

# ENHANCING COMPETITIVENESS of ECAs TATA ASTRUM BROCHURE



## CUSTOMER CARE



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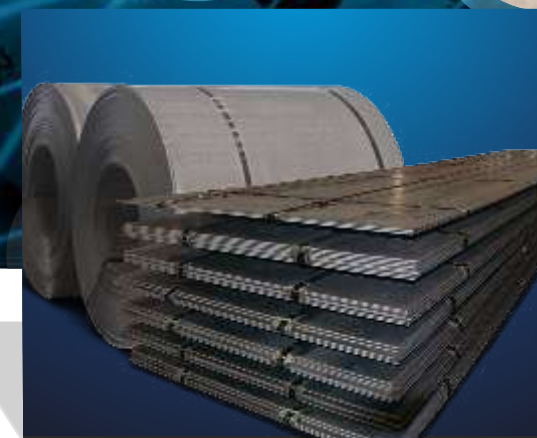


Website  
**www.tataastrum.com**

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## TATA STEEL

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ECA IS AN ACRONYM FOR EMERGING CORPORATE ACCOUNT CUSTOMERS

## EXPLORE OUR PRODUCT AND SERVICE OFFERINGS



LETTER FROM  
**COMS - CHIEF' MARKETING & SALES**

Dear Partners,

One of the most important developments in the global economy is the importance of emerging markets - and, India represents a striking example of this success as an 'emerging superpower'. The industrial sector is playing a significant role in shaping this surge and the steel industry is leading from the front. Tata Steel and its pioneering brands like Tata Astrum have a responsibility to drive our country towards global competitiveness and carry on the legacy of nation-building, that is the ethos of the Tata Group.



“ Tata Steel and its pioneering brands like Tata Astrum have a responsibility to drive our country towards global competitiveness and carry on the legacy of nation-building. That is the ethos of the Tata Group.”

Through the five years since its arrival as a brand, Tata Astrum has carved a special niche to represent quality and service excellence in HR sheets and coils. The journey has been one of constant growth with the invaluable support and loyalty of its customers in various segments. Driving this growth is a quest to meet evolving customer needs through a spectrum of products and services to ensure competitiveness in the global arena.

The importance of the emerging corporate segment cannot be overemphasized. The sector is acknowledged as the 'backbone of industry' and boasts of incredible diversity in terms of its size, level of technology employed, range of products and services provided. Over the last 5 years Tata Astrum has been able to build a relationship of trust and reliability with many of these segments by virtue of its quality, clear advantages and excellent services.

We have always encouraged feedback from our customers and this continuous flow of information has enabled us to develop products better suited to their needs and bring services that provide vital solutions and conveniences. We intend to continue this dialogue for making Tata Astrum better than the best in every aspect while our core focus is to ensure the emerging corporate shines bright on the global stage.

Yours sincerely,

**Sanjay S Sahni**

Chief of Marketing & Sales (Branded Products & Retail)  
 Tata Steel Limited

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## TATA STEEL PIONEERING INNOVATION SINCE 1907



Tata Steel is amongst the top-ten global steel companies with a crude steel production capacity of 26.5 million tonnes per annum (mtpa). A Fortune 500 Company, the Tata Steel Group is the world's second most geographically diversified steel producer, employing over 80,000 people in nearly 50 countries.

Pioneering innovation in products and services is ingrained in the culture of Tata Steel. Backed by continuous collaboration with its customers and keeping evolving needs in focus, the company has been able to roll out a series of initiatives to create unprecedented value.

Tata Astrum – first hot rolled steel brand of the country – comes as an offering from Tata Steel to ensure its customers remain competitive in global markets.



## TATA ASTRUM PARTNER IN PROGRESS

With a vision to cater to the aspirational needs of its customers, Tata Astrum was launched in 2012. It provides a basket of products and services, rooted in understanding and excellence, to ensure customers get a competitive edge.

These products meet the needs of a plethora of segments viz. Automotive, Yellow Goods, Project Fabrication, PEB, Solar, Railways, Transmission & Distribution etc. The vast product range is coupled with an array of unmatched services to ensure a hassle-free process for customers.

