

TATA STEEL

#WeAlsoMakeTomorrow

**TATA
KOSH**



**PRODUCT
BROCHURE**



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TATA KOSH



WORLD OF
TATA KOSH

Tata Kosh is Tata Steel's newest product offering to the distribution and fabrication segment. An optimum mix of mechanical properties and delightful appearance provided by spangles are hallmarks of Tata Kosh, something which it has inherited from its veteran sister brand Tata Shaktee. Tata Kosh is an ode by Tata Steel to the fabrication market, which is one of the fastest growing markets in India, available in discrete pockets but together having the might which makes us sit up and take notice.

Tata Kosh endorses all the values which Tata Steel stands for. The products are carefully crafted with no compromise on quality and the promise to deliver only the best! Some key features of Tata Kosh include:

- **Promise to deliver coating weight**
- Uniform & superior Zinc adhesion
- **Excellent surface finish**
- Precision in steel thickness
- **Best-in-class flatness**
- Tailored product performance

ADVANTAGES OF GALVANISING

Coating mass on steel and severity of environment to which it is exposed play an important role in deciding the life of Galvanised Steel. While assessing the life of galvanised steel it is important that one takes into cognizance the White Rust and Red Rust resistance aspects of the products. White Rust resistance of galvanised steel is a function of its passivation quality. With chemical passivation, the Salt Spray Test (as per ASTM B 117) gives around 100 hours of white rust resistance

This does not indicate the life of the sheet in real life, but is an indication of the resistance of the material against white staining during storage and transportation. It is also expected to be different in different types of environments and hence the performance of sheets is only relative in each environment and never absolute. Red Rust resistance of galvanised steel is a function of the coating weight in grams per square metre (gsm). The higher the gsm, the longer is the life of the coating. In ideal laboratory conditions, a 120 gsm coating gives more than 400 hours of resistance against Red Rust, provided the product is chemically passivated. For higher coating

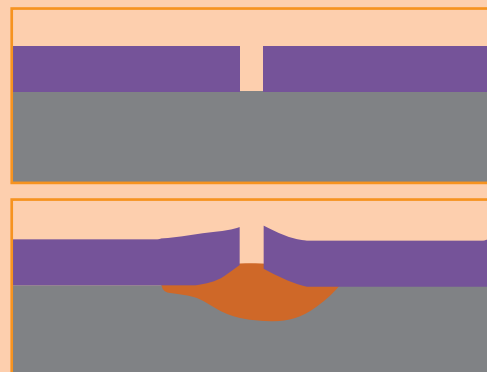
weights, the resistance to Red Rust is higher. Hot Dip Galvanising (HDG) process is a cost-effective control process that solves most of the corrosion problems in most applications. The reason for the wide-spread use of HDG is the dual action of the coating in protecting the substrate: as a barrier, it gives a strongly-bonded zinc coating covering the steel surface, thereby sealing it from environmental attack.

In addition, zinc gives the steel a cathodic protection in which the zinc sacrifices itself to protect the substrate, in case of damage. Its low cost, ease of application and the long maintenance-free service makes it the most favoured protection for steel. With the supremacy of steel as an omnipresent engineering material, the power of zinc to protect and the different options it offers to the customer as well as its appearance and life mean that galvanised steel is here to stay.

While Galvanising is one of the most potent and effective shields against corrosion of steel, it also has its limitations in some environments. For example, strong acids and strong alkalis along with Sulphur-rich environment quickly eat away Zinc as well as steel.

One must therefore possess a thorough understanding of the end application and its environment before selecting any galvanised sheet. Tata Kosh is no exception.

