 2025

Date: 26.11.2025

Sl. No.	Compliance Conditions	Compliance Status
I	Specific Conditions:	
i	This Environmental Clearance is valid subject to the following conditions below- That this project has - (a) Obtained all legal rights to operate at concerned place (b) Complied with all existing concerned laws of the land and (c) Complied with the decisions of SEIAA on the issue of Environmental clearance till date	Agreed and complied.
ii	Environment Management System including organisation structure to be drawn to ensure compliance of EC conditions stipulated based on principles of continual improvement and periodic management review.	Tata Steel Limited has a well-constituted Environment Management Department / Cell comprising of Senior Management Executives, engineers, and officers to monitor the environmental performance and the relevant statutory compliance. The Performance and compliance of Environment Management is reviewed by higher management on regular basis.
iii	All raw materials having possibility of generation of fugitive emission to be stored under a covered shed	Major raw material in our operation is Hot Rolled Coil and Tin ingot which has no potential to generate fugitive emission arises from loading and unloading of the same. Further, ROM coal is kept in coal yard of boiler with provision of dry fog system, water sprinklers, Wind barriers etc. However, crushed coal which is used in process boiler for steam generation are kept under shed to control fugitive emission. Photograph enclosed in annexure 1 (a).
iv	Project Authority (PAs) to offset (3-5 %) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, and optimum fenestration, Shading effect and heat islands.	The major energy requirements at Tinplate Division are power and fuel for operating the plant and its auxiliary units. Power is sourced from Tata Steel Limited, Jamshedpur Works, who has purchased renewable energy content in the form of Renewable Energy Certificates. Further to the above, solar panels have been installed on rooftop (1.3 MWp) of all plant buildings for utilization of solar energy. LED lights of lower wattage installed for all bay lighting and plant area lighting. Turbo-ventilators are installed at plant buildings as per requirement to reduce heat loads. Photographs enclosed in annexure 1 (b). Existing buildings are designed with openings, louvers, transparent doors, and sufficient no. of windows for utilizing natural light. Similar arrangements for use of renewable energy and passive energy utilisation will be considered for upcoming facilities.

v	Developers to promote energy conservation measures such that it offsets not less than 2% of connected load. It is to be achieved by solar panels etc meeting ECBC norms (Energy Conservation Building Code)	<p>Existing buildings are designed with openings, louvers, transparent doors, and sufficient no. of windows for utilizing natural light. Solar panels have been installed on rooftop of all plant buildings for utilization of solar energy. LED lights of lower wattage installed for all bay lighting and plant area lighting. Turbo-ventilators are installed at plant buildings as per requirement to reduce heat loads. (Photograph are shown).</p> <p>Offices in upcoming plants will be built in accordance with ECBC (Energy conservation Building Code) and solar panel will be installed in the rooftop to conserve energy requirement of offices. Arrangements for use of renewable energy and passive energy utilisation will be considered for upcoming facilities. The Office buildings will be built with openings, louvers, transparent doors, and sufficient no. of windows for utilizing natural light in accordance with existing plants.</p>
vi	Trees should be planted and maintained not less than 15% of project area	<p>Green cover is maintained more than 15% of the project area, for which we adopted Miyawaki Plantation for developing dense tree plantation. Drive for plantation is being carried out inside plant and its proximity with different indigenous species viz. Arjun, Putranjiva, Bakul, Peltophorum, Karanj, Shisham, Saal, Tabebuia, Plash, Ashok etc.</p> <p>Photograph enclosed in annexure 1 (c).</p>
vii	Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (biodegradable) generated is used as compost manure.	<p>Compost making machine has been installed for using organic waste for preparation of compost in our premises.</p> <p>Photograph enclosed in annexure 1 (d).</p>
viii	Developers/Company to install STP of sufficient capacity such that all sewer produced is treated and reused	<p>Sewage from existing plant and different zones of township are routed to Bara STP of Tata Steel Limited for its treatment and reuse.</p> <p>Photograph enclosed in annexure 1 (e)</p>
ix	Developers/Company to install Rainwater harvesting including reuse on 100% basis	<p>In our existing plant, 4 no. of rainwater harvesting structures has been constructed for recharge of groundwater. In addition, there is a Works Bund inside plant premises for storage cum percolation of rainwater.</p> <p>Photograph enclosed in annexure-1 (f)).</p>
x	Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance	<p>Accounting of Carbon footprint (GHG accounting) is being done based on established Protocol. M/s SGS, Mumbai was engaged initially for study and audit of Carbon footprint/GHG accounting of the plant. Presently, it is being done on a yearly basis internally and is being validated through third party.</p> <p>Summary report of the study of FY25 is mentioned below:</p> <p>Scope 1 GHG emission: 110571 tCO₂e Scope 2 GHG emission: 130091 tCO₂e</p> <p>Carbon sequestration / Mitigation measures for reduction of carbon footprint: -</p> <p>a. 4850 no. of trees has been planted in and around plant premises from FY'22 till date as a part of carbon sequestration measure to mitigate the impact of GHG emission.</p>

		<p>b. Solar panels installed of 1.3 MWp capacity for plant buildings.</p> <p>c. Buildings designed with specially designed translucent sheets to allow natural light.</p> <p>d. LED lights of lower wattage installed for all bay lighting and plant area lighting.</p> <p>e. High power consuming Conduction reflow converted to 100% Induction reflow in both Tinning Lines.</p> <p>f. Variable Frequency Drives installed for drives with high KW motors, auxiliary systems, fume exhaust motors.</p>
Xi	Water runoff originating from open non constructed areas of project premises to be harvested/guided in such a way that it does not create water logging condition in vicinity	The Storm water drains of existing plant has been constructed to ensure no water logging condition in and around the plant. Similar considerations made for upcoming plant.
Xii	Sufficient number of EV fast charging points to be installed	EV fast charging station has been installed at prominent locations in township.
xiii	No mining/activity shall be undertaken in the forest land or deemed forest without obtaining requisite prior forestry clearance.	Not applicable since no mining activity will be undertaken in expansion project.
xiv	This Environmental clearance is granted subject to final outcome of Hon'ble supreme court of the India, Hon'ble High Court, Hon'ble NGT, MOEF & CC and any other court of law, if any, as may be applicable to this project.	Noted.
xv	Environmental clearance is subject to obtaining prior clearance from forestry and Wildlife angle including clearance from standing committee of NBWL, as may be applicable to this project (in case any fauna occurs /is found in the project area or if the area involves forest land or Wildlife habitat i.e., core zone of elephant /tiger reserve etc. and or located within 10 km. of protected area)	There is no forest clearance and NBWL clearance from standing committee is applicable. Site Specific Wildlife Plan has been approved from PCCF, Wildlife-cum-Chief Wildlife Warden, Jharkhand vide office order no. 36 dated 08.08.2025.
xvi	The project proponent may apply simultaneously for forest and NBWL clearance, in order to complete the formalities without undue delay, which till process on their respective merits, no rights will vest in or accrue to them unless all clearance are obtained.	Not applicable.
xvii	As proposed, Gaseous fuel (Natural gas/ Propane) will be used as fuel, as both are environmentally friendly fuel and produce insignificant particulate emissions.	Gaseous fuel (Natural gas/ Propane) will be used as fuel for our process line & boiler in expansion project.
xviii	Efforts shall be made to reduce PM levels in the ambient air. Ambient air quality monitoring stations shall be set up in the downwind direction as well as where maximum ground level concentration of PM are anticipated in consultation with	Several measures are being taken on regular basis to reduce PM level inside plant premises. Fixed type sprinklers are deployed at required locations for suppression of fugitive dust. Sprinkling of water on road is being done through dedicated Tankers. Road sweeping is done through mechanised vacuum sweeping vehicle. Dry

	<p>the state pollution control board (SPCB). Data on ambient air, stack and fugitive emission shall be submitted to the SEIAA Office, JSPCB and CPCB.</p>	<p>fog system and water sprinklers are installed in boiler area. Paver block and green patches are placed on loose soil area. Tata Steel Limited has installed one CAAQMS inside our plant premises at Works Gate, and other outside plant premises in Bara, Indranagar Telco and Bistupur area for continuous monitoring of ambient air quality and data is being transferred to Jharkhand State Pollution Control Board. In addition, manual monitoring of ambient air quality is also being done at four different locations inside plant.</p> <p>Photographs enclosed in annexure 1 (g).</p> <p>Pollution control equipment along with stack arrangements are provided in Mills and Boilers. Regular monitoring is being done to control stack emission.</p> <p>Data of ambient air quality, stack and fugitive emission is enclosed in annexure 2.</p>
xix	<p>Online ambient air quality monitoring and continuous stack monitoring facilities with sufficient air pollution control devices shall be provided for the stacks that using fuel having potential to produce significant particulate emission. The emission of particulate matter from various process units shall conform to the standards prescribed by concerned authorities from time to time.</p>	<p>Continuous Ambient Air Quality Monitoring System has been provided inside Plant premises near Works Gate. Air pollution control systems such as ESPs, Fume Exhaust System and scrubbers are installed in process boiler and Mills as per the process requirement. Online stack monitoring facilities has been provided in boiler stacks. The emission of particulate matter is conformed to the prescribed standards.</p> <p>Photographs enclosed in annexure 1 (h))</p>
xx	<p>The company shall monitor the raw and treated wastewater quality for trace metals and air quality at sources and including routine parameters and the reports shall be submitted regularly with six monthly compliance report.</p>	<p>Monitoring of inlet quality of wastewater treatment plant, treated quality of wastewater treatment plant and air quality at sources i.e., stack emission is being done and reports are enclosed.</p> <p>Monitoring reports of above enclosed in annexure 2.</p>
xxi	<p>The company shall connect the pollution control equipment to DG set to ensure operation of these equipment's during power failure.</p> <p>The company shall also provide interlocking system with the process equipment so that the plant automatically stops in case the pollution load exceeds the guaranteed limits.</p>	<p>All the pollution control equipment and production process are connected to same power source. In case of power failure, no production takes place. DG sets are only used during emergency power failures. The boiler stacks are provided with ESPs and Continuous Emission Monitoring Systems to control and monitor the emission level on continuous basis and prompt action is being taken for any deviation.</p>
xxii	<p>The industry shall ensure that the treated effluent and stack emission in the unit are within the norms stipulated under the EP Rules or JSPCB whichever is more stringent. In case of process distribution/failure of pollution control equipment adopted in the unit, the respective unit shall be shut down and shall not be restarted until the control measures are rectified to achieve the desired efficiency.</p>	<p>Preventive maintenance of pollution control equipment and Effluent Treatment Plants are being done on regular basis to control emissions and effluent quality. The boiler stacks are provided with ESPs and Continuous Emission Monitoring Systems to control and monitor the emission level on continuous basis. We are regularly monitoring the quality of stack and effluent and prompt corrective actions are being taken for any abnormal observations.</p>
xxiii	<p>In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Dust</p>	<p>Fixed type water sprinklers and Dry fog system are provided in coal handling area of boiler area to control fugitive emission. Sprinkling of water on road is being</p>

	<p>suppression and dust extraction systems shall be provided to control fugitive emission at material handling points. Fugitive emissions shall be controlled by providing closed storages, water sprinkling systems, etc. to arrest the suspended particles.</p>	<p>done through dedicated Tankers. Road sweeping is done through mechanised vacuum sweeping vehicle to control fugitive emission. Plantation is done on regular basis. Paver blocks are placed on loose soil area.</p> <p>Photograph enclosed in annexure 1 (g))</p>
xxiv	<p>Secondary fugitive emission from all the sources shall be controlled within the latest permissible limits issues by the Ministry and regularly monitored. Guidelines/ code of Practice issued by the CPCB shall be followed. The emission standards issue by the Ministry in May,2008 shall be followed.</p>	<p>Fugitive emission monitoring is being carried out on regular basis. Work environment monitoring of fumes based on process of different mills are being done. We follow the latest guidelines/ code of practice issued by CPCB for secondary fugitive emission monitoring.</p>
xxv	<p>Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emission during loading and unloading of the raw materials and finished product.</p>	<p>Regular sweeping of metallic road take place through mechanised road sweeping vehicle and mobile water sprinkling is being done to reduce fugitive emission from roads. Our major raw material in the process is HR coil and Tin Ingots. Wind barrier (sheets), dry fog system and water sprinklers are placed in the coal handling area of boiler to control fugitive emission during unloading of coal. Crushed Coal are kept inside shed.</p>
xxvi	<p>Total water requirement (12000 m3/day) for plant purpose will be met through surface water and no ground water shall be extracted for plant use. All the wastewater generated from the process shall be treated in the effluent treated plant (ETP) and recycled and reduce in the process and/ or used for dust suppression, green belt development and for various activities at the project site. No effluent shall be discharge outside the premises. 'Zero' discharge shall be strictly adopted.</p>	<p>Raw water is taken through M/s TSUIL (Formerly JUSCO) for plant operation and Domestic use. No ground water is extracted for plant use.</p> <p>Existing plants are equipped with dedicated Effluent Treatment Plants to treat the effluent generated from the processes and maintain the treated effluent quality as per the prescribed standard. The existing effluent treatment plants are further augmented to take care of the additional effluent treatment and its sludge handling systems. Wastewater Recycling Systems are installed, and the treated water is recycled back in the process.</p> <p>Photograph enclosed in annexure 1 (i))</p> <p>There is a plan to recycle the treated discharge water upon installation of Zero Effluent Discharge system for existing operations. Effluent of proposed expansion project would be treated and recycled in Zero Effluent discharge system with addition of new facilities. Order placed for implementation of Zero Effluent Discharge project.</p>
xxvii	<p>Total water requirement for plant purpose will be met through surface water and no ground water shall be extracted for plant use.</p> <p>Prior permission to be taken from concerned department in case of withdrawal of Ground water and a copy of the letter shall be submitted to this office within 6 months of issues of the environment clearance.</p>	<p>Raw water is taken through M/s TSUIL (Formerly JUSCO) for plant and Domestic use. No ground water is extracted for plant use.</p>
xxviii	<p>As proposed, all the metal scrap, iron oxide and dust shall be disposed for recycle /reuse in furnaces. The domestic</p>	<p>As proposed, Steel scraps are sold to other industry for reuse/recycling purpose. Iron oxide from ARP unit is sold to paint industry. Similar practice will be adopted in</p>