## ADVANTAGES

- 01 Regular availability of grades – High Tensile, HRPO, HRSPO
- 02 Processed material customized to your needs - CTL/CTS
- 03 Product Application Engineer support
- 04 Value creation through focussed engagement programmes
- 05 Packaging and source authenticity
- 06 Joint collaboration for product development



# SPECTRUM OF APPLICATIONS

SERVING AN ARRAY OF SEGMENTS





# ADDING NEW DIMENSIONS TO SERVE YOU BETTER

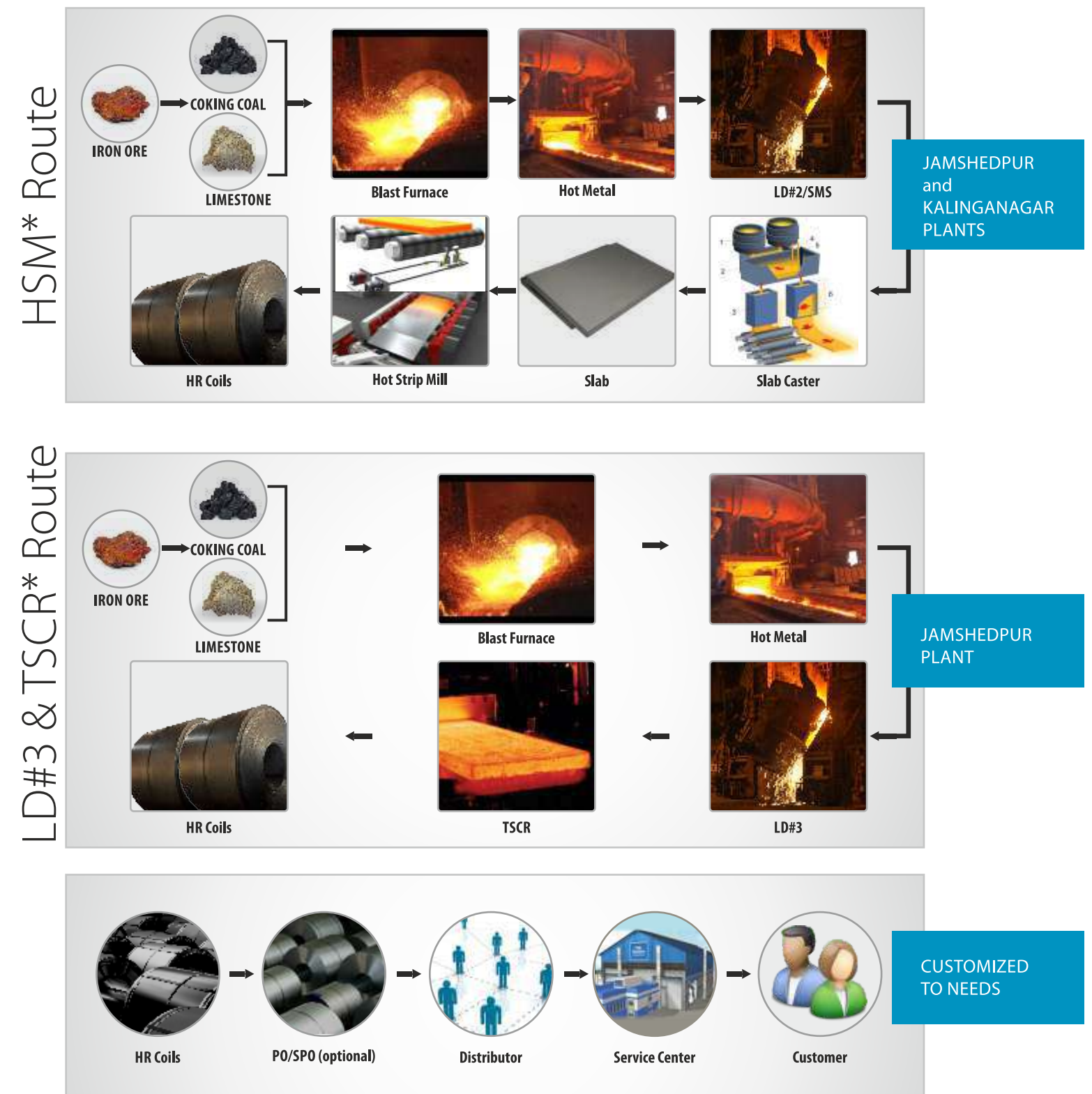
Products and grades required to serve various market applications are manufactured using state-of-the-art technologies at Tata Steel plants at Jamshedpur and Kalinganagar.

Tata Steel-Kalinganagar plant has added new dimensions to further cater to the needs of these segments and their applications.



## MANUFACTURING PROCESS

From steel making to final finishing, the entire production line incorporates state-of-the-art technologies and processes that make Tata Astrum a best-in-class product.