PAINTED STEEL



Hot Dip Galvanised Coatings combat defects like scratches effectively, no redness visible on surface, retain shine for much longer

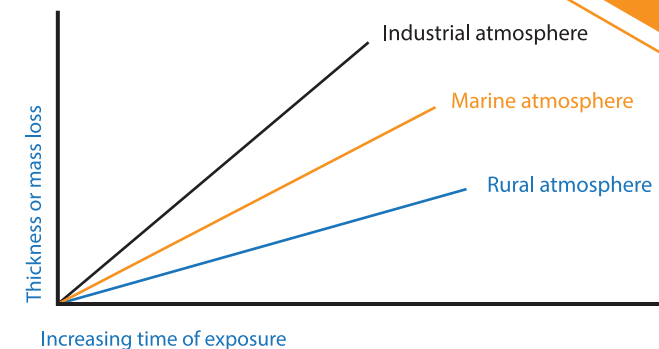
Conventional Paint Coatings can chip off due to corrosion

Source: "Performance of Hot Dip Galvanized Steel Products – By American Galvanizers Association"

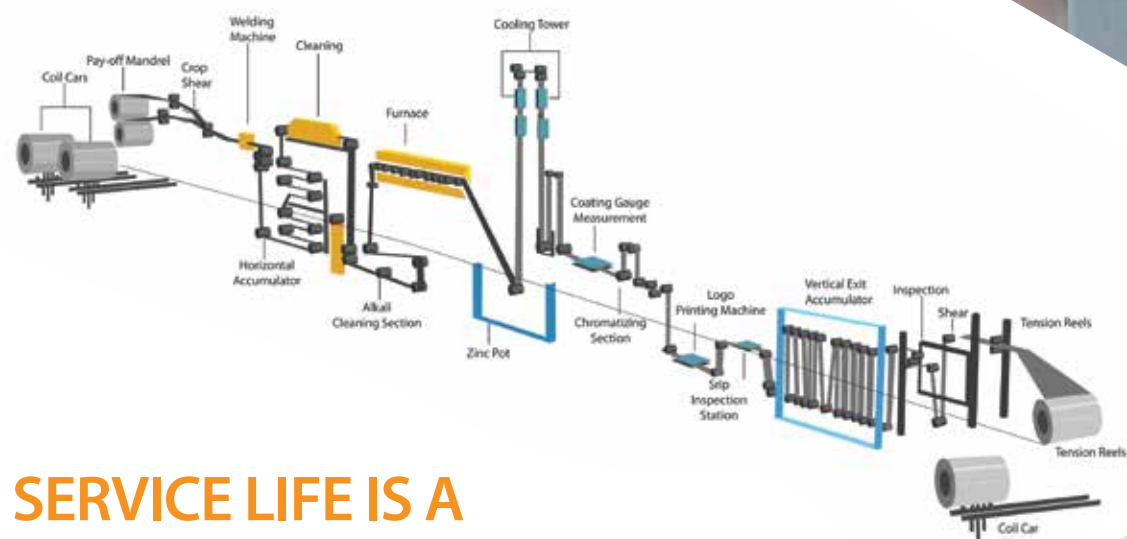


Sometimes only barrier protection is not enough, Zinc's sacrifice becomes steel's strength

Capability of Galvanised coatings in various Media



**SERVICE LIFE IS A
FUNCTION OF BOTH
COATING MASS AND
ENVIRONMENT SEVERITY**



Tata Kosh is produced at Tata Steel's state-of-the-art Galvanizing Lines. To maintain high standards in quality, the line has equipment supplied by the world's renowned suppliers which are ably aided by a highly motivated and well-trained team.

Line section	Technical parameter	UoM	CGL#1-JSR	CGL#3-JSR	TSBSL Angul
General	Year of start	-	2000	2013	2013
	Thickness capability	mm	0.2 to 1.0	0.18 to 1.2	0.18 to 0.60
	Width capability	mm	800 to 1050	800 to 1350	800 to 1350
	Incoming coil weight	tons	19 max.	28 max.	28 max.
Cleaning	Cleaning type	-	Spray alkali cleaning without ECL	Spray alkali cleaning without ECL	Spray alkali cleaning without ECL
Tension leveller	Tension leveller	-	Yes	Yes	Yes
	TL type	-	6 High, 2 extn unit, Anti Cross bow & anti coil break units	6 High, 2 extn unit, Anti Cross bow & anti coil break units	6 High, 2 extn unit, Anti Cross bow & anti coil break units