	waste including sewage sludge shall be treated biologically and used as manure for green belt. Used/spent oil shall be to authorized recyclers as per the Hazardous waste (Management, Handling & Transboundary Movement) Rules 2016 and subsequent amendments.	expansion project. Domestic sewage water is pumped to Bara STP for treatment and reuse. Waste Oil/Emulsion/process residues wastes are disposed through authorized recyclers/CHWTSDF.
xxix	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.	Solid wastes are handled as per solid waste management plan which is primarily based on the concept of reduce/recycle/reuse.
xxx	Proper handling, storage, utilization, and disposal of all the solid waste shall be ensure and regular report regarding end use of solid/hazardous waste shall be submitted to the SEIAA, JSPCB and CPCB.	Proper handling, storage, utilization, and disposal of for solid/hazardous waste is implemented for existing plant and the records of the same for FY'25 is given below- (i) Iron oxide (2658.9 MT) from ARP unit is sold to paint industry. (ii) Fly ash (18940 MT) generated from process boiler are reused outside through vendor (iii) Steel scrap generated from process plant (67609 MT) is sold to other industries for its reuse. (iv) CRM sludge (1605.32 MT) is being disposed through M/s Adityapur Waste Management Pvt. Ltd., CHWTSDF. (v) Tin dross (17.946 MT) is sold to outside industries. (vi) ETL sludge (1441.68 MT) is disposed through M/s Adityapur Waste Management Pvt. Ltd., CHWTSDF. (vii) Waste Emulsion (257.02 MT) is disposed through M/s Adityapur Waste Management Pvt. Ltd., CHWTSDF. (viii) Waste Oil (258.52 MT) is disposed through authorised recyclers. (ix) Process residue (7.25 MT) is disposed through authorised recyclers. (x) Waste Pickling Liquor (16704.89 KL) is recycled internally at ARP and reused back in pickling process line (xi) Alkali residue (4044.83 KL) is treated internally at Waste Water Treatment Plant.
xxxi	Plantation should be done over an area equal to 33% of plant area including Green Belt inside and Plantation outside the premises. Local species trees should be planted as per the CPCB guidelines.	Plantation has been done in and around plant premises which collectively constitute more than 33% of green cover. We adopted Miyawaki plantation method for developing dense plantation. Plants with different species viz. Arjun, Putranjiva, Bakul, Peltophorum, Karanj, Shisham, Saal, Tabebuia, Plash, Ashok etc are planted in and around plant premises. Photograph enclosed in annexure 1 (c).
xxxii	Proper care shall be taken in structural design to protect against earthquake if the site falls under earthquake zone and implemented during construction phase.	Building design of plants are considered to take care of the effect of earthquake.
xxxiii	The company shall provide housing for construction labour within the site all necessary infrastructure and facility such as fuel for cooking, mobile toilets, mobile STP/Soak pit, safe drinking water. Medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Necessary infrastructures have been planned with use of Porta cabins along with amenities to the labour involved in construction work as per requirement of the site. Laborers shall be from adjacent areas and nearby villages for construction activities during expansion project. There is no provision to stay at the site. Safe drinking water, medical health care, mobile toilets, creche etc. will be provided at site.
II	Statutory compliance	

i	The project proponent shall obtain forest clearance under the provisions Forest (Conservation) Act , 1986, in case of the division of Forest land for non-forest purpose involved in the project	Not Applicable
ii	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable	Not Applicable
iii	The project proponent shall prepare a site- specific conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendation of the approved site-Specific Conservation Plan/ Wildlife Management Plan shall be implemented with the state Forest Department. The implementation report shall be furnished along with the six-monthly compliance report.(in case of the presence of schedule-1 species in the study area	Site Specific Wildlife Plan has been approved from PCCF, Wildlife-cum-Chief Wildlife Warden, Jharkhand vide office order no. 36 dated 08.08.2025.
iv	In the writ petition (Civil) no. 202/1995, T.N. Gadaverman Thirumulpad vs union of India and others the Hon'ble Supreme court passed an order 03.06.2022". National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed in the guidelines of 09th February 2011 shall be strictly adhered to"	Not applicable
v	The project proponent shall obtain consent to Establish / Operate under the provisions of Air (Prevention & Control of pollution) Act ,1981 and the water (Prevention & control of Pollution) Act, 1974 from the concerned State Pollution Control Board/Committee.	Noted.
vi	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of groundwater and a copy of the same shall be submitted to SEIAA.	Not applicable since no ground water is extracted.
vii	The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules 2016 as amended from time to time.	Existing plant have authorization under the Hazardous and other Waste Management Rules 2016 and is valid till 2026.
viii	It shall be mandatory for the project management to submit six (06) monthly compliance report in report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned regional office of MoEF & CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B), Ranchi/SEIAA/CPCB	Half yearly compliance report is being submitted in the mentioned offices.
ix	Concealing factual data or submission of false/fabricated data and failure to	Noted.

	comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environmental (Protection) Act, 1986	
x	The SEIAA, Jharkhand or any other competent Authority may alter modify the above conditions or stipulate any further condition in the interest of Environment Protection	Noted.
III	Air quality monitoring and preservation	
i	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environmental (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF/EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	It is not applicable since Tinplate Division does not have IF/EAF or Thermal Power Plant and there is no proposal to install IF/EAF and Thermal Power Plant in upcoming expansion project.
ii	The Project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environmental (Protection) Act, 1986 or NABL accredited laboratories.	Fugitive emission monitoring inside the plant premises is being done on regular basis through NABL accredited laboratories. Fugitive emission report enclosed in annexure - 2.
iii	The Project proponent shall install system carryout Continuous Ambient Air Quality Monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to the PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area (at least four locations one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions (case to case basis, small plants: Manual, Large Plants: Continuous)	Tata Steel Limited has installed one CAAQMS inside our plant premises at Works Gate, and other outside plant premises in Bara, Indranagar Telco and Bistupur area for continuous monitoring of ambient air quality and data is being transferred to Jharkhand State Pollution Control Board.
iv	The Project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality/fugitive emissions to the Regional office of MoEF&CC, Zonal Office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	Monthly summary report of continuous and manual monitoring of stack and ambient air is enclosed in annexure-2 along with six-monthly compliance report.

v	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources.	Air pollution control systems such as ESPs, Fume Exhaust System and scrubbers are installed in process boiler and Mills as per the process. Periodic maintenance of pollution control equipment is being done during preventive maintenance & annual shutdowns to maintain the performance of the devices. Dry fog system and Sprinklers are provided in coal handling area.
vi	The Project proponent shall provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags	Not applicable
vii	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly	Regular sweeping of metallic road is being done on daily basis through mechanised vacuum sweeping vehicle. Cleanliness of shopfloor is being maintained on daily basis.
viii	Recycle and reuse iron fines, coal and coke fines, lime fines and such other fines collected in the pollutant control devices and vacuum cleaning devices in the process after briquetting/agglomeration	Iron oxide from ARP unit is sold to paint industry for its reuse. Coal fines generated inside coal handling area is reused in boiler. Similar practice will be adopted in expansion project. However, Gaseous fuel (Natural gas/ Propane) based boiler will be installed in expansion project.
ix	The Project Proponent shall use leak proof trucks/dumpers carrying coal and other raw materials and covered them with tarpaulin	Trucks/dumpers carrying coal which is used in process boiler for steam generation are covered with tarpaulin.
x	The Project proponent shall provide covered sheds for raw materials like scrap and sponge iron, lump ore, coke, coal, etc.	Sponge iron, lump ore and Scrap are not used in our process. Raw material for process boiler i.e., crushed coal is kept under shed.
xi	The Project proponent shall provide primary and secondary fume extraction system at all melting furnaces.	Not applicable since no melting furnace is proposed in expansion project.
xii	Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil cellars.	Ventilation system for adequate air changes will be consider in project execution stage for the design of motor houses, Cellars etc. as per ACGIH.
IV	Water quality monitoring and preservation	
i	The project proponent shall install 24*7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF/ EAF) as amended from time to time; S.O 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection)Act, 1986 or NABL accredited laboratories.(case to case basis small plants: Manual :Large plants :continuous).	It is not applicable since Tinplate Division does not have IF/EAF or Thermal Power Plant and there is no proposal to install IF/EAF and Thermal Power Plant in upcoming expansion project.
ii	The project proponent shall monitor	Ground water quality is being monitored twice in a year

	regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) act, 1986 and NABL accredited laboratories.	by NABL accredited laboratories. Ground water reports enclosed in annexure-2.
iii	The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to regional office of MoEF & CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	Monthly summary report of continuous effluent monitoring and manual effluent is enclosed in annexure-2 along with six-monthly compliance report.
iv	Adhere to "Zero Liquid Discharge".	Zero Effluent Discharge plan will be implemented in a phase-wise manner to take care of the treated effluent discharge. Order placed for implementation of Zero Effluent Discharge project.
v	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet prescribe standard.	Sewage from existing plant and different zones of township are routed to Bara STP of Tata Steel Limited for its treatment as per prescribed standard and reuse.
vi	The project Proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribe in G.S.R 277 (E) 31st March 2012 (applicable to IF/EAF) as amended from time to time.	Cold Rolling Mill & Electrolytic Tinning Line of existing plant are equipped with dedicated Effluent Treatment Plants to ensure the proper treatment of effluent and discharge within stipulated norms. The treated effluent would be recycled back after installation of Zero Effluent Discharge System for the existing operation as per the plan.
vii	Garland drains and collection pits shall be provided for each stockpile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.	Garland drains and collection pits will be provided for stockpile during construction phase to arrest the run-off in the event of heavy rains to check the water pollution due to surface run off.
viii	The project proponent shall practice rainwater harvesting to maximum possible extent.	In our existing plant, 4 no. of rainwater harvesting structures has been constructed for recharge of groundwater. In addition, there is a Works Bund inside plant premises for storage cum percolation of rainwater. We will construct the rainwater harvesting structures in the expansion project to harvest the rainwater from rooftop of upcoming plants.
ix	The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.	We have wastewater recycling systems in our existing units. Waste Pickle liquor which is generated during pickling process, and it is recovered as regenerated acid in Acid Regeneration Plant. The rinse water of Electrolytic Cleaning Line and Electrolytic Tinning Line are recovered as DM water at its dedicated Wastewater Recycling Plants and reuse back in the process. Boiler blowdown water is channelised in a collection tank and reuse back in ash conditioning purpose.
V	Noise Monitoring and Prevention	
i	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Office of the Ministry as a part of six-monthly compliance report.	Noise level is monitored as per prescribed standard on regular basis. Noise monitoring report enclosed in annexure-2.

ii	The ambient noise levels should confirm to the standards prescribed under E(P)A Rules,1986 viz. 75dB (A) during day time and 70 dB (A) during night time.	Ambient noise level is monitored, and it conforms the prescribed standard. Noise monitoring report enclosed in annexure 2.
VI	Energy Conservation measures:	
i	The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces.	Not applicable
ii	Practice hot charging of slabs and billets/booms as far as possible.	Not applicable
iii	Ensure installation of regenerative type burns on all reheating furnaces.	Not applicable
iv	Provide solar power generation on rooftops of building, for solar light system for all common areas, streetlights/parking around project area and maintain the same regularly.	We have installed 1.3 MWp of Solar Rooftop in our plant.
v	Provide the project proponent for LED lights in their offices and residential areas.	LED light has been provided in offices, Plant & streetlight.
VII	Waste management:	
i	Used refractories shall be recycled as far as possible.	Used refractories are in reused as road grading material, pedestal etc. inside plant.
ii	Oily scum and metallic sludge recovered from rolling ETP shall be mixed, dried, and briquetted and reused melting Furnaces.	Oily scums are disposed through Recyclers and CHWTSDF (M/s Ramky). Same practice will be done by in the facilities installed in expansion project.
iii	100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and bricks manufactures for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.	Fly ash generated from process boiler are reused outside through vendor.
iv	The waste oils, grease and other hazardous waste shall be disposed of as per Hazardous & others waste (Management & Transboundary Movement) Rules.2016.	The waste oils, grease and other hazardous waste are being disposed of as per Hazardous & others waste (Management & Transboundary Movement) Rules 2016.
v	Kitchen waste shall be composted or converted to biogas for further use. (to be decided on case basis depending on type and size plant)	Compost making machine is installed to convert kitchen waste into compost which is used further in plantation and gardening purpose.
VIII	Green Belt	
i	Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The green belt shall inter alia cover the entire periphery of the plant.	Green cover has been developed in and around 27% of the project area which would be further increase to 33% post expansion. Considering space constraint, we have also planted trees in our close proximity such as truck parking area and Golf course which collectively constitute around 40% of green cover. We adopted Miyawaki plantation method for developing dense plantation. Plants with different species viz. Arjun, Putranjiva, Bakul, Peltophorum, Karanj, Shisham, Saal, Tabebuia, Plash, Ashok etc are planted in and around plant premises. Photograph enclosed in annexure 1 (c).
ii	The project proponent shall carry prepare	Accounting of Carbon footprint (GHG accounting) is

	GHG emission inventory for the plant and shall submit the programme for the same including carbon sequestration including plantation.	<p>being done as per establish Protocol. M/s SGS, Mumbai was engaged initially for study and audit of Carbon footprint/GHG accounting of the plant. Presently, it is being done on a yearly basis internally.</p> <p>Summary report of the study of FY25 is mentioned below:</p> <p>Scope 1 GHG emission: 110571 tCO₂e Scope 2 GHG emission: 130091 tCO₂e</p> <p>Carbon sequestration / Mitigation measures for reduction of carbon footprint: -</p> <p>a. 4850 no. of trees has been planted in and around plant premises from FY'22 till date as a part of carbon sequestration measure to mitigate the impact of GHG emission.</p> <p>b. Solar panels installed of 1.3 MWp capacity for plant buildings.</p> <p>c. Buildings designed with specially designed translucent sheets to allow natural light.</p> <p>d. LED lights of lower wattage installed for all bay lighting and plant area lighting.</p> <p>e. High power consuming Conduction reflow converted to 100% Induction reflow in both Tinning Lines.</p> <p>f. Variable Frequency Drives installed for drives with high KW motors, auxiliary systems, fume exhaust motors.</p> <p>g. Gaseous fuel (Natural gas/ Propane) has been considered as fuel for boilers of expansion project.</p>
IX	Public hearing and Human health issues:	
i	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Hazard identification and Risk Assessment (HIRA) is being done and based on that Emergency Preparedness plan has been prepared and approved by Chief Factory Inspector.
ii	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.	We are providing PPEs as per the nature and requirement of the job inside our plant premises., CRM and ETL units are provided with exhaust fans, the bay is cross ventilated and the PPES such as Safety shoe, Safety Helmet, Florescent jacket, Safety googles, ear plug, hand gloves, Shin guard etc. are provided to the employees working on shop floor.
iii	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Laborers shall be from adjacent areas and nearby villages for construction activities during expansion project. There is no provision to stay at the site. Safe drinking water, medical health care, mobile toilets, creche etc. is being provided at site. All other facilities are being provided as and when required.
X	Corporate Environment Responsibility:	
i	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.NO 22-65/2017-1A.III dated 1st May 2018, as applicable regarding corporate Environment Responsibility.	Corporate Environment Responsibility is being done through our dedicated CSR team focusing the social need of nearby villages, township, school, drinking water and power requirement, health care facility, skill development programs, sports, livelihood enhancement, encouraging tribal welfare etc.