\* HSM - Hot Strip Mill    \* TSCR - Thin Slab Caster & Rolling



## STEEL MAKING

The first level of differentiation takes place in the steel-making shop to meet the variety of customer requirements through appropriate grade chemistry of steel.



## HOT STRIP MILL

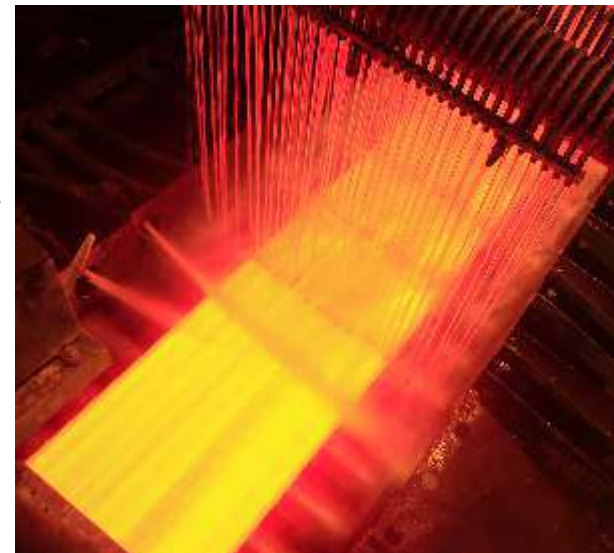
After the steel is cast into slabs, it is transferred to the Hot Strip Mill (HSM) where it is rolled to the desired thickness & width. The rolling and subsequent cooling is done in a manner so as to ensure that the final product (HR coil) attains its requisite mechanical properties (as per design parameters).



## LD#3 & TSCR MILL

### Thin Slab Caster & Rolling Mill

LD3 and TSCR is an integrated shop where steel is made in the steel making shop (LD#3), then cast and rolled continuously. Unlike the HSM, there is no slab stage in this mill and thus it reduces the time lag. The mill is equipped with all the latest technologies to cater to different requirements of the customers.



## PICKLING, OILING & SKIN PASSING



### PICKLING & OILING (HRPO)

Hot Rolled coils have an oxide film or scales on their surface. Pickling cleans these scales to give the hot rolled coil surface a better look and finish. Pickled and oiled steel sheets and coils are ideal for applications that require an even finish.

HRPO is available from our CRM Bara, CRC-W and BMW Gamharia mills.



### PICKLING, OILING & SKIN PASSING (HRPO)

Skin-passing of the coils is done post the pickling & oiling process. It produces a smooth surface, makes the thickness of the coil uniform and does minor corrections in mechanical properties.

HRPO is available from our CRM Bara and CRC - W mills.



\*CRM Bara & BMW Gamharia – Jamshedpur CRC-W – Tarapur



# FINISHING PROCESSES

## Shearing Line

The Shearing Line at the Hot Strip Mill enables Tata Steel to serve customers who require Hot Rolled Sheets and Plates of various grades.



## Quality & Process Control

All the production lines are equipped with the latest technologies and have robust quality control mechanisms to check any abnormality in the process which might hamper the product quality.



## Inspection

Since the surface of the hot rolled steel is critical to any application, we have dedicated surface inspection systems to ensure top quality.



## Testing Parameters

Some of the parameters used for testing are chemical composition, elongation, tensile testing, impact testing, bend test etc.



**THE PRODUCT RANGE INCLUDES**

## PRODUCT OFFERING

Tata Astrum comes in different forms to suit a variety of requirements. It conforms to Tata Steel's impeccable product quality standards.

Hot Rolled Coils (HRC)

Cut to length (CTL) Sheets

Slit Coils

Pickled & Oiled (PO)

Skin Pass , Pickled & Oiled (SPO)



TDC or Technical Delivery Condition consists of a set of specifications which is guaranteed in the product.