Line section	Technical parameter	UoM	TSBSL Sahibabad GP#3	TSBSL Sahibabad GP#4	TSBSL-Khopoli GP#1
General	Year of start	-	1999	2010	2004
	Thickness capability	mm	0.25 to 0.60	0.25 to 1.2	0.18 to 0.60 mm
	Width capability	mm	800 to 1250	800 to 1250	900 to 1250 mm
	Incoming coil weight	tons	30 max.	30 max.	22 MT Max.
Cleaning	Cleaning type	-	NON-OX Cleaning	NON-OX Cleaning	No Deg. system
Tension leveller	Tension leveller	-	Yes	Yes	Yes
	TL type	-	12 High, 2 extn units Anti bending bow & anti coil break unit.	12 High, 2 extn units Anti bending bow & anti coil break unit.	6 High, 2 units Anti cross bow & Anti coil set

ADVANTAGES OF TATA KOSH

Tension levelled v/s Non-tension levelled:

Tata Kosh is supplied in two varieties – tension levelled and non-tension levelled.

Tension levelled Tata Kosh should be used for applications which DO NOT require a sharp bend or sharp edge geometry like buckets or grain silos. Buckets or grain silos made from tension levelled galvanised plain sheets will not have creases and wrinkle lines across the bent/formed/curved surface.

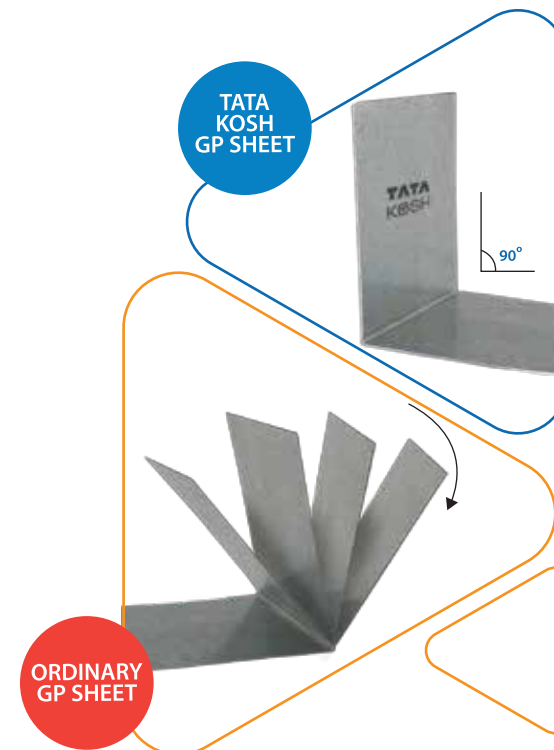


Optimum strength

Tata Steel ensures right strength in Tata Kosh by controlling chemical and mechanical properties in a close band through state-of-the-art automated heat treatment process perfected over years of experience which results in the following benefits:

No drumming effects: If the strength of the GP sheet is low, it will lead to drumming effect in the final product. Customers will perceive such a sheet to be “soft”. Tata Kosh GP sheets have optimum strength which not only offers ease of fabrication to fabricators but also helps them build strong products.

No spring-back: If the strength of the GP sheet is very high, and if such a material is bent at right angle or any desired angle, it will change its angle due to spring-back effect. Then the fabricator will have to use mallet to rework and bring it back to the desired angle. Tata Kosh GP has optimum strength which does not cause spring-back effect thus eliminating the need for rework.