ii	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/violation of the environmental/ forest/wildlife norms/condition. The company shall have define system of reporting infringements/ deviation/violation of the environmental/forest/wildlife norms/ conditions and/ or/shareholders/stock holders. The copy of the board resolution in this regard shall be submitted to the MOEF & CC as a part of Six- monthly report.	Tata Steel Limited have well defined environmental Policy duly approved by the Board. Environmental policy is attached as annexure 3 .
iii	A separate Environmental cell both at the project and company head quarter level, with qualified personnel shall be up under the control of senior Executive, who will directly to the head of the organization.	Tata Steel Limited has a well-constituted Environment Management Department / Cell comprising of Senior Management Executives, engineers, and officers to monitor the environmental performance and the relevant statutory compliance. The Performance and compliance of Environment, Health & Safety is reviewed on regular basis by higher management.
iv	Action plan for implementing EMP and Environmental condition along with responsibility matrix of the company shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/ Regional office along wise the six-Monthly compliance Report.	Progress on implementation of environment management plan as included in environment impact assessment report has been mentioned below- (i) Order placed for implementation of Zero Effluent Discharge project. (ii) Mechanised Road sweeping vehicle and Water sprinkling is done on regular basis. (iii) Pollution Control Equipment will be provided as per recommendation of plant supplier/OEMs and proper stack height will be maintained. (iv) Plantation is being done in and around plant premises. (v) Environmental Monitoring is being done on periodic basis.
v	Self-environmental audit shall be conduct annually. Every three years third party environmental audit shall be carried out.	The company has a well-defined Integrated Management System (IMS) which covers all aspect of Environment Management System, Occupational Health & Safety Management System and Quality Management System. Internal audit (Self-environment audit) and third-party environmental audit of the Environment Management System is being done as a part of integrated management system on half yearly and annual basis respectively.
vi	All the recommendations made into the charter on corporate Responsibility for Environment Protection (CREP) for the plants shall be implemented.	For the process of Cold rolling mill and Tinplating, there is no specific recommendation has been made under CREP.
vii	Occupational health surveillance of the workers shall be done on a regular basis and record maintained as per the Factories Act.	Occupational health surveillance of the workers is being done on a regular basis and record maintained as per the Factories Act.
XII	Miscellaneous:	
i	The project proponent shall make public the environmental clearance granted for	Advertisement was published in two local newspapers i.e., Chamaktaaina and The Avenue Mail on dated

	their project along with the environmental condition and safeguards at their cost by providentially advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also displayed in the project proponent; website permanently.	05.02.2023 in Hindi and English language respectively in view of grant of Environmental Clearance. Environmental Clearance letter is also displayed on company's website. However, Prabhat Khabar and The Times of India is used for advertisement of public hearing during environmental clearance process.
ii	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant officers of the Governmental who in turn has to display the same for 30 days from the date of receipt.	Copies of Environmental Clearance were submitted to local bodies and government offices to display for public notice.
iii	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and upload the same on half-yearly basis.	Half yearly compliance of environment clearance along with monitoring report is uploaded on website on half yearly basis.
iv	The project proponent shall monitoring the criteria pollutants level namely:PM10, SO2, NOx (ambient level as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convent location for the projects and display the same at a convenient location for disclosures to the public and put on the website of the company.	Ambient air quality and stack emission information is displayed at company gate for disclosure to public and the same is also put up on company's website.
v	The project proponent shall submit six monthly report on the data of the compliance of the stipulated environmental condition on the website of the ministry of environment, forest, climate change and environmental clearance porta.	Being Complied.
vi	The project proponent shall submit the environmental statement for each financial layer in Form -V to the concerned state pollution Control Board as prescribed under the Environment Protection rules, 1986, as amended subsequently and put on the website of the company	Environmental Statement (Form-V) is submitted to Jharkhand State Pollution Control Board before 30 th of September every year and it is uploaded on company's website.
vii	The project proponent shall inform the regional office as well as the ministry, the date of financial closure and financial final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	Financial approval of expansion project from TCIL Board and Tata Steel Limited Board was done in Aug' 2021 and Feb'2022 respectively. TCIL has merged with Tata Steel Limited on 15 th Jan'2023 and the EC transfer has been obtained via. Memo No. 153 dated 16.07.2024 and issued on 24.07.2024. Enabling job has been completed. Civil job of expansion project is in progress at site.
viii	The project authorities must strictly adhere to the stipulations made by the	Noted.

	state pollution Control Board and the state government	
ix	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during public hearing and also that during their presentation to the expert appraisal committee	Being complied.
x	No further expansion or modifications in the plant shall be carried out without prior approval of the ministry of environment forest and climate change (MoEF&CC)	Noted.
xi	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986	Noted.
xii	The ministry may revoke or suspend the clearance, if implementation of any of the above condition is not satisfactory	Noted.
xiii	The ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions	Noted.
xiv	The regional office of this ministry shall monitor compliance of the stipulated conditions the project authorities should extend full cooperation to the officer (s) of the regional office by furnishing the requisite data/information/monitoring reports.	Full cooperation will be felicitated to the officer(s) of the regional office.
xv	The above conditions shall be in forced inter alia under the provisions of the Water (Prevention and control of pollution) Act 1974, the Air (Prevention and control of pollution) Act 1981, the Environment(Protection) Act 1986, Hazardous and other waste (Management and Transboundary Movement)Rules 2016 and the public Liability Insurance Act along with their amendments and Rules and any other orders passed by the honourable Supreme Court of India / High Courts and any other court of law relating to the subject matter.	All applicable acts are being complied.
xvi	Any appeal against the environmental clearance shall lie with the National Green Tribunal, if preferred within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act ,2010	Noted.
XII	Other Conditions	
i	The Authority reserves the right to add and any new conditions or modify the	Noted.

	above conditions or to revoke the clearance if conditions stipulated above are not implemented to the satisfaction of Authority or for that matter for any other administrative reason.	
ii	In view of the latest MOEF notification dated-12.04.2022, validity of EC shall be for a period of 10 Years.	Noted.
iii	In case of any deviation or alteration in the project post from those submitted to SEIAA ,Jharkhand for clearance, a fresh reference should be made to SEIAA to access the adequacy of the conditions in post and to incorporate any new conditions if required	Noted.

Annexure1 (a) Covered Shed for Storage of Crushed Coal



Annexure1 (b) Solar panels at mills rooftop & energy conservation measures



Solar panel at Printing & Lacquering Line



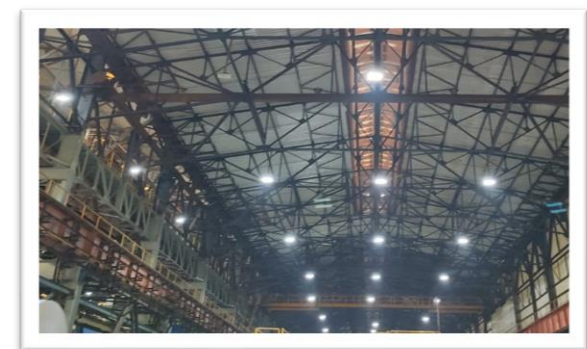
Solar panel at Cold Rolling Mill



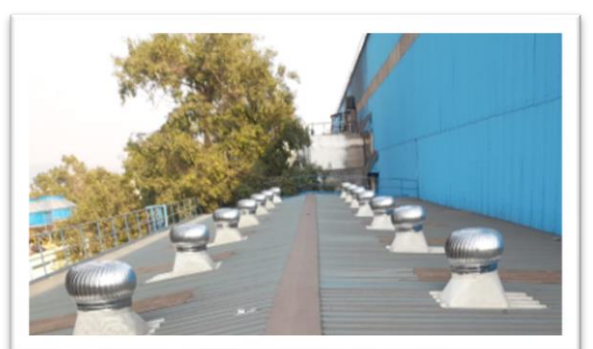
Solar panel at Temper



Solar panel at Coil Preparation Line



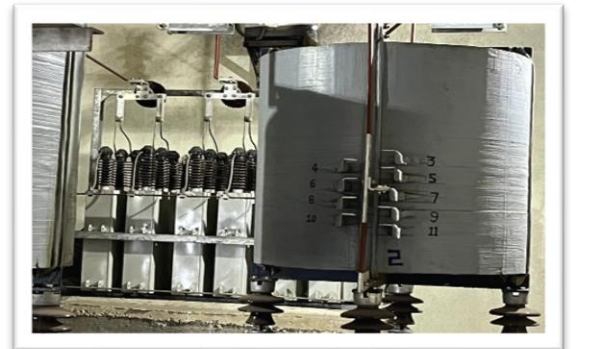
LED light at all Mill & Process Bays



Vergola Air Ventilation



Variable Frequency Drive for all Mill
and process line motors



Capacitor Bank

Annexure 1 (c) Plantation inside works and its Surroundings.



Fig 1 – Behind Propane Yard Area



Fig 2 – Behind Propane Yard Area



Fig 3 - Works Bund Area



Fig 4 – Truck Parking Area



Fig 5 – Tinplate Golf Course (Miyawaki Plantation)



Fig 6 – Township (Tinplate Sports Complex Road)

Annexure 1 (d) Compost Making Machine



Annexure 1 (e) Tinplate Sewage Pumping Station (4.25 MLD)



Annexure 1 (f) Rainwater Harvesting Structures



(4 No. Recharging pit of size 8 m x 5.5 m x 3 m with 4 No. of desilting chamber of size 4 m x 1 m x 1.2 m along with 14 no. of recharging borewells)

Annexure 1 (g) Measures to control fugitive emissions



Mechanized Vacuum Cleaning Vehicle



Mobile Water Sprinkling



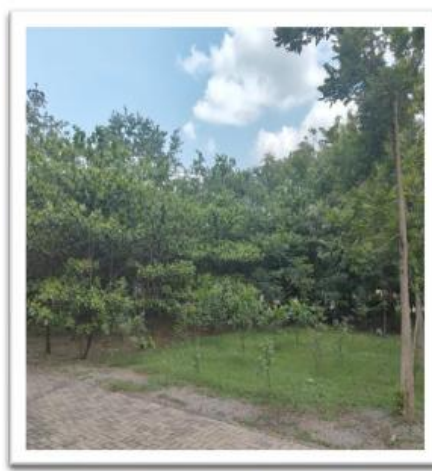
Water Sprinkler



Dry fog system



Paver Blocks on loose soil

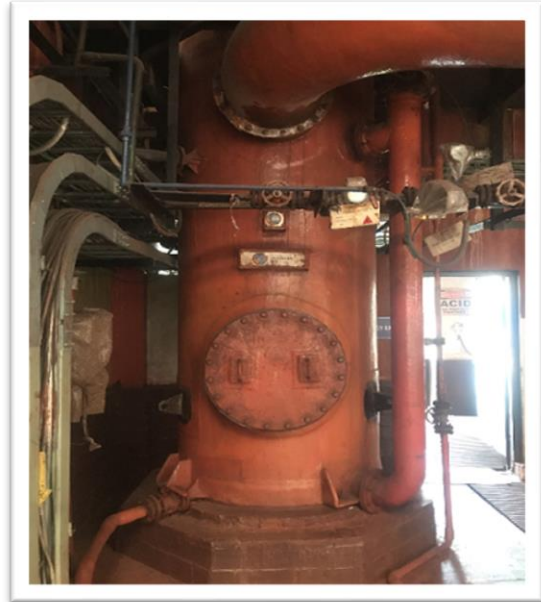


Plantation Drives

Annexure 1 (h) Pollution Control Equipment & Continuous Emission Monitoring System (CEMS)



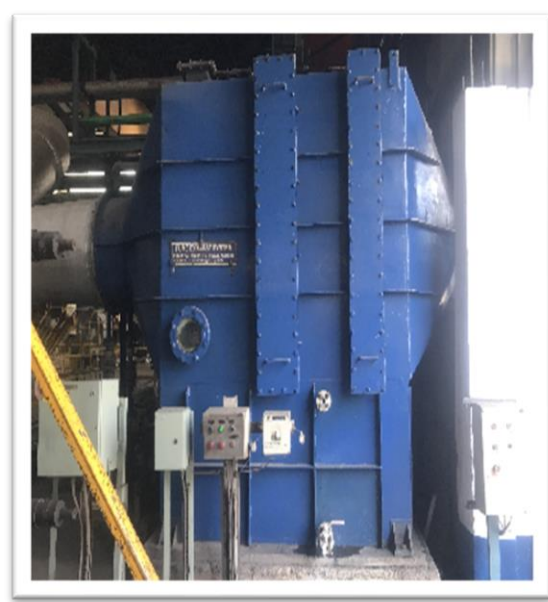
Scrubber at Pickling



Scrubber at ARP



FES at CRM



Scrubber at ECL




Electrostatic Precipitator (ESPs)
at Boiler Stack





Continuous Emission Monitoring
System at Boiler Stack (CEMS)

← → ↻ jsacjharkhand.gov.in/pollution/index.aspx Relaunch to update

Click PM10 Analyzer



Jharkhand State Pollution Control Board



जहाँ है हरियाली
वहाँ है खुशाली

Home Dashboard Day Wise Data Month Wise Data Industry Detail Industry Category Star Registration Add Category/Parameter Login

Logout

Vendor
Forbes Marshall

Industry
The Tinsplate Comparr

Station ID
UNIT81

Analyzer ID
D001

Select Date
2023-11-12

Get Data

Export

42 Records Found

Sl. No	Industry Name	stationId	analyserId	Parameter	Process Value	Unit	Submitted Date	Timestamp of Analyser
1	The Tinsplate Company of India Ltd	UNIT81	D001	nox	97.00	ppm	13-11-2023 04:14:04	2023-11-12 05:45:00
2	The Tinsplate Company of India Ltd	UNIT81	D001	so2	223.42	ppm	13-11-2023 04:02:20	2023-11-12 05:45:00
3	The Tinsplate Company of India Ltd	UNIT81	D001	nox	97.00	ppm	13-11-2023 03:23:56	2023-11-12 05:30:00
4	The Tinsplate Company of India Ltd	UNIT81	D001	so2	226.18	ppm	13-11-2023 03:14:25	2023-11-12 05:30:00
5	The Tinsplate Company of India Ltd	UNIT81	D001	PM	49.42	mg/Nm3	12-11-2023 23:48:37	2023-11-12 23:30:00
6	The Tinsplate Company of India Ltd	UNIT81	D001	so2	110.00	ppm	12-11-2023 23:04:15	2023-11-12 22:45:00
7	The Tinsplate Company of India Ltd	UNIT81	D001	so2	168.10	ppm	12-11-2023 22:48:58	2023-11-12 22:30:00
8	The Tinsplate Company of India Ltd	UNIT81	D001	PM	49.40	mg/Nm3	12-11-2023 22:03:33	2023-11-12 21:15:00
9	The Tinsplate Company of India Ltd	UNIT81	D001	PM	50.58	mg/Nm3	12-11-2023 21:04:31	2023-11-12 20:45:00
10	The Tinsplate Company of India Ltd	UNIT81	D001	PM	48.21	mg/Nm3	12-11-2023 20:48:31	2023-11-12 20:30:00