## TATA ASTRUM TDCs

TDC	Grade	Product Form	Application	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR01	IS 10748 Gr 1	Dry/PO	Tubes	1.60	4.99	900	2050	170	-	290	-
HR02	IS 1079 DD	Dry/PO	Sheet Metal components	1.60	12.00	900	2050	-	-	-	400
HR03	SAPH 440	Dry/PO	Auto Structural	2.21	4.99	900	1500	305	-	440	520
HR04	BSK 46	Dry/PO	Auto Structural	5.00	7.99	900	1680	460	540	500	640
HR05	IS 2062 E 250 A (LC-MA)	Dry/PO	Fabrication	2.00	4.99	800	2050	250	-	410	-
HR06	IRS M41	Dry	Railway Coach/Panel/Roof	5.00	12.00	1100	1500	340	-	480	-
HR07	IS 2062 E 250 A (Peritectic)	Dry	Fabrication/ Auto Structural	2.51	4.99	800	2050	255	370	410	-
HR08	IS 2062 E 250 A (LC-MA)	Dry/PO	Fabrication/ Auto Structural	5.00	12.00	900	1680	250	-	410	600
HR09	IS 10748 Gr-1	HRSP0	Farm Equipment	1.60	4.50	950	1650	-	-	-	-
HR10	IS 10748 Gr-2	HRSP0	Bottom Bracket & frames for cycles	1.60	4.50	950	1650	-	-	-	-
HR11	Tata PT(H)	Dry/PO	Precision Tubes	1.60	8.00	800	2050	195	-	320	480
HR12	ASTM 622M	HRSP0	Compressor Shell	1.60	4.50	1000	1540	-	-	-	-
HR13	IS 11513 DD	Dry/PO	Cold Rolling	2.00	12.00	900	1540	-	-	-	-
HR14	IS 5986 Fe 410	Dry/PO	Auto Structural/Axle Support	2.00	4.99	800	2050	265	400	430	520
HR15	IS 5986 Fe 360	Dry/PO	Structural/Fabrication	1.60	4.99	800	2050	235	-	370	-
HR16	IS 10748 Gr-1	Dry	Tubes	5.00	12.00	800	2050	170	-	290	-
HR17	IS 1079 EDD	Dry/PO	Sheet Metal components (requiring extra deep draw)	2.00	6.50	900	1540	-	-	-	380
HR18	IS 2062 Gr E250 BR	Dry/PO	Fabrication/ Structural	2.00	4.99	800	2050	250	-	410	-
HR19	IS 2062 Gr E250 BR	Dry	Fabrication/ Structural	5.00	12.00	800	2050	250	-	410	-
HR20	IS 2062 E 250 A (Peritectic)	Dry	Fabrication/ Auto Structural	5.00	12.00	800	2050	255	370	410	600
HR21	DIN 17100 ST 52.3	Dry	Tipper Body, Buckets for Earth Moving Equipment, PEB	5.00	8.00	900	1680	355	-	490	-
HR22	DIN 17100 ST 52.3	Dry/PO	Tipper Body, Buckets for Earth Moving Equipment, PEB	2.00	4.99	900	1680	355	-	490	-
HR23	IS 2062 E 250 A	Dry	Structurals requiring Hot Dip Galvanizing	5.00	12.00	900	1540	255	370	410	600
HR24	GR-A CFS	Dry	Web (Brake Shoe Component)	2.00	5.00	860	1540	255	-	410	-
HR25	IS 2062 E 250 Gr-B0	Dry	Fabrication/ Structural	5.00	12.00	900	1540	250	-	410	-
HR26	IS 2062 E 250 A	Dry	Fabrication/ Auto Structural	12.01	16.00	900	1680	250	-	410	600
HR27	IS 2062 E 450 A	Dry	Hi strength structural	2.00	5.00	900	1680	450	-	570	-
HR28	IS 2062 E 350 Gr C	Dry/PO	Structurals for Solar/Transmission towers	2.00	4.99	800	2050	350	-	490	-
HR29	IS 2062 E 350 Gr C	Dry	Structurals for Solar/Transmission towers	5.00	8.00	800	2050	350	-	490	-
HR30	IS2062 E 250 Gr B0	Dry	Fabrication/ Structural	12.01	16.00	900	1680	250	-	410	600
HR31	IS 1079 Gr D	Dry/PO	Sheet Metal Components requiring draw	1.60	6.00	900	1680	-	-	240	420
HR33	ST 52.3 (Low Si) / EN 10025 S355 J2	Dry	Tipper Body	5.00	8.00	900	1680	355	-	470	630
HR34	ASTM A 572 Gr 50 Type 1	Dry/PO	PEB	2.50	4.99	900	1500	345	-	450	-
HR35	ASTM A 572 Gr 50 Type 1	Dry	PEB	5.00	10.00	900	1680	345	-	450	-
HR36	BSK46 (Thin)	Dry/PO	Auto Structural	3.00	4.99	900	1680	460	540	500	640
HR38	IS 2062 E 350 Gr C (MOD)	Dry	Structurals	5.00	12.00	900	1540	350	-	490	-
HR40	IS 5986 235 (THICK)	Dry	Fabrication & Structural	5.00	12.00	1200	1680	235	-	360	470
HR41	IS 5986 255 (THICK)	Dry	Fabricated Components	5.01	12.00	900	1680	255	-	410	520
HR42	IS 5986 205	Dry	Fabricated Components	6.01	9.00	900	1680	205	-	330	440
HR43	IS:11513 CR2	Dry	HR for CR	1.60	12.00	800	2050	-	-	-	-
HR44	IS 1079 HR 2	Dry	Direct HR Components	1.60	6.00	800	2050	-	-	-	420
HR45	IS 2062 E 250 GR. A	Dry	Fabrication/ Auto Structural	5.00	7.99	800	2050	250	-	410	-