Optimum hardness

Any forming and bending application is highly sensitive to hardness. Tata Steel strives to ensure the right hardness in Tata Kosh across the length and width by ensuring right process parameters, closed loop process control and quality checks in the plant. This leads to the following benefits for fabricators:

- ✓ Easy bending of sheets
- ✓ Proper bend geometry at the right curvature
- ✓ No rework required over the bent or formed components which leads to low labor cost and more components produced per hour
- ✓ No need to frequently adjust forming parameters in manual forming mode as well as while working with machine tools

Adequate Zinc Coating

Tata Kosh comes with the promise of minimum coating weight per side of the sheet.

A highly automated feedback control system in the plant ensures no undercoating of zinc on any side (coating weight is always as per IS 277 specifications and as per brand promise).

Lesser coating weight implies faster corrosion and lesser life, which does not happen with the Tata Kosh GP sheets.

Coating Mass - (GSM)	Minimum average coating mass in Triple spot* Test
80	80
100	100
120	120
275	275

*Three samples for coating weight shall be taken from a sample, two from each edge and one from the centre of the sheet leaving at least 50mm gap from each edge.

ADVANTAGES OF TATA KOSH

TATA KOSH GP SHEET

Uniform Zinc coating (coating weight always as per specification)

Unlike ordinary GP sheets in the market, Tata Kosh GP sheets have equal coating on both sides and uniform coating on either side of the sheet which are prerequisites for preventing early corrosion and ensuring long life.

Tata Kosh GP sheets are produced in a highly automated production line in which a non-destructive on-line radioactive coating gauge measures coating thickness on both surfaces and in a continuous manner.

ORDINARY GP SHEET



No zinc peel-off from surface

Strong adhesion of zinc to the steel substrate prevents any zinc peel-off because of "anchoring" of zinc to the steel surface.

This is achieved by:

- ✓ Surface pre-treatment (cleaning) of the steel substrate before coating
- ✓ Superior process control (chemistry of Zinc bath), process automation and state-of-the-art equipment

TATA KOSH GP SHEET



ORDINARY GP SHEET



TATA KOSH GP SHEET

Adequate chromate passivation

Tata Kosh is not just protected by Zinc. Post hot dipping and solidification of zinc, Tata Kosh is coated with chromate (20-25 mg/sqm) providing another layer of protection to the Zinc itself.

This layer ensures no white rust, especially during transportation, storage and handling. Customer therefore receives the material just like we made it – shiny, bright and rust-free!

TATA KOSH GP SHEET



ORDINARY GP SHEET



Use of high purity 'Special High Grade' zinc

Tata Kosh uses high purity 'Special Grade Zinc (SGZ)' which is lead free. This reduces the health hazards caused by lead and prevents darkening of spangles in a short period of time.

ORDINARY GP SHEET



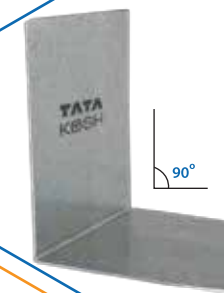
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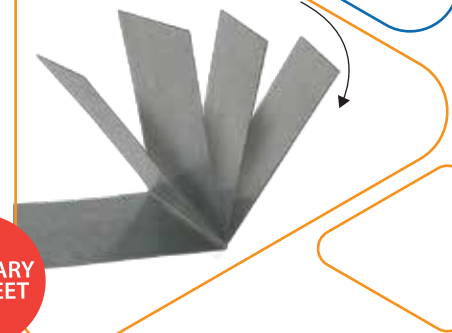
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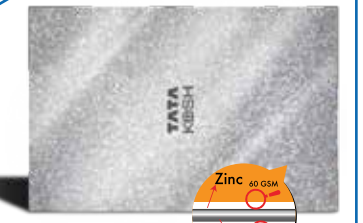
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AVAILABLE PRODUCT SIZES AND CHARACTERISTICS

Thickness	0.20 – 1.2 mm
Width	900 – 1350 mm
Inner Diameter	508 mm
Outer Diameter	1900 mm (max)
Weight	19 tons (max)

Grades: CQ

Coating Type: Galvanised Regular-Spangled (pure Zinc with antimony)

Coating Mass: Galvanised 80-275 gsm (total both sides)

Surface Condition: Normal spangled surface by lead-free bath management, control of drumming/uneven surface/fluting/wrinkling with tension leveller leading to excellent flatness.