Online data transfer from CEMS of Boiler stack

Annexure1 (i) Effluent Treatment Plants & Wastewater Recycling System

Effluent Treatment Plants



WWTPs at CRM



ETP at ETL

Wastewater Recycling Systems



ARP



ECL Rinse based DM Plant



ETL Rinse based DM Plant

Annexure-2 (Monitoring Report)

AMBIENT AIR QUALITY MONITORING REPORT

Location 1: Analyser room, Near Gate No-6

(Based on NABL accredited Laboratory report)

Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
Particulate Matter, PM 10	ug/m3	82.4	74.3	67.4	66	69	72
Particulate Matter, PM 2.5	ug/m3	53.2	43.5	38.9	35	38	40
Sulphur Dioxide (SO2)	ug/m3	16.3	10.3	11.2	11.8	12.5	14.4
Nitrogen Dioxide (NO2)	ug/m3	32.5	28.4	29	27.3	29.4	27.1
Carbon Monoxide (CO)	mg/m3	<1	<1	<1	1.14	<1	<1
Ammonia (NH3)	ug/m3	<20	<20	<20	<10	<10	<10
OZONE (O3)	ug/m3	<20	<20	<20	<20	<20	<20
Nickel (Ni)	ng/m3	<2	<2	<2	<6	<6	<6
Arsenic (As)	ng/m3	<2	<2	<2	<2	<2	<2
Lead (Pb)	ug/m3	<0.2	<0.2	<0.2	0.019	0.015	0.01
Benzene (C6H6)	ug/m3	<1	<1	<1	<2.5	<2.5	<2.5
Benzo alpha Pyrene (BaP)	ng/m3	<1	<1	<1	<0.5	<0.5	<0.5

Location 2: Near CRM Solar Pond

Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
Particulate Matter, PM 10	ug/m3	79.5	80.5	74.9	61	66	62
Particulate Matter, PM 2.5	ug/m3	49.5	46	43.7	32	35	33
Sulphur Dioxide (SO2)	ug/m3	14.9	12.5	10.7	10.2	9.2	10.9
Nitrogen Dioxide (NO2)	ug/m3	28	26.9	22.7	21.6	23.7	25.8
Carbon Monoxide (CO)	mg/m3	<1	<1	<1	<1	<1	<1
Ammonia (NH3)	ug/m3	<20	<20	<20	<10	<10	<10
OZONE (O3)	ug/m3	<20	<20	<20	<20	<20	<20
Nickel (Ni)	ng/m3	<2	<2	<2	<6	<6	<6
Arsenic (As)	ng/m3	<2	<2	<2	<2	<2	<2
Lead (Pb)	ug/m3	<0.2	<0.2	<0.2	0.007	0.012	0.016
Benzene (C6H6)	ug/m3	<1	<1	<1	<2.5	<2.5	<2.5
Benzo alpha Pyrene (BaP)	ng/m3	<1	<1	<1	<0.5	<0.5	<0.5

Annexure-2 (Monitoring Report)

Location 3: Near General Office Lawn

Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
Particulate Matter, PM 10	ug/m3	72.7	69.8	61.5	56	60	56
Particulate Matter, PM 2.5	ug/m3	47.3	38.6	36.1	28	32	30
Sulphur Dioxide (SO2)	ug/m3	11.8	14.2	8.9	6.1	10.8	7.6
Nitrogen Dioxide (NO2)	ug/m3	13.6	16.3	18	15.8	19.2	17.3
Carbon Monoxide (CO)	mg/m3	<1	<1	<1	<1	<1	<1
Ammonia (NH3)	ug/m3	<20	<20	<20	<10	<10	<10
OZONE (O3)	ug/m3	<20	<20	<20	<20	<20	<20
Nickel (Ni)	ng/m3	<2	<2	<2	<6	<6	<6
Arsenic (As)	ng/m3	<2	<2	<2	<2	<2	<2
Lead (Pb)	ug/m3	<0.2	<0.2	<0.2	<0.002	<0.002	<0.002
Benzene (C6H6)	ug/m3	<1	<1	<1	<2.5	<2.5	<2.5
Benzo alpha Pyrene (BaP)	ng/m3	<1	<1	<1	<0.5	<0.5	<0.5

Location 4: Expansion Area

Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
Particulate Matter, PM 10	ug/m3	89.3	85.9	77.3	72	74	77
Particulate Matter, PM 2.5	ug/m3	51.5	56	49	39	42	43
Sulphur Dioxide (SO2)	ug/m3	17.4	15.6	13	12.4	14.1	16.7
Nitrogen Dioxide (NO2)	ug/m3	28.3	32.2	34.2	25.2	27.6	31.8
Carbon Monoxide (CO)	mg/m3	<1	<1	<1	1.17	1.12	1.10
Ammonia (NH3)	ug/m3	<20	<20	<20	<10	<10	<10
OZONE (O3)	ug/m3	<20	<20	<20	<20	<20	<20
Nickel (Ni)	ng/m3	<2	<2	<2	<6	<6	<6
Arsenic (As)	ng/m3	<2	<2	<2	<2	<2	<2
Lead (Pb)	ug/m3	<0.2	<0.2	<0.2	0.023	0.018	0.024
Benzene (C6H6)	ug/m3	<1	<1	<1	<2.5	<2.5	<2.5
Benzo alpha Pyrene (BaP)	ng/m3	<1	<1	<1	<0.5	<0.5	<0.5

Annexure-2 (Monitoring Report)

CONTINUOUS AMBIENT AIR QUALITY MONITORING REPORT

CAAQM STATION	Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
Analyser Room, Near gate no-6	Particulate Matter, PM 10	ug/m3	73.05	76.39	69.88	47.54	56.45	42.72
	Particulate Matter, PM 2.5	ug/m3	14.40	18.45	19.47	11.25	9.61	6.89
	Sulphur Dioxide (SO2)	ug/m3	38.18	39.49	28.91	39.75	45.32	46.23
	Nitrogen Dioxide (NOX)	ug/m3	13.13	25.87	24.33	30.58	24.28	28.83

Note: Monthly average data

FUGITIVE EMISSION REPORT

(Based on NABL accredited Laboratory report)

Location	Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
Boiler Coal Storage Area	Particulate Matter	ug/m3	275.9	422	349.4	291	311	283
	Sulphur Dioxide (SO2)	ug/m3	36	29.8	23	13.1	14.4	13.5
	Nitrogen Dioxide (NO2)	ug/m3	42	38.6	34.5	27.8	29.2	28.7
Secondary Product Area/Yard	Particulate Matter	ug/m3	196.2	246	156.8	176	154	165
	Sulphur Dioxide (SO2)	ug/m3	24.9	32	19.8	12.7	12.3	12.1
	Nitrogen Dioxide (NO2)	ug/m3	31.6	43.2	28.3	25.1	24.5	25.8

Annexure-2 (Monitoring Report)

STACK EMISSION MONITORING REPORT

Boiler Stacks (Based on NABL accredited Laboratory report)

Stack Name	Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
Boiler Stack-1	Particulate Matter (PM)	mg/Nm3	33.7	42.5	50.1	-	-	41
	Sulphur Dioxide (SO2)	mg/Nm3	276	325	283	-	-	274
	Nitrogen Dioxide (NOx)	mg/Nm3	72	114	122	-	-	84
Boiler Stack-2	Particulate Matter (PM)	mg/Nm3	35.2	38.9	29	-	-	35
	Sulphur Dioxide (SO2)	mg/Nm3	298	273	234	-	-	249
	Nitrogen Dioxide (NOx)	mg/Nm3	82	151	85	-	-	73

Online monitoring report of Boiler Stack

Stack Name	Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
Boiler Stack	Particulate Matter (PM)	mg/Nm3	38.44	54.77	36.16	57.24	43.57	43.30
	Sulphur Dioxide (SO2)	mg/Nm3	223.88	253.16	268.71	174.45	300.21	215.65
	Nitrogen Dioxide (NOx)	mg/Nm3	169.70	169.66	192.06	122.83	212.77	168.99

Note: - Monthly Average Data

Mills Stack (Based on NABL accredited Laboratory report)

Stack Name	Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
Pickling-1	Particulate Matter (PM)	mg/Nm3	5.9	6.6	-	-	-	9
Pickling-2	Particulate Matter (PM)	mg/Nm3	10.1	7.3	12.4	-	-	7
ARP	Particulate Matter (PM)	mg/Nm3	5.8	6.8	7.3	-	-	8
6 Hi -1	Particulate Matter (PM)	mg/Nm3	7	5.6	8.3	-	-	8
6 Hi -2	Particulate Matter (PM)	mg/Nm3	8.9	6.1	7.2	-	-	7
ECL – 1	Particulate Matter (PM)	mg/Nm3	<5	<5	-	-	-	6
ECL – 2	Particulate Matter (PM)	mg/Nm3	6.6	10.4	9.9	-	-	8
TM – 1	Particulate Matter (PM)	Mg/Nm3	5.6	<5	-	-	-	11
TM – 2	Particulate Matter (PM)	Mg/Nm3	8.3	9.8	8.4	-	-	9

Annexure-2 (Monitoring Report)

Batch Annealing Furnace Stack (Based on NABL accredited Laboratory report)

Stack Name	Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
Annealing – 1 (Fuel – Propane)	Particulate Matter (PM)	mg/Nm3	5.9	7.3	-	-	-	8
	Sulphur Dioxide (SO2)	mg/Nm3	<5	<5	-	-	-	<3
	Nitrogen Dioxide (NOx)	mg/Nm3	<2	<2	-	-	-	<2
Annealing-2 (Fuel – Propane)	Particulate Matter (PM)	mg/Nm3	7.4	8.9	<5	-	-	10
	Sulphur Dioxide (SO2)	mg/Nm3	<5	<5	26	-	-	<3
	Nitrogen Dioxide (NOx)	mg/Nm3	<2	<2	30	-	-	<2

Note: - Heavy rain interference in July & August 2025 (Monsoon Season).

AMBIENT NOISE MONITORING

(Based on NABL accredited Laboratory report)

Month	Location	Day	Night
Apr'25	Analyser Room	65.5	53.1
	CRM solar Pond	61	55.7
	General Office Lawn	53.3	47
	Expansion Area	66.2	57.4
May'25	Analyser Room	59.9	53.2
	CRM solar Pond	65.2	56.4
	General Office Lawn	49	42.7
	Expansion Area	67.4	54.2
Jun'25	Analyser Room	67.3	58.1
	CRM solar Pond	63.9	51.7
	General Office Lawn	52.6	44.2
	Expansion Area	68.3	56.1
Jul'25	Analyser Room	64	50
	CRM solar Pond	62	48
	General Office Lawn	56	44
	Expansion Area	67	51
Aug'25	Analyser Room	62	52
	CRM solar Pond	60	45
	General Office Lawn	59	42
	Expansion Area	65	53
Sept'25	Analyser Room	64	49
	CRM solar Pond	63	47
	General Office Lawn	56	45
	Expansion Area	69	52

Annexure-2 (Monitoring Report)

TREATED WASTEWATER QUALITY REPORT

Wastewater Quality Report

Inlet & Outlet Wastewater Quality Report of CRM Effluent Treatment Plant

Month	CRM Effluent Treatment Plant	pH	TSS (mg/l)	BOD (mg/l)	COD (mg/l)	O & G (mg/l)
Apr'25	Inlet - Acidic wastewater	<4.0	14.6	32.3	240	8.8
	Inlet - Alkali wastewater	>10	318	234	1428	120
	Inlet - Emulsified wastewater	6.7	680	435	3427	140
	Outlet - Treated water	7.51	70	23.7	163	6.2
May'25	Inlet - Acidic wastewater	<4.0	36	166	1160	30
	Inlet - Alkali wastewater	>10	98	180	1440	72
	Inlet - Emulsified wastewater	5.68	410	340	2400	114
	Outlet - Treated water	7.18	42	20.6	176	6.4
Jun'25	Inlet - Acidic wastewater	<4.0	28.8	317	1572	24
	Inlet - Alkali wastewater	>10	520	435	1655	95
	Inlet - Emulsified wastewater	6.1	740	585	3641	120
	Outlet - Treated water	7.59	86	27.7	227	7
Jul'25	Inlet - Acidic wastewater	<4.0	10	178	1200	42
	Inlet - Alkali wastewater	>10	1240	440	2800	120
	Inlet - Emulsified wastewater	6.02	1680	610	4400	138
	Outlet - Treated water	6.89	52	24	218	7.8
Aug'25	Inlet - Pickling Rinse	<4.0	16	194	1408	18
	Inlet - Alkali wastewater	>10	1318	385	2631	108
	Inlet - Emulsified wastewater	5.50	1040	570	4655	240
	Outlet - Treated water	7.23	78	26	198	8
Sept'25	Inlet - Acidic wastewater	1.9	16.9	202	1290	40.2
	Inlet - Alkali wastewater	10.5	896	421	1800	105
	Inlet - Emulsified wastewater	5.99	989	488	2820	125
	Outlet - Treated water	7.1	66	21	224	6.9

Annexure-2 (Monitoring Report)