We can also supply grades other than the ones mentioned in the table, subject to Minimum Order Quantity (MOQ) and Width-Thickness combination.

HRPO material for the below grades can be supplied on order. HRPO is available in the thickness range of 1.6 - 6 mm and HRSP0 is available in the thickness range of 1.6 - 4.5 mm.

TDC	Grade	Remarks	Application	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR47	IS 2062 E 250 GR A	Dry	Fabrication/ Auto Structural	1.60	2.50	800	1700	250	-	410	-
HR48	IS 1079 HR1	Dry	Drawing Components	1.60	4.99	800	2050	-	-	-	440
HR49	E-38 SHEET	Dry/PO	Auto Structural	1.60	4.99	900	1680	373	461	441	558
HR50	JIS G 3113 SAPH 370	Dry/PO	Auto Structural	2.00	5.00	900	1680	225	-	370	-
HR51	E-38 SS 4012 A	Dry	Auto Structural	5.00	7.99	900	1680	372	461	441	560
HR53	FE 360	Dry	Rim Application for wheels	8.00	12.00	900	1680	240	-	350	410
HR54	SAPH440	Dry	Auto structural	5.00	8.00	900	1540	305	-	440	-
HR55	E-34 SHEET	Dry/PO	Auto Structural	2.50	4.99	900	1680	333	412	392	470
HR56	E 34 SS4012A	Dry	Auto Structural	5.00	7.99	900	1680	333	412	392	470
HR57	E 34 SS4012A	Dry	Auto Structural	8.00	12.00	900	1680	333	412	392	470
HR58	BSK-46/E-46	Dry	Auto Structural	8.00	12.00	900	1540	460	-	500	640
HR59	E-36 SHEET	Dry/PO	Auto Structural	2.50	4.99	900	1540	355	450	430	550
HR60	IS 1079 Gr D	HRSP0	Sheet metal requiring draw (HRSP0)	1.60	4.50	900	1620	-	-	260	390
HR61	SAPH440	HRSP0	Auto Structural	2.00	4.50	900	1540	305	-	440	520
HR63	IS 1079 HR2	Dry	Drawing Components	5.00	7.99	800	2050	170	-	-	420
HR64	IS5986 FE360	HRSP0	Panels	1.60	4.50	900	1620	235	-	370	-
HR65	E-34	HRSP0	Auto Internals	2.51	4.50	900	1620	333	412	392	470
HR66	IS 2062 E 350 C	Dry	Fabrication/ Structural	8.00	12.00	800	2050	350	-	490	-
HR67	DIN 17100 ST 52.3	Dry	Tipper Body, Buckets for Earth Moving Equipment, PEB	8.00	12.00	900	1680	355	-	490	-
HR68	IS 2062 E250 GR A (GAL)	Dry	Fabrication/ Structural (Requiring galvanizing)	2.00	4.99	900	1680	255	370	410	600
HR69	IS 2062 E450 A	Dry	Fabrication & Structural	5.00	12.00	900	1540	450	-	570	-
HR70	IS 2062 E 250 B0	Dry	Structurals	8.00	12.00	900	2050	250	-	410	-
HR76	IS 2062 E 250 BR	Dry	Fabrication/ Structural	16.01	20.00	800	2050	250	-	410	-
HR78	IS 2062 E 250 GR A	Dry	Fabrication/ Structural	12.01	16.00	800	2050	250	-	410	-
HR80	ASTM A622(MOD)	Dry/PO	Precision Tubes	1.60	6.00	900	1680	250	-	350	-
HR81	IS 5986 235 (PANEL)	Dry/PO	Direct Forming Applications	1.60	2.50	900	1680	235	-	370	-
HR87	EN 10025 S355 J2	Dry	Structurals	8.00	12.00	900	1680	355	-	470	-
HR95	EN10149 S460MC	Dry	Fabrication & Structural	5.00	8.00	900	2000	460	-	520	670
HR99	IS 1079 D	Dry	Drawing	2.00	5.00	900	1540	-	-	-	420
HT33	IS2062 E350 GR.C	Dry	Fabrication/ Structural	12.01	16.00	900	2000	350	-	490	-
HT96	EN10025-2 S355 J0	Dry	Structurals	1.60	4.99	900	1680	355	-	470	-
HT99	EN 100025 S235 JR	Dry	Structurals	2.00	4.99	900	1540	235	-	360	-
HU30	EN 10025 S275 J2 (Si>0.14)	Dry	Structurals	2.00	4.99	900	2050	275	-	410	580
HU31	EN 10025 S275 J2 (Si>0.14)	Dry	Structurals	5.00	7.99	900	2000	275	-	410	580
HU32	EN 10025 S275 J2 (Si>0.14)	Dry	Structurals	8.00	12.00	900	2000	275	-	410	580
HU33	EN10025 S355J2 (Si>0.14)	Dry	Structurals	2.00	4.99	900	2000	355	-	470	680
HU34	EN10025 S355J2 (Si>0.14)	Dry	Structurals	5.00	7.99	900	2000	355	-	470	630
HU34	EN10025 S355J2 (Si>0.14)	Dry	Structurals	5.00	7.99	900	2000	355	-	470	630
HU37	IRS M41 (Corten)	Dry	Railway Coach/Panel/Roof	5.00	8.00	900	2000	340	-	480	-
HU38	IRS M41 (Corten)	Dry	Railway Coach/Panel/Roof	2.00	4.99	900	2000	340	-	480	-
HU39	IRS M41 (Corten)	Dry	Railway Coach/Panel/Roof	8.00	12.00	900	2000	340	-	480	-
SRP1	IS1079 GR D	HRSP0	Panels	1.60	4.50	900	1540	-	-	-	420