Post Treatment: Chromating (Chrome 6)

Chemical Properties:

Grades	%C (max)	%Mn (max)	%P (max)	%S (max)	%Si (max)	%Al (min)	N, ppm (max)
CQ	0.07	0.4	0.03	0.02	0.04	0.02	70

Mechanical Properties and Coating Weights:

TDC	Plant	Hardness	Coating weigh (gsm on both side)	Tension levelled
GLK1	TSL	55-65	Z80	Yes
BGLK1	TSBSL	55-65	Z80	Yes
GLK2	TSL	55-65	Z120	Yes
BGLK2	TSBSL	55-65	Z120	Yes
GK01	TSL	55-65	Z120	No
BGK01	TSBSL	55-65	Z120	No
GK09	TSL	55-65	Z80	No
BGK09	TSBSL	55-65	Z80	No
GLR1	TSL	55-65	Z80	Yes
GLR2	TSL55-65	55-65	Z120	Yes



GRADE SELECTION GUIDELINES

Before ordering a specific TDC of Tata Kosh, we recommend customers and service partners to keep in mind the following questions. This list explained below is illustrative and not exhaustive. For further clarity, the nearest Sales Office of Tata Steel can be contacted.

What is the end use for the product?

Is the material to be used outdoor or indoor?

What is the extent of forming expected? What is the shape of final application? Does it require sharp bent edge finish?

What is the desired thickness of the substrate? What is the length & width, if known?

If outdoors, what kind of environment? Industrial/Marine/Normal/ Rural?

If indoor, is it in an office/domestic environment? Is it near any source of heat/fumes/water/chemical?

What is the desired zinc coating weight, in grams per square metre, or in microns?

What are the international / national standards the material should comply with?