Inlet & Outlet Wastewater Quality Report of ETL Effluent Treatment Plant

Month	ETL Effluent Treatment Plant	pH	TSS (mg/l)	BOD (mg/l)	COD (mg/l)	O & G (mg/l)	Cr+6 (mg/l)	Total Cr (mg/l)
Apr'25	Inlet – CS5 Tank	8.0	320	48.5	326	18	<0.05	<0.03
	Inlet – CS6 Tank	<4.0	15	33.4	212	9.4	<0.05	15.8
	Outlet - Treated water	6.1	38	26.7	183	6.4	<0.05	<0.03
May'25	Inlet – CS5 Tank	<4.0	112	38.6	280	16	0.07	0.766
	Inlet – CS6 Tank	<4.0	86	36	240	18	0.08	21.6
	Outlet - Treated water	6.46	40	26	210	7.6	<0.05	0.12
Jun'25	Inlet – CS5 Tank	8.5	740	194	1241	21	0.09	40.36
	Inlet – CS6 Tank	<4.0	24	39.2	155	6.8	0.116	10.6
	Outlet - Treated water	7.78	52	22.3	206	7.4	<0.05	0.487
Jul'25	Inlet – CS5 Tank	<4.0	148	73.4	440	28	<0.05	0.852
	Inlet – CS6 Tank	<4.0	72	40	280	7.2	0.18	11.12
	Outlet - Treated water	6.22	68	25.8	194	6.8	<0.05	<0.03
Aug'25	Inlet – CS5 Tank	<4	58	42.8	323	14.6	<0.05	0.036
	Inlet – CS6 Tank	<4	68	46.8	319	24.8	0.58	22.5
	Outlet - Treated water	6.58	42	21.7	182	7.2	<0.05	0.045
Sept'25	Inlet – CS5 Tank	7.4	585	110	865	22.2	0.07	1.8
	Inlet – CS6 Tank	3.8	56	37	189	7.1	0.106	9.09
	Outlet - Treated water	7.23	48	20.2	199	6.9	<0.05	0.409

Treated Effluent Final Discharge (Based on NABL accredited Laboratory report)

Month	pH	TSS (mg/l)	BOD (mg/l)	COD (mg/l)	O & G (mg/l)	Cr+6 (mg/l)	Total Cr (mg/l)
Apr'25	6.88	64	17.4	167	5.4	<0.05	<0.03
May'25	7.21	36	24	194	6	<0.05	0.116
Jun'25	7.28	42.8	19.4	154	5.8	<0.05	0.41
Jul'25	6.68	52	16.4	182	6.2	<0.05	<0.03
Aug'25	6.6	34	21.4	174	7	<0.05	0.052
Sept'25	6.9	47	18.1	148	5.4	<0.05	<0.05

Online Treated Effluent Final Discharge Report

Parameter	Unit	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sept'25
pH	ug/m3	7.11	6.87	6.89	6.84	6.56	6.91
TSS	ug/m3	12.38	24.55	44.39	23.46	22.29	21.24

Note: - Monthly Average Data

Tata Steel Limited, Tinplate Division, Jamshedpur

Annexure-2 (Monitoring Report)

GROUNDWATER ANALYSIS REPORT (Pre-MONSOON)

(Based on NABL accredited Laboratory report)

Sl. No.	Parameters	UOM	Location Kadani road, Near Temple Sampling Date:22.04.2025	Location: Propane Yard Sampling Date: 22.04.2025
i	pH		7.26	6.58
ii	Conductivity	uS/cm	-	427
iii	TDS	mg/l	197	308
iv	Colour	Hazen	1.0	2.0
v	Chloride	mg/l	28.2	22.6
vi	Sulphate	mg/l	53.3	119
vii	Nitrate	mg/l	7.0	12.5
viii	Total Alkalinity	mg/l	89.3	113
ix	Fluoride	mg/l	<0.1	<0.1
x	Calcium as Ca	mg/l	31.4	45.5
xi	Oil and Grease	mg/l		<0.1
xii	Magnesium as Mg	mg/l	10.3	17.2
xiii	Potassium as K	mg/l	3.0	2.4
xiv	Cyanide as CN	mg/l	<0.012	<0.012
xv	Lead as Pb	mg/l	<0.01	<0.01
xvi	Cadmium as Cd	mg/l	<0.003	<0.003
xvii	Copper as Cu	mg/l	<0.03	<0.03
xviii	Manganese as Mn	mg/l	<0.05	<0.05
xix	Nickel as Ni	mg/l	<0.01	<0.01
xx	Zinc as Zn	mg/l	<0.1	<0.1
xxi	Mercury as Hg	mg/l	<0.001	<0.001
xxii	Arsenic as As	mg/l	<0.005	<0.005
xxiii	Iron as Fe	mg/l	0.054	0.218
xxiv	DDT	µg/l	<0.05	<0.05

TEST REPORT

Test Report No. : ELES/RNC/2025/6148	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500005987F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/AA/7522
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Near Analyser Room, Gate No.- 6
Plant Status	: Operational	Sampling Date	: 27.09.2025 to 28.09.2025
Period of Analysis	: 30.09.2025 to 09.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	: 56	4	Weather Condition	: Clear
5	Longitude	: 86°14'03.15"E	6	Latitude	: 22°47'33.58"N

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	72	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	40	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	14.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	27.1	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.010	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



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Dr. Deependra Kumar Sinha
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Technical Manager

Page 1 of 1

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TEST REPORT

Test Report No.	: ELES/RNC/2025/6149	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500005988F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/AA/7523
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Near CRM Solar Pond
Plant Status	: Operational	Sampling Date	: 29.09.2025 to 30.09.2025
Period of Analysis	: 30.09.2025 to 09.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 30		2	Barometric Pressure (mmHg) : 743	
3	Relative Humidity (%) : 58		4	Weather Condition : Clear	
5	Longitude : 86°14'03.56"E		6	Latitude : 22°47'48.04"N	

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	62	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec I): 2023	10.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	25.8	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.016	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)



Reviewed by

Akash Kumar

Quality Manager

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Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2025/6150	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500005989F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/AA/7524
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Near General Office Lawn
Plant Status	: Operational	Sampling Date	: 27.09.2025 to 28.09.2025
Period of Analysis	: 30.09.2025 to 09.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 29			2	Barometric Pressure (mmHg) : 743
3	Relative Humidity (%) : 56			4	Weather Condition : Clear
5	Longitude : 86°13'39.37"E			6	Latitude : 22°47'27.47"N

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	56	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	7.6	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	17.3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)



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Akash Kumar
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TEST REPORT

Test Report No. : ELES/RNC/2025/6151	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500005990F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/AA/7525
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Near Expansion Area
Plant Status	: Operational	Sampling Date	: 27.09.2025 to 28.09.2025
Period of Analysis	: 30.09.2025 to 09.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	: 56	4	Weather Condition	: Clear
5	Longitude	: 86°14'07.31"E	6	Latitude	: 22°47'34.07"N

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	77	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	43	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1): 2023	16.7	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	31.8	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.10	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part- 22): 2019	0.024	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)



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Quality Manager

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Technical Manager

Page 1 of 1

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"Save Environment, Save Future"

TEST REPORT

Test Report No.	: ELES/RNC/2025/6153	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500005992F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/FA/7530
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Coal Storage at Boiler
Plant Status	: Operational	Sampling Date	: 29.09.2025
Period of Analysis	: 30.09.2025 to 04.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Fugitive Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 744
3	Relative Humidity (%)	: 57	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result
Suspended Particulate Matter (SPM)	µg/m ³	IS 5182 (Part-4): 2019	283
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2/Sec1): 2023	13.5
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part-6): 2022	28.7



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
Dr. Deependra Kumar Sinha
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Technical Manager

TEST REPORT

Test Report No.	: ELES/RNC/2025/6154	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500005993F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/FA/7531
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Secondary Product Area
Plant Status	: Operational	Sampling Date	: 29.09.2025
Period of Analysis	: 30.09.2025 to 04.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Fugitive Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 29		2	Barometric Pressure (mmHg) : 744	
3	Relative Humidity (%) : 57		4	Weather Condition : Clear	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result
Suspended Particulate Matter (SPM)	µg/m ³	IS 5182 (Part-4): 2019	165
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2/Sec1): 2023	12.1
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part-6): 2022	25.8


Reviewed by
Akash Kumar
Quality Manager

****End of Report****


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TEST REPORT

Test Report No.	: ELES/RNC/2025/6155	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500005994F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7532
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: 6Hi-1 Mill Stack
Plant Status	: Operational	Sampling Date	: 29.09.2025
Period of Analysis	: 30.09.2025 to 06.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)	
1	Particular of the Plant : 6Hi-1
2	Emission Due to : Cold Rolling of Steel Coils
3	Stack Connected to : FES/Dust Catcher
4	Material of Construction of Stack : MS
5	Stack Height from Ground Level (m) : 30
6	Height of Sampling Port from Ground Level (m) : 25
7	Inner Diameter of Stack at Sampling Point (m) : 1.9
8	Shape of the Stack : Circular
9	Working Load of the Stack : N/A
10	Pollution Control System : Mist Eliminator/FES
11	Ladder & Platform : Permanent

FUEL CHARACTERISTICS DETAILS	
1	Type of Fuel Used : N/A
2	Fuel Consumption : N/A
3	Calorific Value of Fuel (Kcal/Kg) : N/A

TEST REPORT

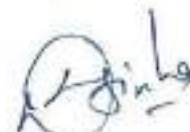
Test Report No. : ELES/RNC/2025/6155	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500005994F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	8
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	37
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	7.22
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	69298



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
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Technical Manager

TEST REPORT

Test Report No.	: ELES/RNC/2025/6156	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500005995F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7533
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: 6Hi-2 Mill Stack
Plant Status	: Operational	Sampling Date	: 29.09.2025
Period of Analysis	: 30.09.2025 to 06.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)		
1	Particular of the Plant	: 6Hi-2
2	Emission Due to	: Cold Rolling of Steel Coils
3	Stack Connected to	: FES/Dust Catcher
4	Material of Construction of Stack	: MS
5	Stack Height from Ground Level (m)	: 30
6	Height of Sampling Port from Ground Level (m)	: 10
7	Inner Diameter of Stack at Sampling Point (m)	: 2.15
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Mist Eliminator/FES
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A



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TEST REPORT

Test Report No. : ELES/RNC/2025/6156	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500005995F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	7
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	42
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	13.08
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	158458

Reviewed by
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Quality Manager

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha
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TEST REPORT

Test Report No.	: ELES/RNC/2025/6157	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500005996F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7534
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: ECL-1
Plant Status	: Operational	Sampling Date	: 29.09.2025
Period of Analysis	: 30.09.2025 to 06.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)		
1	Particular of the Plant	: ECL-1
2	Emission Due to	: Cleaning of Steel Coils
3	Stack Connected to	: Scrubber
4	Material of Construction of Stack	: MS
5	Stack Height from Ground Level (m)	: 30.0
6	Height of Sampling Port from Ground Level (m)	: 14.0
7	Inner Diameter of Stack at Sampling Point (m)	: 0.8
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

TEST REPORT

Test Report No. : ELES/RNC/2025/6157	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500005996F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	6
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	55
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	8.49
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	12034



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



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TEST REPORT

Test Report No. : ELES/RNC/2025/6158	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500005997F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7535
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: ECL-2
Plant Status	: Operational	Sampling Date	: 29.09.2025
Period of Analysis	: 30.09.2025 to 06.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)		
1	Particular of the Plant	: ECL-2
2	Emission Due to	: Cleaning of Steel Coils
3	Stack Connected to	: Scrubber
4	Material of Construction of Stack	: MS
5	Stack Height from Ground Level (m)	: 30.0
6	Height of Sampling Port from Ground Level (m)	: 14.0
7	Inner Diameter of Stack at Sampling Point (m)	: 0.9
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

TEST REPORT

Test Report No. : ELES/RNC/2025/6158	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500005997F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	8
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	55
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	8.93
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	15716



Reviewed by
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Quality Manager

****End of Report****



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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

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CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No.	: ELES/RNC/2025/6159	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500005998F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7536
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Temper Mill-1
		Sampling Date	: 28.09.2025
Plant Status	: Operational	Sample Received Date	: 30.09.2025
		Type of Sample	: Flue Gas
Period of Analysis	: 30.09.2025 to 06.10.2025	Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)

1	Particular of the Plant	: Temper Mill-1
2	Emission Due to	: Temper Rolling of Steel Coils
3	Stack Connected to	: FES/Dust Catcher
4	Material of Construction of Stack	: MS
5	Stack Height from Ground Level (m)	: 30
6	Height of Sampling Port from Ground Level (m)	: 24
7	Inner Diameter of Stack at Sampling Point (m)	: 1.4
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: FES/Dust Collector
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

TEST REPORT

Test Report No. : ELES/RNC/2025/6159	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500005998F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	11
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	42
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	6.06
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	31115



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
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Technical Manager

TEST REPORT

Test Report No.	: ELES/RNC/2025/6160	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500005999F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7537
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Temper Mill-2
Plant Status	: Operational	Sampling Date	: 28.09.2025
Period of Analysis	: 30.09.2025 to 06.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)	
1	Particular of the Plant : Temper Mill-2
2	Emission Due to : Temper Rolling of Steel Coils
3	Stack Connected to : FES/Dust Catcher
4	Material of Construction of Stack : MS
5	Stack Height from Ground Level (m) : 30
6	Height of Sampling Port from Ground Level (m) : 24
7	Inner Diameter of Stack at Sampling Point (m) : 2.0
8	Shape of the Stack : Circular
9	Working Load of the Stack : N/A
10	Pollution Control System : FES/Dust Collector
11	Ladder & Platform : Permanent

FUEL CHARACTERISTICS DETAILS	
1	Type of Fuel Used : N/A
2	Fuel Consumption : N/A
3	Calorific Value of Fuel (Kcal/Kg) : N/A

TEST REPORT

Test Report No. : ELES/RNC/2025/6160	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500005999F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	9
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	49
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	7.25
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	74251



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
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Technical Manager

TEST REPORT

Test Report No.	: ELES/RNC/2025/6161	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500006000F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7538
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Annealing - I
Plant Status	: Operational	Sampling Date	: 28.09.2025
Period of Analysis	: 30.09.2025 to 06.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)		
1	Particular of the Plant	: Annealing - I
2	Emission Due to	: Burning of Propane
3	Stack Connected to	: Annealing Furnace
4	Material of Construction of Stack	: MS
5	Stack Height from Ground Level (m)	: 30
6	Height of Sampling Port from Ground Level (m)	: 22
7	Inner Diameter of Stack at Sampling Point (m)	: 0.85
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: N/A
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: Propane Gas
2	Fuel Consumption	: 0.22 MT/Hr
3	Calorific Value of Fuel (Kcal/Kg)	: 11943

TEST REPORT

Test Report No. : ELES/RNC/2025/6161	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500006000F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	8
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	74
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	8.19
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	14029


Reviewed by
Akash Kumar
Quality Manager

****End of Report****


Authorised Signatory
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TEST REPORT

Test Report No.	: ELES/RNC/2025/6162	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500006001F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinsplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7539
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Annealing-2
Plant Status	: Operational	Sampling Date	: 28.09.2025
Period of Analysis	: 30.09.2025 to 06.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)

1	Particular of the Plant	: Annealing -2
2	Emission Due to	: Burning of Propane
3	Stack Connected to	: Annealing Furnace
4	Material of Construction of Stack	: MS
5	Stack Height from Ground Level (m)	: 30
6	Height of Sampling Port from Ground Level (m)	: 22.5
7	Inner Diameter of Stack at Sampling Point (m)	: 1.7
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: N/A
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: Propane Gas
2	Fuel Consumption	: 0.21 MT/Hr
3	Calorific Value of Fuel (Kcal/Kg)	: 11943

TEST REPORT

Test Report No. : ELES/RNC/2025/6162	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500006001F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	10
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	88
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	5.10
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	33561



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
Technical Manager

TEST REPORT

Test Report No.	: ELES/RNC/2025/6702	Report Release Date	: 30.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500006531F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7540
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Pickling- 1
Plant Status	: Operational	Sampling Date	: 30.09.2025
Period of Analysis	: 30.09.2025 to 08.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Fumes
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)

1	Particular of the Plant	: Pickling-1
2	Emission Due to	: Pickling of HR Coils
3	Stack Connected to	: Scrubber
4	Material of Construction of Stack	: PP/FRP
5	Stack Height from Ground Level (m)	: 30
6	Height of Sampling Port from Ground Level (m)	: 9
7	Inner Diameter of Stack at Sampling Point (m)	: 0.5
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

TEST REPORT

Test Report No. : ELES/RNC/2025/6702	Report Release Date : 30.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500006531F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	9
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	53
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	7.69
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	4364



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
Dr. Deependra Kumar Sinha
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Technical Manager

TEST REPORT

Test Report No. : ELES/RNC/2025/6702	Report Release Date : 30.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7540
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Pickling- 1
Plant Status	: Operational	Sampling Date	: 30.09.2025
Period of Analysis	: 30.09.2025 to 29.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Fumes
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)

1	Particular of the Plant	: Pickling-1
2	Emission Due to	: Pickling of HR Coils
3	Stack Connected to	: Scrubber
4	Material of Construction of Stack	: PP/FRP
5	Stack Height from Ground Level (m)	: 30
6	Height of Sampling Port from Ground Level (m)	: 9
7	Inner Diameter of Stack at Sampling Point (m)	: 0.5
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

TEST REPORT

Test Report No. : ELES/RNC/2025/6702	Report Release Date : 30.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Hydrogen Chloride (HCl)*	mg/Nm ³	USEPA Method- 26	11.16

Remarks: (*)-Parameters are outsourced to other Lab.