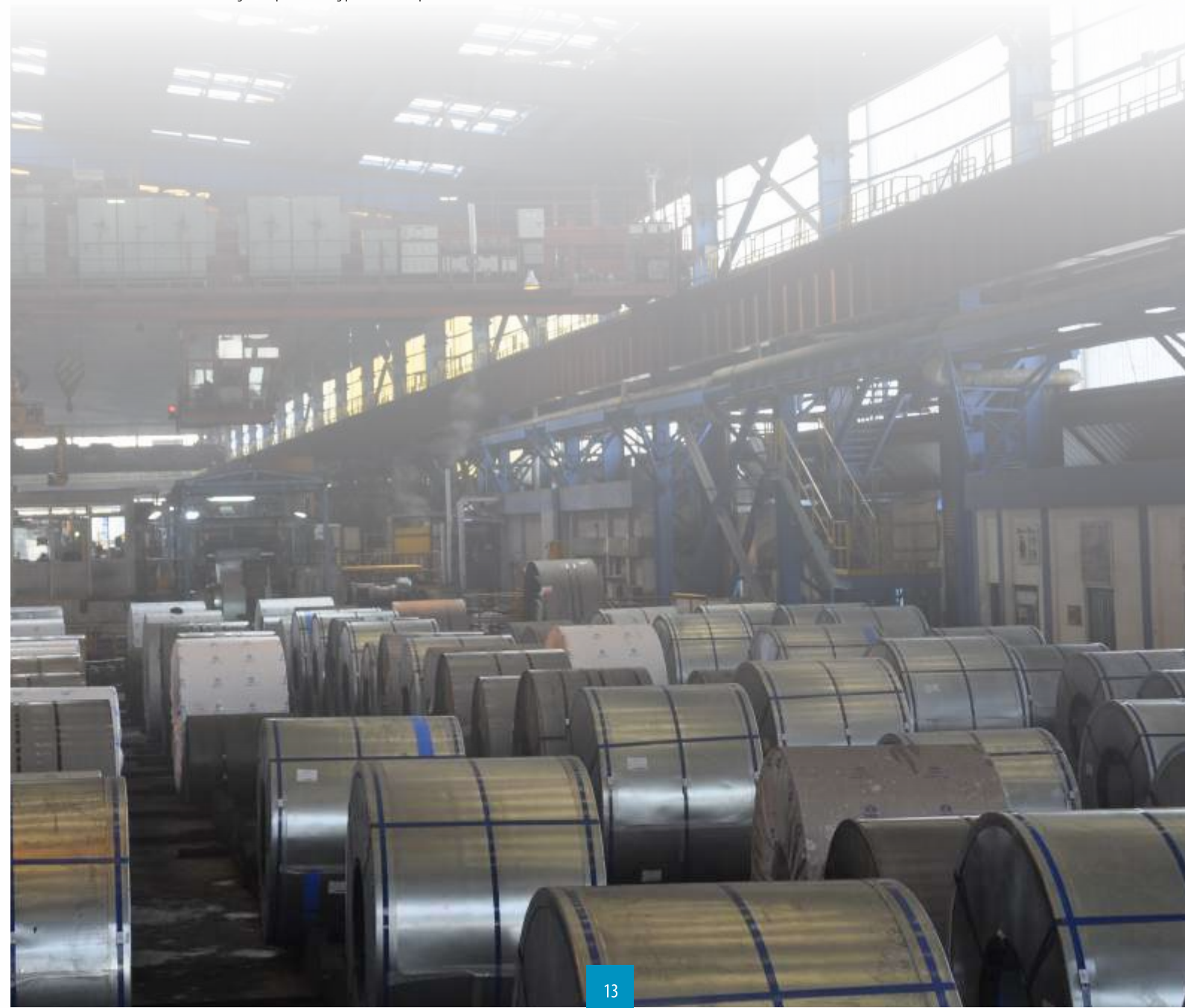
Table 1 \*Standard flatness tolerances for cut lengths (including descaled material)