IDENTIFY THE TATA KOSH LOGO TO ENSURE AUTHENTIC PRODUCTS

APPLICATIONS



BUCKET



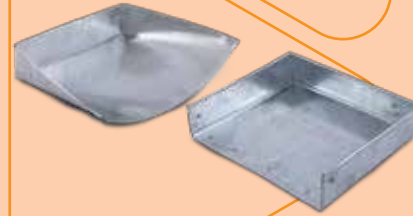
SEWING MACHINE COVER



MULTIPURPOSE CONTAINER



SILO



WINNOW



MILK CAN



TASLA



GRAIN SILO



MUG



MULTIPURPOSE SILO



WATERING CAN



GRAIN SCOOP



SIEVE



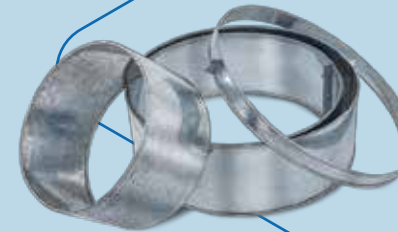
DHOLAK



STORAGE

TUB

CASTING FRAME FOR WELL



COOLER BODY



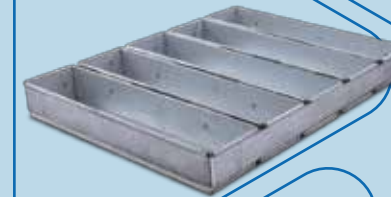
HAVAN KUND

FALSE CEILING CHANNEL



SCHOOL TRUNK

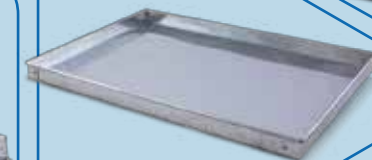
BREAD BAKING TRAY



TROLLEY



TRUNK



TRAY

SAFE FOOD STORAGE

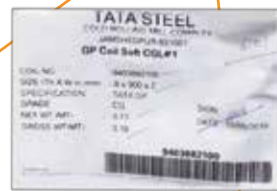
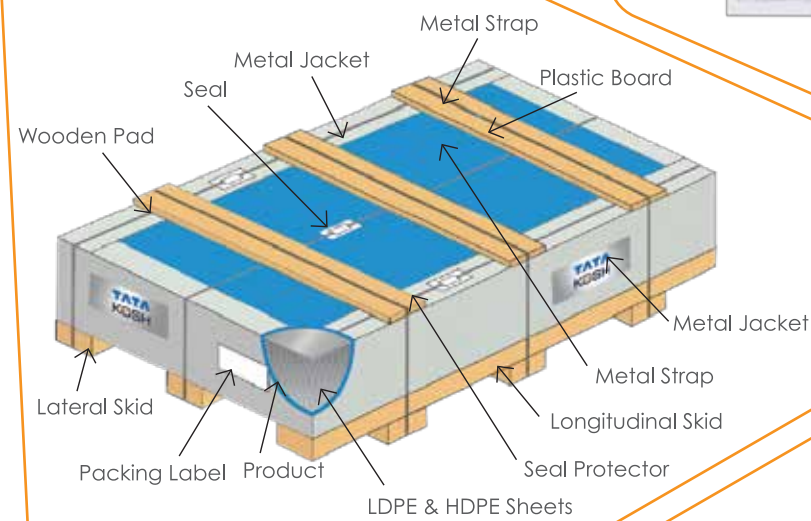


TIP: For superior surface finish, especially in applications like grain silos, buckets etc., it is recommended to use "tension levelled" Tata Kosh sheets.

PACKAGING AND LABELLING



SHEET



TATA KOSH			
CUSTOMER	LOGO OF SERVICE PARTNER		
LOCATION	XYZ LIMITED		
COIL NO.	305, LAKE ROAD, FARIDABAD		
PACKET NO.	THICKNESS	WIDTH	LENGTH
SIZE	121001		
TDC	PH 0129 4098200		
GRADE	Authorized Signatory		
NET WEIGHT			
GROSS WEIGHT			
NO OF SHEETS			



AVAILABLE IN A VARIETY OF FORMS & SIZES TO CATER TO CUSTOMER REQUIREMENTS

Galvanised steel protects the end products from corrosion. However, it is important to keep in mind the general care and maintenance practices to maximise products performance.

Order as per your end usage: Decide on the passivation of the coil/sheets. Oiled sheets from the plant would need degreasing for surface preparation and subsequent painting, while chemically treated or chromated sheets are not recommended for phosphating and/or painting as adherence of the paint to the surface will be poor.

On the receipt of the coil or sheets, ensure that the material is free from white rust (the product of reaction of the zinc code surface with CO₂, H₂O and O₂ of the atmosphere). For light white rust, simple mopping will prevent further spread of defect.

In case of longer storage before use, store the materials in a dry room with normal air circulation to guard against any kind of moisture ingress or entrapment.

Chromated and oiled materials should ideally be consumed within 3 months from the date of receipt.

Avoid contact of the material with cement, salt or any chemical during storage.

In usage, avoid continuous exposure to heat > 200°C, acid or alkali fumes, SO_x, NO_x or ammoniacal vapour.

During processing at your end, avoid scratches handling damages and dents.

Also, avoid direct contact of the galvanised material with MS parts, which leads to premature corrosion.

For painting on the surface, or for welding, contact our nearest application engineer for guidance.

For technical support contact our application engineer.