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
Dr. Deependra Kumar Sinha
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TEST REPORT

Test Report No.	: ELES/RNC/2025/6703	Report Release Date	: 30.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500006532F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7541
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Pickling- 2
Plant Status	: Operational	Sampling Date	: 30.09.2025
Period of Analysis	: 30.09.2025 to 08.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Fumes
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)

1	Particular of the Plant	: Pickling-2
2	Emission Due to	: Pickling of HR Coils
3	Stack Connected to	: Scrubber
4	Material of Construction of Stack	: PP/FRP
5	Stack Height from Ground Level (m)	: 30
6	Height of Sampling Port from Ground Level (m)	: 9
7	Inner Diameter of Stack at Sampling Point (m)	: 0.5
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

TEST REPORT

Test Report No. : ELES/RNC/2025/6703	Report Release Date : 30.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500006532F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	7
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	51
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	7.10
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	4048



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
Technical Manager



ENVIRONMENTAL LABORATORIES &

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TEST REPORT

Test Report No. : ELES/RNC/2025/6703	Report Release Date : 30.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7541
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Pickling- 2
		Sampling Date	: 30.09.2025
Plant Status	: Operational	Sample Received Date	: 30.09.2025
		Type of Sample	: Fumes
Period of Analysis	: 30.09.2025 to 29.10.2025	Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)

1	Particular of the Plant	: Pickling-2
2	Emission Due to	: Pickling of HR Coils
3	Stack Connected to	: Scrubber
4	Material of Construction of Stack	: PP/FRP
5	Stack Height from Ground Level (m)	: 30
6	Height of Sampling Port from Ground Level (m)	: 9
7	Inner Diameter of Stack at Sampling Point (m)	: 0.5
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A



CIN: U74999HR2018PTC011125

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TEST REPORT

Test Report No. : ELES/RNC/2025/6703	Report Release Date : 30.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Hydrogen Chloride (HCl)*	mg/Nm ³	USEPA Method- 26	16.23

Remarks: (*)-Parameters are outsourced to other Lab.

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

Authorized Signature
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
Technical Manager

TEST REPORT

Test Report No.	: ELES/RNC/2025/6704	Report Release Date	: 30.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500006533F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7542
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: ARP
Plant Status	: Operational	Sampling Date	: 29.09.2025
Period of Analysis	: 30.09.2025 to 08.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Fumes
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)		
1	Particular of the Plant	: ARP
2	Emission Due to	: Burning of Propane Gas
3	Stack Connected to	: Inbuilt Scrubber attached with Burner
4	Material of Construction of Stack	: FRP
5	Stack Height from Ground Level (m)	: 31.7
6	Height of Sampling Port from Ground Level (m)	: 15.9
7	Inner Diameter of Stack at Sampling Point (m)	: 0.6
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Inbuilt Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: Propane Gas
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

TEST REPORT

Test Report No. : ELES/RNC/2025/6704	Report Release Date : 30.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500006533F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	8
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	BDL (DL: 3.0)
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	BDL (DL: 2.0)
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	78
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	7.92
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	5666



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
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Technical Manager



CIN: U74999JH2018PTC011125

ENVIRONMENTAL LABORATORIES &

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TEST REPORT

Test Report No.	: ELES/RNC/2025/6704	Report Release Date	: 30.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7542
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: ARP
		Sampling Date	: 29.09.2025
Plant Status	: Operational	Sample Received Date	: 30.09.2025
		Type of Sample	: Fumes
Period of Analysis	: 30.09.2025 to 08.10.2025	Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)

1	Particular of the Plant	: ARP
2	Emission Due to	: Burning of Propane Gas
3	Stack Connected to	: Inbuilt Scrubber attached with Burner
4	Material of Construction of Stack	: FRP
5	Stack Height from Ground Level (m)	: 31.7
6	Height of Sampling Port from Ground Level (m)	: 15.9
7	Inner Diameter of Stack at Sampling Point (m)	: 0.6
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Inbuilt Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: Propane Gas
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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CIN: U74999JH2018PTC011125

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TEST REPORT

Test Report No. : ELES/RNC/2025/6704	Report Release Date : 30.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Hydrogen Chloride (HCl)*	mg/Nm ³	USEPA Method- 26	26.77

Remarks: (*)-Parameters are outsourced to other Lab.

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

Authorized Signatory
Dr. Deependra Kumar Sinha
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Technical Manager

TEST REPORT

Test Report No.	: ELES/RNC/2025/6163	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500006002F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7543
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Boiler Stack-1
Plant Status	: Operational	Sampling Date	: 30.09.2025
Period of Analysis	: 30.09.2025 to 08.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)

1	Particular of the Plant	: Boiler
2	Emission Due to	: Combustion of Coal
3	Stack Connected to	: Boiler Stack-01
4	Material of Construction of Stack	: M.S
5	Stack Height from Ground Level (m)	: 45
6	Height of Sampling Port from Ground Level (m)	: 25
7	Inner Diameter of Stack at Sampling Point (m)	: 1.4
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: ESP
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: Coal
2	Fuel Consumption	: 2.9 MT/Hr
3	Calorific Value of Fuel (Kcal/Kg)	: 3812



CIN: U74999JH2018PTC011125

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TC-11087

TEST REPORT

Test Report No. : ELES/RNC/2025/6163	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500006002F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	41
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	274
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	84
Carbon Monoxide (CO)	mg/Nm ³	USEPA 10B: 2017	49
Carbon Di- Oxide (CO ₂)	%	USEPA 3A: 2017	4.58
Oxygen (O ₂)	%	USEPA 3A: 2017	15.22
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	98
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	7.49
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	31089

Reviewed by
Akash Kumar
Quality Manager

****End of Report****

Authorised Signatory
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Technical Manager

Page 2 of 2

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"Save Environment, Save Future"

TEST REPORT

Test Report No.	: ELES/RNC/2025/6164	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500006003F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/SM/7544
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Location	: Boiler Stack-2
Plant Status	: Operational	Sampling Date	: 30.09.2025
Period of Analysis	: 30.09.2025 to 08.10.2025	Sample Received Date	: 30.09.2025
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed

GENERAL INFORMATION- (Data Provided by Customer)		
1	Particular of the Plant	: Boiler
2	Emission Due to	: Combustion of Coal
3	Stack Connected to	: Boiler Stack-02
4	Material of Construction of Stack	: M.S
5	Stack Height from Ground Level (m)	: 45
6	Height of Sampling Port from Ground Level (m)	: 22
7	Inner Diameter of Stack at Sampling Point (m)	: 1.2
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: ESP
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: Coal
2	Fuel Consumption	: 2.4 MT/Hr
3	Calorific Value of Fuel (Kcal/Kg)	: 3812

TEST REPORT

Test Report No. : ELES/RNC/2025/6164	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500006003F	

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part-1): 2019	35
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	US EPA 6C: 2017	249
Oxides of Nitrogen (NO _x)	mg/Nm ³	US EPA 7E: 2020	73
Carbon Monoxide (CO)	mg/Nm ³	USEPA 10B: 2017	38
Carbon Di- Oxide (CO ₂)	%	USEPA 3A: 2017	4.85
Oxygen (O ₂)	%	USEPA 3A: 2017	15.14
Flue Gas Temperature	°C	IS 11255 (Part-3): 2018	84
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	6.94
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2018	22133



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
Technical Manager

TEST REPORT

Test Report No. : ELES/RNC/2025/6152	Report Release Date : 09.10.2025
Work Order No. : 3000183177/T01	Work Order Date : 24.07.2025
ULR No. : TC135872500005991F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sampling Date	: 27.09.2025 to 28.09.2025
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Sampling Received Date	: 30.09.2025
Plant Status	: Operational	Type of Sample	: Ambient Noise
		Sampling procedure	: ELES/DOC/SMPL/03
		Sampling Done By	: ELES Pvt. Ltd.
		Period of Analysis	: 30.09.2025 to 03.10.2025

METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg) : 743
3	Relative Humidity (%) : 56	4	Weather Condition : Clear

Discipline : Chemical			Group : Atmospheric Pollution		
Location	Unit	Test Protocol	Result		Regulatory Limit (Industrial Zone)
Near General Office Lawn	dB(A)	IS 9989: 2020	Time	L _{eq}	75 dB(A) Day Time & 70 dB(A) Night Time
Sample ID: ELES/RNC/2025/AN/7526			Day Time	56	
Latitude:22°47'27.47"N			Night Time	45	
Near CRM Solar Pond	dB(A)	IS 9989: 2020	Time	L _{eq}	
Sample ID: ELES/RNC/2025/AN/7527			Day Time	63	
Latitude:22°47'48.04"N			Night Time	47	
Near Analyser Room, Gate No.06	dB(A)	IS 9989: 2020	Time	L _{eq}	
Sample ID: ELES/RNC/2025/AN/7528			Day Time	64	
Latitude:22°47'33.58"N			Night Time	49	

TEST REPORT

Test Report No.	: ELES/RNC/2025/6152	Report Release Date	: 09.10.2025
Work Order No.	: 3000183177/T01	Work Order Date	: 24.07.2025
ULR No.	: TC135872500005991F		

Discipline : Chemical			Group : Atmospheric Pollution		
Location	Unit	Test Protocol	Result		Regulatory Limit (Industrial Zone)
Near Expansion Area	dB(A)	IS 9989: 2020	Time	L _{eq}	75 dB(A) Day Time & 70 dB(A) Night Time
Sample ID: ELES/RNC/2025/AN/7529			Day Time	69	
Latitude: 22°47'34.07"N			Night Time	52	
Longitude : 86°14'07.31"E					



Reviewed by
Akash Kumar
Quality Manager

****End of Report****



Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
Technical Manager



Test Report No. INCHE25094141023121152

Report Issue Date: 11 Oct 2025

TEST REPORT

Report Issued To: Tata Steel Ltd., Tinplate Division			
GOLMURI WORKS, TINPLATE, GOLMURI, , EAST SINGHBHUM,, JHARKHAND - Pin 831003, India			
Discipline :	Chemical	Group :	Pollution and Environment
BV Sample ID :	2594916	Sample receipt date :	01 Oct 2025
Sample Name** :	Effluent Water	Date of registration :	01 Oct 2025
Physical Description :	Clear liquid	Date of commencing of testing :	01 Oct 2025
Sample condition on receipt :	Good	Date of completion of testing :	10 Oct 2025
Sample quantity / Package** :	1Ltr X 2Nos		
Sample Information:	Sampling Done by Laboratory		
Sampling procedure :	BV/SAR/F/SOP/001	Date of sampling / collection :	26 Sep 2025
Sampling location :	CRM WWTP Inlet Water (Pickling Rinse Tank)	Sampling / Collection done by :	Mr. Vishal Rajak

No.	Test Parameters	Unit	Test Results	Test Method	LOQ
1	Total Suspended Solids	mg/L	16.9	APHA 24th Edn-2540D	1
2	pH Value	-	1.9	APHA 24th Edn-4500H+ B	1
3	Chemical Oxygen Demand	mg/L	1290	APHA 24th-5220 C	5
4	Bio-Chemical Oxygen Demand - 27°C/3 days	mg/L	202	IS 3025 Part 44 2023	1
5	Oil and Grease	mg/L	40.2	APHA 24th Edn- 5520 O&GB	2
6	Ammonical Nitrogen as N	mg/L	29.2	APHA 24th Edn- 4500NH3 B, C	1
7	Cadmium as Cd	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
8	Copper as Cu	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
9	Cyanide as CN	mg/L	BLQ	APHA 24th - 4500CN C, E	0.01
10	Hexavalent Chromium as Cr ⁶⁺	mg/L	0.09	APHA 24th Edn- 3500CrB	0.05
11	Total Chromium as Cr	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
12	Iron as Fe	mg/L	45.2	APHA 24th Ed. 3120 B	0.05
13	Lead as Pb	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
14	Nickel as Ni	mg/L	0.401	APHA 24th Ed. 3120 B	0.05
15	Free Residual Chlorine	mg/L	2.4	APHA 24th Ed. 4500 Cl-B	1
16	Temperature	°C	42	APHA 24th Edn-2550 B	0
17	Zinc as Zn	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
18	Total Dissolved Solids	mg/L	4500	APHA 24th Ed. 2540 C	1