Specified Thickness, mm	Specified Width, mm	Flatness Tolerance, mm		
		Specified strength level of Re		
		<220 N/mm <sup>2</sup>	220 to 320 N/mm <sup>2</sup>	>320 N/mm <sup>2</sup>
≤2.0	≤ 1200	21	26	32
	>1200 ≤ 1500	25	31	38
	>1500	30	38	45
> 2.0	≤1200	18	22	27
	>1200 ≤ 1500	23	29	34
	>1500	28	35	42

\*Flatness tolerance is as per IS/ISO 16160:2005. It is applicable for hot rolled coils also.

**Note:** Maximum deviation from flat horizontal surface: with the sheet lying under its own weight on a flat surface, the maximum distance between lower surface of the sheet and the flat horizontal surface is the maximum deviation from flatness (Refer figure 3 of IS/ISO 16160:2005). Above table also applies to sheet cut to length from coil by the customer when agreed-upon flattening procedures are performed.

# CUSTOMISED OFFERINGS ACROSS APPLICATIONS





# AUTOMOTIVE INDUSTRY

Tata Astrum is geared to meet the needs of the automotive component segment. Its production lines are equipped with the latest technologies and have robust quality control mechanisms to check any abnormality in the process which might hamper the final product quality.



“Tata Astrum's wide product range have helped us to increase our productivity and growth. The enthusiasm in development of new product by Tata Steel is commendable specially in E34 of higher thicknesses. We are satisfied with development of customised thickness like 6.35 and 7.6 mm. We wish to have a substantial relationship for many more future endeavours”