Commercial Head Office

Tata Steel Limited, Tata Centre, 43 Jawaharlal Nehru Road, Kolkata 700 071, West Bengal
Tel 91 33 2288 7051/2288 9251 Fax 91 33 2288 2563

Regional Sales Office North New Delhi Sales Office

Tata Steel Limited 1st floor, Jeevan Tara Building, 5 Sansad Marg, New Delhi - 110 001
Tel 91 11 2334 3208 / 2374 7329 Fax 91 11 2334 3196 / 2637 2820

Chandigarh Sales Office

Tata Steel Limited, S.C.O. Sector 26, Madhya Marg, Chandigarh - 160019
Tel 91 172 507 5116 Fax 91 172 279 2426

Faridabad Sales Office

Tata Steel Limited, 2nd Floor, 33-B NIT, Faridabad - 121 001, Haryana
Tel 91 129 6451 1820 Fax 91 129 241 3973

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Tata Steel Limited, C.84 Prithviraj Road C-Scheme, Jaipur 302001
Tel 91 141 228205 Fax 91 141511b2906/ 238 4244

Kanpur Sales Office

Tata Steel Limited, Navroz Building, The Mall, Kanpur - 208 001
Tel 91 512 231 6605 Fax 91 512 231 6631

Ludhiana Sales Office

Tata Steel Limited, B-30, 1858/1 Focal Point, Ludhiana - 141 010
Tel 91 161 267 3759 Fax 91 161 267 3459

Regional Sales Office East Kolkata Sales Office

Tata Steel Limited, 52, J N Road, Kolkata 700 071
Tel 91 33 2282 1887/ 2282 1687 Fax 91 33 2282 7912

Guwahati Sales Office

Tata Steel Limited, C/o Rungta Agencies, Meena Bhawan, Kanchan Road, Ulubari, Guwahati 781 007
Tel 91 361 252 6582/ 252 3093 Fax 91 361 254 2582

Jamshedpur Sales Office

Tata Steel Limited, 191, Burma Road, Burma Mines, Jamshedpur 831 001
Tel 91 657 227 0995/227 0901/214 4822, Fax 91 657 227 0685

Regional Sales Office West Mumbai Sales Office

Tata Steel Limited, New India Assurance Building, Mahatma Gandhi Road, Fort Mumbai 400 001
Tel 91 22 2267 7313 Fax 91 22 2261 9902

Ahmedabad Sales Office

Tata Steel Limited, 172/2 Ashram Road, 2nd Floor, Premchand Hs. Annexe, Ahmedabad 380 009
Tel 91 79 6661 2606 / 666/1 2600-03 Fax 91 79 5561 2604

Aurangabad Sales Office

Tata Steel Limited, S-22, Lind Floor, Alankananada Complex, Adalat Road, Aurangabad 431 005
Tel 91 240 2562 14 77-78

Indore Sales Office

Tata Steel Limited, 316, 317 City Centre, 3rd Floor 570 M G Road, Indore 452 001
Tel 91 731 507 3082 Fax 91 731 253 5951

Nagpur Sales Office

Tata Steel Limited, Museum Road, Cicil Lines, Nagpur 440 001
Tel 91 712 252 0170/252 2209 Fax 91 712 253 7078

Pune Sales Office

Tata Steel Limited, Orient Office No. 202 B, 2nd floor, 5 Koregaon Park, Opp. St. Mira's College, Pune 41101
Tel 91 020 6604 8816 Fax 91 020 6604 8828

Regional Sales Office South Chennai Sales Office

Tata Steel Limited 2nd Floor Eldorado Building, 112, Nungambakkam High Road, Chennai 600 034
Tel 91 44 6696 0001 Fax 91 44 2826 9101

Bangalore Sales Office

Tata Steel Limited, 2nd Floor, A Wing, Jubilee Building, 45 Museum Road, Bangalore 560025
Tel 91 80 6599 0036/2532 5637 Fax 91 80 2532 5527

Secunderabad Sales

Tata Steel Limited, 6th Floor, Surya Towers, 104, Sardar Patel Road, Secunderabad 500 003
Tel 91 40 6626 1040 Fax 91 40 2781 2418



TATA
KOSH

Tata Steel Limited

Tata Centre 43 Jawaharlal Nehru Road Kolkata 700 071

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www.tatashaktee.com