Abbreviations: LOQ: Limit of Quantification, BLQ: Below limit of quantification

** Indicates information supplied by the customer for which the laboratory has no control

Note: SAMPLE TESTED AS RECEIVED

Authorized Signatory

M.Ramesh

Manager



Test Report No. INCHE25094141023121152

Report Issue Date: 11 Oct 2025

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--- End of Report ---



Test Report No. INCHE25094141023121200

Report Issue Date: 11 Oct 2025

TEST REPORT

Report Issued To: Tata Steel Ltd., Tinplate Division			
GOLMURI WORKS, TINPLATE, GOLMURI, , EAST SINGHBHUM,, JHARKHAND - Pin 831003, India			
Discipline :	Chemical	Group :	Pollution and Environment
BV Sample ID :	2594917	Sample receipt date :	01 Oct 2025
Sample Name** :	Effluent Water	Date of registration :	01 Oct 2025
Physical Description :	Turbid liquid	Date of commencing of testing :	01 Oct 2025
Sample condition on receipt :	Good	Date of completion of testing :	10 Oct 2025
Sample quantity / Package** :	1Ltr X 2Nos		
Sample Information:	Sampling Done by Laboratory		
Sampling procedure :	BV/SAR/F/SOP/001	Date of sampling / collection :	26 Sep 2025
Sampling location :	CRM WWTP Inlet (Alkali Waste Water Tank)	Sampling / Collection done by :	Mr. Vishal Rajak

No.	Test Parameters	Unit	Test Results	Test Method	LOQ
1	Total Suspended Solids	mg/L	896	APHA 24th Edn-2540D	1
2	pH Value	-	10.5	APHA 24th Edn-4500H+ B	1
3	Chemical Oxygen Demand	mg/L	1800	APHA 24th-5220 C	5
4	Bio-Chemical Oxygen Demand - 27°C/3 days	mg/L	421	IS 3025 Part 44 2023	1
5	Oil and Grease	mg/L	105	APHA 24th Edn- 5520 O&GB	2
6	Ammonical Nitrogen as N	mg/L	54	APHA 24th Edn- 4500NH3 B, C	1
7	Cadmium as Cd	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
8	Copper as Cu	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
9	Cyanide as CN	mg/L	BLQ	APHA 24th - 4500CN C, E	0.01
10	Hexavalent Chromium as Cr ⁶⁺	mg/L	BLQ	APHA 24th Edn- 3500CrB	0.05
11	Total Chromium as Cr	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
12	Iron as Fe	mg/L	0.72	APHA 24th Ed. 3120 B	0.05
13	Lead as Pb	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
14	Nickel as Ni	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
15	Free Residual Chlorine	mg/L	3.5	APHA 24th Ed. 4500 Cl-B	1
16	Temperature	°C	41	APHA 24th Edn-2550 B	0
17	Zinc as Zn	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
18	Total Dissolved Solids	mg/L	3200	APHA 24th Ed. 2540 C	1

Abbreviations: LOQ: Limit of Quantification, BLQ: Below limit of quantification

** Indicates information supplied by the customer for which the laboratory has no control

Note: SAMPLE TESTED AS RECEIVED

Authorized Signatory

M.Ramesh

Manager



Test Report No. INCHE25094141023121200

Report Issue Date: 11 Oct 2025

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--- End of Report ---



Test Report No. INCHE25094141023121211

Report Issue Date: 11 Oct 2025

TEST REPORT

Report Issued To: Tata Steel Ltd., Tinplate Division			
GOLMURI WORKS, TINPLATE, GOLMURI, , EAST SINGHBHUM,, JHARKHAND - Pin 831003, India			
Discipline :	Chemical	Group :	Pollution and Environment
BV Sample ID :	2594918	Sample receipt date :	01 Oct 2025
Sample Name** :	Effluent Water	Date of registration :	01 Oct 2025
Physical Description :	Dark coloured turbid liquid	Date of commencing of testing :	01 Oct 2025
Sample condition on receipt :	Good	Date of completion of testing :	10 Oct 2025
Sample quantity / Package** :	1Ltr X 2Nos		
Sample Information:	Sampling Done by Laboratory		
Sampling procedure :	BV/SAR/F/SOP/001	Date of sampling / collection :	26 Sep 2025
Sampling location :	CRM WWTP Inlet Water (Emulsion Tank)	Sampling / Collection done by :	Mr. Vishal Rajak

No.	Test Parameters	Unit	Test Results	Test Method	LOQ
1	Total Suspended Solids	mg/L	989	APHA 24th Edn-2540D	1
2	pH Value	-	5.99	APHA 24th Edn-4500H+ B	1
3	Chemical Oxygen Demand	mg/L	2820	APHA 24th-5220 C	5
4	Bio-Chemical Oxygen Demand - 27°C/3 days	mg/L	488	IS 3025 Part 44 2023	1
5	Oil and Grease	mg/L	125	APHA 24th Edn- 5520 O&GB	2
6	Ammonical Nitrogen as N	mg/L	40.2	APHA 24th Edn- 4500NH3 B, C	1
7	Cadmium as Cd	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
8	Copper as Cu	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
9	Cyanide as CN	mg/L	BLQ	APHA 24th - 4500CN C, E	0.01
10	Hexavalent Chromium as Cr ⁶⁺	mg/L	BLQ	APHA 24th Edn- 3500CrB	0.05
11	Total Chromium as Cr	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
12	Iron as Fe	mg/L	11.4	APHA 24th Ed. 3120 B	0.05
13	Lead as Pb	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
14	Nickel as Ni	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
15	Free Residual Chlorine	mg/L	3.1	APHA 24th Ed. 4500 Cl-B	1
16	Temperature	°C	33	APHA 24th Edn-2550 B	0
17	Zinc as Zn	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
18	Total Dissolved Solids	mg/L	498	APHA 24th Ed. 2540 C	1

Abbreviations: LOQ: Limit of Quantification, BLQ: Below limit of quantification

** Indicates information supplied by the customer for which the laboratory has no control

Note: SAMPLE TESTED AS RECEIVED

Authorized Signatory

M. Ramesh

Manager



Test Report No. INCHE25094141023121211

Report Issue Date: 11 Oct 2025

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--- End of Report ---



Test Report No. INCHE25094141023121135

Report Issue Date: 11 Oct 2025

TEST REPORT

Report Issued To: Tata Steel Ltd., Tinplate Division			
GOLMURI WORKS, TINPLATE, GOLMURI, , EAST SINGHBHUM,, JHARKHAND - Pin 831003, India			
Discipline :	Chemical	Group :	Pollution and Environment
BV Sample ID :	2594914	Sample receipt date :	01 Oct 2025
Sample Name** :	Effluent Water	Date of registration :	01 Oct 2025
Physical Description :	Effluent Water	Date of commencing of testing :	01 Oct 2025
Sample condition on receipt :	Good	Date of completion of testing :	10 Oct 2025
Sample quantity / Package** :	1Ltr X 2Nos		
Sample Information:	Sampling Done by Laboratory		
Sampling procedure :	BV/SAR/F/SOP/001	Date of sampling / collection :	26 Sep 2025
Sampling location :	CRM WWTP Outlet Water	Sampling / Collection done by :	Mr. Vishal Rajak

No.	Test Parameters	Unit	Test Results	Test Method	LOQ
1	Total Suspended Solids	mg/L	66	APHA 24th Edn-2540D	1
2	pH Value	-	7.1	APHA 24th Edn-4500H+ B	1
3	ChemicalOxygen Demand	mg/L	224	APHA 24th-5220 C	5
4	Bio-Chemical Oxygen Demand - 27°C/3 days	mg/L	21	IS 3025 Part 44 2023	1
5	Oil and Grease	mg/L	6.9	APHA 24th Edn- 5520 O&GB	2
6	Ammonical Nitrogen as N	mg/L	18.9	APHA 24th Edn- 4500NH3 B, C	1
7	Cadmium as Cd	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
8	Copper as Cu	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
9	Cyanide as CN	mg/L	BLQ	APHA 24th - 4500CN C, E	0.01
10	Hexavalent Chromium as Cr ⁶⁺	mg/L	BLQ	APHA 24th Edn- 3500CrB	0.05
11	Total Chromium as Cr	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
12	Iron as Fe	mg/L	1.01	APHA 24th Ed. 3120 B	0.05
13	Lead as Pb	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
14	Nickel as Ni	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
15	Free Residual Chlorine	mg/L	BLQ	APHA 24th Ed. 4500 Cl-B	1
16	Temperature	°C	35	APHA 24th Edn-2550 B	0
17	Zinc as Zn	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
18	Total Dissolved Solids	mg/L	1420	APHA 24th Ed. 2540 C	1

Abbreviations: LOQ: Limit of Quantification, BLQ: Below limit of quantification

** Indicates information supplied by the customer for which the laboratory has no control

Note: SAMPLE TESTED AS RECEIVED

Authorized Signatory

M.Ramesh

Manager



Test Report No. INCHE25094141023121135

Report Issue Date: 11 Oct 2025

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--- End of Report ---



Test Report No. INCHE25094141023121221

Report Issue Date: 11 Oct 2025

TEST REPORT

Report Issued To: Tata Steel Ltd., Tinplate Division			
GOLMURI WORKS, TINPLATE, GOLMURI, , EAST SINGHBHUM,, JHARKHAND - Pin 831003, India			
Discipline :	Chemical	Group :	Pollution and Environment
BV Sample ID :	2594919	Sample receipt date :	01 Oct 2025
Sample Name** :	Effluent Water	Date of registration :	01 Oct 2025
Physical Description :	Turbid liquid	Date of commencing of testing :	01 Oct 2025
Sample condition on receipt :	Good	Date of completion of testing :	10 Oct 2025
Sample quantity / Package** :	1Ltr X 2Nos		
Sample Information:	Sampling Done by Laboratory		
Sampling procedure :	BV/SAR/F/SOP/001	Date of sampling / collection :	26 Sep 2025
Sampling location :	ETL ETP Inlet Water (CS-5 Tank)	Sampling / Collection done by :	Mr. Vishal Rajak

No.	Test Parameters	Unit	Test Results	Test Method	LOQ
1	Total Suspended Solids	mg/L	585	APHA 24th Edn-2540D	1
2	pH Value	-	7.4	APHA 24th Edn-4500H+ B	1
3	Chemical Oxygen Demand	mg/L	865	APHA 24th-5220 C	5
4	Bio-Chemical Oxygen Demand - 27°C/3 days	mg/L	110	IS 3025 Part 44 2023	1
5	Oil and Grease	mg/L	22.2	APHA 24th Edn- 5520 O&GB	2
6	Ammonical Nitrogen as N	mg/L	18.9	APHA 24th Edn- 4500NH3 B, C	1
7	Cadmium as Cd	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
8	Copper as Cu	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
9	Cyanide as CN	mg/L	BLQ	APHA 24th - 4500CN C, E	0.01
10	Hexavalent Chromium as Cr ⁶⁺	mg/L	0.07	APHA 24th Edn- 3500CrB	0.05
11	Total Chromium as Cr	mg/L	1.8	APHA 24th Ed. 3120 B	0.05
12	Iron as Fe	mg/L	19.1	APHA 24th Ed. 3120 B	0.05
13	Lead as Pb	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
14	Nickel as Ni	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
15	Free Residual Chlorine	mg/L	2.5	APHA 24th Ed. 4500 Cl-B	1
16	Temperature	°C	36	APHA 24th Edn-2550 B	0
17	Zinc as Zn	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
18	Total Dissolved Solids	mg/L	2897	APHA 24th Ed. 2540 C	1

Abbreviations: LOQ: Limit of Quantification, BLQ: Below limit of quantification

** Indicates information supplied by the customer for which the laboratory has no control

Note: SAMPLE TESTED AS RECEIVED

Authorized Signatory

M.Ramesh

Manager



Test Report No. INCHE25094141023121221

Report Issue Date: 11 Oct 2025

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--- End of Report ---



Test Report No. INCHE25094141023121230

Report Issue Date: 11 Oct 2025

TEST REPORT

Report Issued To: Tata Steel Ltd., Tinplate Division			
GOLMURI WORKS, TINPLATE, GOLMURI, , EAST SINGHBHUM,, JHARKHAND - Pin 831003, India			
Discipline :	Chemical	Group :	Pollution and Environment
BV Sample ID :	2594920	Sample receipt date :	01 Oct 2025
Sample Name** :	Effluent Water	Date of registration :	01 Oct 2025
Physical Description :	Turbid liquid	Date of commencing of testing :	01 Oct 2025
Sample condition on receipt :	Good	Date of completion of testing :	10 Oct 2025
Sample quantity / Package** :	1Ltr X 2Nos		
Sample Information:	Sampling Done by Laboratory		
Sampling procedure :	BV/SAR/F/SOP/001	Date of sampling / collection :	26 Sep 2025
Sampling location :	ETL ETP Inlet Water (CS-6 Tank)	Sampling / Collection done by :	Mr. Vishal Rajak

No.	Test Parameters	Unit	Test Results	Test Method	LOQ
1	Total Suspended Solids	mg/L	56	APHA 24th Edn-2540D	1
2	pH Value	-	3.8	APHA 24th Edn-4500H+ B	1
3	Chemical Oxygen Demand	mg/L	189	APHA 24th-5220 C	5
4	Bio-Chemical Oxygen Demand - 27°C/3 days	mg/L	37	IS 3025 Part 44 2023	1
5	Oil and Grease	mg/L	7.1	APHA 24th Edn- 5520 O&GB	2
6	Ammonical Nitrogen as N	mg/L	9.2	APHA 24th Edn- 4500NH3 B, C	1
7	Cadmium as Cd	mg/L	0.11	APHA 24th Ed. 3120 B	0.05
8	Copper as Cu	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
9	Cyanide as CN	mg/L	BLQ	APHA 24th - 4500CN C, E	0.01
10	Hexavalent Chromium as Cr ⁶⁺	mg/L	0.106	APHA 24th Edn- 3500CrB	0.05
11	Total Chromium as Cr	mg/L	9.09	APHA 24th Ed. 3120 B	0.05
12	Iron as Fe	mg/L	0.450	APHA 24th Ed. 3120 B	0.05
13	Lead as Pb	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
14	Nickel as Ni	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
15	Free Residual Chlorine	mg/L	2.1	APHA 24th Ed. 4500 Cl-B	1
16	Temperature	°C	33	APHA 24th Edn-2550 B	0
17	Zinc as Zn	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
18	Total Dissolved Solids	mg/L	987	APHA 24th Ed. 2540 C	1

Abbreviations: LOQ: Limit of Quantification, BLQ: Below limit of quantification

** Indicates information supplied by the customer for which the laboratory has no control

Note: SAMPLE TESTED AS RECEIVED

Authorized Signatory

M.Ramesh

Manager



Test Report No. INCHE25094141023121230

Report Issue Date: 11 Oct 2025

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--- End of Report ---



Test Report No. INCHE25094141023121123

Report Issue Date: 11 Oct 2025

TEST REPORT

Report Issued To: Tata Steel Ltd., Tinplate Division			
GOLMURI WORKS, TINPLATE, GOLMURI, , EAST SINGHBHUM,, JHARKHAND - Pin 831003, India			
Discipline :	Chemical	Group :	Pollution and Environment
BV Sample ID :	2594913	Sample receipt date :	01 Oct 2025
Sample Name** :	Effluent Water	Date of registration :	01 Oct 2025
Physical Description :	Turbid liquid	Date of commencing of testing :	01 Oct 2025
Sample condition on receipt :	Good	Date of completion of testing :	10 Oct 2025
Sample quantity / Package** :	1Ltr X 2Nos		
Sample Information:	Sampling Done by Laboratory		
Sampling procedure :	BV/SAR/F/SOP/001	Date of sampling / collection :	26 Sep 2025
Sampling location :	ETL ETP Outlet Water	Sampling / Collection done by :	Mr. Vishal Rajak

No.	Test Parameters	Unit	Test Results	Test Method	LOQ
1	Total Suspended Solids	mg/L	48	APHA 24th Edn-2540D	1
2	pH Value	-	7.23	APHA 24th Edn-4500H+ B	1
3	ChemicalOxygen Demand	mg/L	199	APHA 24th-5220 C	5
4	Bio-Chemical Oxygen Demand - 27°C/3 days	mg/L	20.2	IS 3025 Part 44 2023	1
5	Oil and Grease	mg/L	6.9	APHA 24th Edn- 5520 O&GB	2
6	Ammonical Nitrogen as N	mg/L	15.5	APHA 24th Edn- 4500NH3 B, C	1
7	Cadmium as Cd	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
8	Copper as Cu	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
9	Cyanide as CN	mg/L	BLQ	APHA 24th - 4500CN C, E	0.01
10	Hexavalent Chromium as Cr ⁶⁺	mg/L	BLQ	APHA 24th Edn- 3500CrB	0.05
11	Total Chromium as Cr	mg/L	0.409	APHA 24th Ed. 3120 B	0.05
12	Iron as Fe	mg/L	0.656	APHA 24th Ed. 3120 B	0.05
13	Lead as Pb	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
14	Nickel as Ni	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
15	Free Residual Chlorine	mg/L	BLQ	APHA 24th Ed. 4500 Cl-B	1
16	Temperature	°C	33.8	APHA 24th Edn-2550 B	0
17	Zinc as Zn	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
18	Total Dissolved Solids	mg/L	2050	APHA 24th Ed. 2540 C	1

Abbreviations: LOQ: Limit of Quantification, BLQ: Below limit of quantification

** Indicates information supplied by the customer for which the laboratory has no control

Note: SAMPLE TESTED AS RECEIVED

Authorized Signatory

M.Ramesh

Manager



Test Report No. INCHE25094141023121123

Report Issue Date: 11 Oct 2025

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--- End of Report ---



Test Report No. INCHE25094141023121143

Report Issue Date: 11 Oct 2025

TEST REPORT

Report Issued To: Tata Steel Ltd., Tinplate Division			
GOLMURI WORKS, TINPLATE, GOLMURI, , EAST SINGHBHUM,, JHARKHAND - Pin 831003, India			
Discipline :	Chemical	Group :	Pollution and Environment
BV Sample ID :	2594915	Sample receipt date :	01 Oct 2025
Sample Name** :	Effluent Water	Date of registration :	01 Oct 2025
Physical Description :	Turbid liquid	Date of commencing of testing :	01 Oct 2025
Sample condition on receipt :	Good	Date of completion of testing :	10 Oct 2025
Sample quantity / Package** :	1Ltr X 2Nos		
Sample Information:	Sampling Done by Laboratory		
Sampling procedure :	BV/SAR/F/SOP/001	Date of sampling / collection :	26 Sep 2025
Sampling location :	Treated Final Discharge Water (Kadani Drain)	Sampling / Collection done by :	Mr. Vishal Rajak

No.	Test Parameters	Unit	Test Results	Test Method	LOQ
1	Total Suspended Solids	mg/L	47	APHA 24th Edn-2540D	1
2	pH Value	-	6.9	APHA 24th Edn-4500H+ B	1
3	Chemical Oxygen Demand	mg/L	148	APHA 24th-5220 C	5
4	Bio-Chemical Oxygen Demand - 27°C/3 days	mg/L	18.1	IS 3025 Part 44 2023	1
5	Oil and Grease	mg/L	5.4	APHA 24th Edn- 5520 O&GB	2
6	Ammonical Nitrogen as N	mg/L	9.2	APHA 24th Edn- 4500NH3 B, C	1
7	Cadmium as Cd	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
8	Copper as Cu	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
9	Cyanide as CN	mg/L	BLQ	APHA 24th - 4500CN C, E	0.01
10	Hexavalent Chromium as Cr ⁶⁺	mg/L	BLQ	APHA 24th Edn- 3500CrB	0.05
11	Total Chromium as Cr	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
12	Iron as Fe	mg/L	0.062	APHA 24th Ed. 3120 B	0.05
13	Lead as Pb	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
14	Nickel as Ni	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
15	Free Residual Chlorine	mg/L	BLQ	APHA 24th Ed. 4500 Cl-B	1
16	Temperature	°C	33	APHA 24th Edn-2550 B	0
17	Zinc as Zn	mg/L	BLQ	APHA 24th Ed. 3120 B	0.05
18	Total Dissolved Solids	mg/L	1262	APHA 24th Ed. 2540 C	1

Abbreviations: LOQ: Limit of Quantification, BLQ: Below limit of quantification

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Note: SAMPLE TESTED AS RECEIVED

Authorized Signatory

M.Ramesh

Manager



Test Report No. INCHE25094141023121143

Report Issue Date: 11 Oct 2025

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--- End of Report ---

TEST REPORT

Test Report No. : ELES/RNC/2025/3116	Report Release Date : 10.05.2025
Work Order No. : 3000175731/T01	Work Order Date : 16.09.2024
ULR No. : TC1358725000003048F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/GW/3505
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Sampling Date	: 22.04.2025
Plant Status	: Operational	Sample Received Date	: 25.04.2025
Period of Analysis	: 25.04.2025 to 09.05.2025	Type of Sample	: Ground Water
		Source of Sample	: Well
		Location of Sample	: Kadani Road
		Sampling Procedure	: ELES/DOC/SMPL/01
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 20.0 °C)	-	APHA 24 th Ed.2023, 4500-H ⁺	7.26	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24 th Ed.2023, 2130B	0.56	1.0	5.0
Colour	Hazen	APHA 24 th Ed.2023, 2120B&D	1.0	5.0	15
Odour	-	IS 3025 (Part-5) : 2018	Agreeable	Agreeable	Agreeable
Taste	-	APHA 24 th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Total Dissolved Solids (TDS)	mg/L	APHA 24 th Ed.2023, 2540B,C&D	197	500	2000
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23): 2023	89.3	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24 th Ed.2023, 2340 C	121	200	600
Chloride (as Cl)	mg/L	APHA 24 th Ed.2023, 4500 Cl-B	28.2	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Sulphate (as SO ₄)	mg/L	APHA 24 th Ed.2023, 4500 SO ₄ ²⁻ -E	53.3	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	7.0	45	No Relaxation

TEST REPORT

Test Report No. : ELES/RNC/2025/3116	Report Release Date : 10.05.2025
Work Order No. : 3000175731/T01	Work Order Date : 16.09.2024
ULR No. : TC1358725000003048F	

Discipline : Chemical		Group : Water		Regulatory Limit as per IS:10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43/Sec1): 2022	BDL (DL:0.001)	0.001	0.002
Residual Free Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2(Min)	1.0(Min)
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	31.4	75	200
Potassium (as K)	mg/L	APHA 24 th Ed.2023, 3500K-B	3.0	--	--
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemical		Group : Residues in Water			
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003;RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	0.5	2.4
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Copper (as Cu)	mg/L	IS 3025 (Part 42): 2019	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24 th Ed.2023, 3111B	0.054	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.05)	0.1	0.3
Magnesium (as Mg)	mg/L	IS 3025(Part-46): 2023	10.3	30	100
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation

TEST REPORT

Test Report No. : ELES/RNC/2025/3116	Report Release Date : 10.05.2025
Work Order No. : 3000175731/T01	Work Order Date : 16.09.2024
ULR No. : TC1358725000003048F	

Discipline : Chemical		Group : Residues in Water		Regulatory Limit as per IS:10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Nickel (as Ni)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.01)	0.02	No Relaxation
Selenium (as Se)	mg/L	IS 3025(Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxation
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.1)	5.0	15
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	0.1	No Relaxation
Polychlorinated biphenyls (PCB)	µg/L	ELES/GC/SOP/03: 2023	BDL (DL: 0.1)	0.5	No Relaxation
Pesticides				Limit	
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	20	
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Butachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125	
Chlorpyrifos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	30	
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3.0	
Malathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	190	
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	0.30	
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1.0	
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Phorate Sulphone	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	--	

TEST REPORT

Test Report No. : ELES/RNC/2025/3116	Report Release Date : 10.05.2025
Work Order No. : 3000175731/T01	Work Order Date : 16.09.2024
ULR No. : TC1358725000003048F	

Discipline : Chemical		Group : Residues in Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Pesticides				Limit	
Dieldrin	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	0.03	
Alpha HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	0.01	
Beta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04	
Delta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04	
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	2.0	
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40	
DDT(o,p and p,p-isomers of DDT) (DDE and DDD)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0	
Discipline : Biological		Group : Water			
Total Coliform (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	Shall not be Detected	
Escherichia coli (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected		

Remarks: pH & RFC done at site.



****End of Report****


Authorised Signatory
Akash Kumar
Quality Manager

TEST REPORT

Test Report No. : ELES/RNC/2025/3115	Report Release Date : 10.05.2025
Work Order No. : 3000175731/T01	Work Order Date : 16.09.2024
ULR No. : TC1358725000003047F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Tata Steel Limited, Tinplate Division (Golmuri Works)	Sample Ref. No.	: ELES/RNC/2025/GW/3504
Address	: Golmuri, Jamshedpur, Dist- East Singhbhum, Jharkhand, Pin- 831003	Sampling Date	: 22.04.2025
Plant Status	: Operational	Sample Received Date	: 25.04.2025
Period of Analysis	: 25.04.2025 to 09.05.2025	Type of Sample	: Ground Water
		Source of Sample	: Borewell
		Location of Sample	: Propane Yard
		Sampling Procedure	: ELES/DOC/SMPL/01
		Sampling Done By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 20.0 °C)	-	APHA 24 th Ed.2023, 4500-H ⁺	6.58	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24 th Ed.2023, 2130B	3.78	1.0	5.0
Conductivity (at 24.7 °C)	µS/cm	APHA 24 th Ed.2023, 2510-B	427	--	--
Colour	Hazen	APHA 24 th Ed.2023, 2120B&D	2.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24 th Ed.2023, 2540B,C&D	308	500	2000
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23): 2023	113	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24 th Ed.2023, 2340 C	184	200	600
Chloride (as Cl)	mg/L	APHA 24 th Ed.2023, 4500 Cl-B	22.6	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Chemical Oxygen Demand (COD)	mg/L	APHA 24 th Ed.2023, 5220B	BDL (DL: 4.0)	--	--
Biochemical Oxygen Demand (BOD) @ 20 C for 5 days	mg/L	APHA 24 th Ed.2023, 5210B	BDL (DL: 1.0)	--	--

TEST REPORT

Test Report No. : ELES/RNC/2025/3115	Report Release Date : 10.05.2025
Work Order No. : 3000175731/T01	Work Order Date : 16.09.2024
ULR No. : TC1358725000003047F	

Discipline : Chemical		Group : Water		Regulatory Limit as per IS:10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Oil & Grease	mg/L	APHA 24 th Ed.2023, 5520B	BDL (DL: 0.1)	--	--
Sulphate (as SO ₄)	mg/L	APHA 24 th Ed.2023, 4500 SO ₄ ⁻² -E	119	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	12.5	45	No Relaxation
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	45.5	75	200
Residual Free Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2(Min)	1.0(Min)
Sodium (as Na)	mg/L	APHA 24 th Ed.2023, 3500Na-B	8.8	--	--
Potassium (as K)	mg/L	APHA 24 th Ed.2023, 3500K-B	2.4	--	--
Phosphate (as P)	mg/L	APHA 24 th Ed.2023, 4500-P D	BDL (DL: 0.5)	--	--
Discipline : Chemical		Group : Residues in Water			
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	IS 3025 (Part 42): 2019	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24 th Ed.2023, 3111B	0.218	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.05)	0.1	0.3

TEST REPORT

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Discipline : Chemical		Group : Residues in Water		Regulatory Limit as per IS:10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Magnesium (as Mg)	mg/L	IS 3025(Part-46): 2023	17.2	30	100
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Nickel (as Ni)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.01)	0.02	No Relaxation
Zinc (as Zn)	mg/L	APHA 24 th Ed.2023, 3111B	BDL (DL: 0.1)	5.0	15
Pesticides				Limit	
Alachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	20	
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Butachlor	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125	
Chlorpyrifos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	30	
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3.0	
Malathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	190	
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	0.30	
Monocrotophos	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1.0	
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2.0	
Phorate Sulphone	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	--	
Dieldrin	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	0.03	

TEST REPORT

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ULR No. : TC1358725000003047F	

Discipline : Chemical		Group : Residues in Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Pesticides				Limit	
Alpha HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	0.01	
Beta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04	
Delta HCH	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04	
Gamma HCH (Lindane)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	2.0	
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40	
DDT(o,p and p,p-isomers of DDT) (DDE and DDD)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0	

Remarks: pH & RFC done at site.



****End of Report****


Authorised Signatory
Akash Kumar
Quality Manager

ENVIRONMENTAL POLICY

Tata Steel's environmental responsibilities are driven by our commitment to preserve the environment and are integral to the way we do business.

1. We are committed to deal proactively with Climate Change issue by efficient use of natural resources & energy; reducing and preventing pollution; promoting waste avoidance and recycling measures; and product stewardship.
 - We shall identify, assess and manage our environment impact.
 - We shall regularly monitor, review and report publicly our environmental performance.
 - We shall develop & rehabilitate abandoned sites through afforestation and landscaping and shall protect and preserve the biodiversity in the areas of our operations.
 - We shall enhance awareness, skill and competence of our employees and contractors so as to enable them to demonstrate their involvement, responsibility and accountability for sound environmental performance.
2. We are committed to continual improvement in our environmental performance.
 - We shall set objective-targets, develop, implement and maintain management standards and systems, and go beyond compliance of the relevant industry standards, legal and other requirements.
3. We will truly succeed when we sustain our environmental achievement and are valued by the communities in which we work.

Date : November 1, 2017



T V Narendran
CEO & Managing Director