Reliable Autotech Pvt Ltd

## TDCs FOR AUTOMOTIVE INDUSTRY

TDC	Grade	Remarks	Equivalent Standard	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR02	IS 1079 DD	Dry/PO	Sheet Metal components	1.60	12.00	900	2050	-	-	-	400
HR03	SAPH 440	Dry/PO	Auto Structural	2.21	4.99	900	1500	305	-	440	520
HR04	BSK 46	Dry/PO	Auto Structural	5.00	7.99	900	1680	460	540	500	640
HR05	IS 2062 E 250 A (LC-MA)	Dry/PO	Fabrication	2.00	4.99	800	2050	250	-	410	-
HR08	IS 2062 E 250 A (LC-MA)	Dry/PO	Fabrication/ Auto Structural	5.00	12.00	900	1680	250	-	410	600
HR14	IS 5986 Fe 410	Dry/PO	Auto Structural/Axle Support	2.00	4.99	800	2050	265	400	430	520
HR17	IS 1079 EDD	Dry/PO	Sheet Metal components (requiring extra deep draw)	2.00	6.50	900	1540	-	-	-	380
HR20	IS 2062 E 250 A (Peritectic)	Dry	Fabrication/ Auto Structural	5.00	12.00	800	2050	255	370	410	600
HR36	BSK46 (Thin)	Dry/PO	Auto Structural	3.00	4.99	900	1680	460	540	500	640
HR45	IS 2062 E 250 GR. A	Dry	Fabrication/ Auto Structural	5.00	7.99	800	2050	250	-	410	-
HR49	E-38 SHEET	Dry/PO	Auto Structural	1.60	4.99	900	1680	373	461	441	558
HR50	JIS G 3113 SAPH 370	Dry/PO	Auto Structural	2.00	5.00	900	1680	225	-	370	-
HR51	E-38 SS 4012 A	Dry	Auto Structural	5.00	7.99	900	1680	372	461	441	560
HR53	FE 360	Dry	Rim Application for wheels	8.00	12.00	900	1680	240	-	350	410
HR54	SAPH440	Dry	Auto structural	5.00	8.00	900	1540	305	-	440	-
HR55	E-34 SHEET	Dry/PO	Auto Structural	2.50	4.99	900	1680	333	412	392	470
HR56	E 34 SS4012A	Dry	Auto Structural	5.00	7.99	900	1680	333	412	392	470
HR57	E 34 SS4012A	Dry	Auto Structural	8.00	12.00	900	1680	333	412	392	470
HR58	BSK-46/E-46	Dry	Auto Structural	8.00	12.00	900	1540	460	-	500	640
HR59	E-36 SHEET	Dry/PO	Auto Structural	2.50	4.99	900	1540	355	450	430	550
HR61	SAPH440	HRSPD	Auto Structural	2.00	4.50	900	1540	305	-	440	520
HR65	E-34	HRSPD	Auto Internals	2.51	4.50	900	1620	333	412	392	470
HR95	EN10149 S460MC	Dry	Fabrication & Structural	5.00	8.00	900	2000	460	-	520	670



# LIFTING & EXCAVATION

There is no doubt that Hot Rolled Products form the building blocks of lifting and excavation equipment. Be it the cabin of a tipper or the bucket of the excavator, each has to be made from the right grade of steel to ensure functionality and durability.

Our range of hi-tensile steel suit the requirements of load bearing components and our formable grades of steel can be used to manufacture smaller engine/cabin components.

“Our workability of TATA Astrum product is of optimum level as compared to other HR products because of TSL'S quality finish and chemistry. We appreciate the prompt response that we received from the team and we are very thankful to TATA STEEL & NARESH STEEL.”

Surin Automotive Pvt Ltd

## TDCs FOR LIFTING & EXCAVATION

TDC	Grade	Remarks	Equivalent Standard	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR21	DIN 17100 ST 52.3	Dry	Tipper Body, Buckets for Earth Moving Equipment, PEB	5.00	8.00	900	1680	355	-	490	-
HR22	DIN 17100 ST 52.3	Dry/PO	Tipper Body, Buckets for Earth Moving Equipment, PEB	2.00	4.99	900	1680	355	-	490	-
HR67	DIN 17100 ST 52.3	Dry	Tipper Body, Buckets for Earth Moving Equipment, PEB	8.00	12.00	900	1680	355	-	490	-
HR33	ST 52.3 (Low Si) / EN 10025 S355 J2	Dry	Tipper Body	5.00	8.00	900	1680	355	-	470	630
HR87	EN 10025 S355 J2	Dry	Structurals	8.00	12.00	900	1680	355	-	470	-
HR28	IS 2062 E 350 Gr C	Dry/PO	Structurals for Solar/Transmission towers	2.00	4.99	800	2050	350	-	490	-
HR29	IS 2062 E 350 Gr C	Dry	Structurals for Solar/Transmission towers	5.00	8.00	800	2050	350	-	490	-
HR66	IS 2062 E 350 Gr C	Dry	Fabrication/ Structural	8.00	12.00	800	2050	350	-	490	-
HT33	IS2062 E350 GR.C	Dry	Fabrication/ Structural	12.01	16.00	900	2000	350	-	490	-





# RAILWAYS

The Railways is a segment where Tata Steel's products have found ample use for over a decade now. Tata Astrum complies to BIS and IRS standards which are mandatory requirements of Directorate of Railways. Tata Astrum finds its uses in a host of applications like engine coach components, spring planks, axles etc.



TDC	Grade	Remarks	Equivalent Standard	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR06	IRS M41	Dry	Railway Coach/Panel/Roof	5.00	12.00	1100	1500	340	-	480	-
HU37	IRS M41 (Corten)	Dry	Railway Coach/Panel/Roof	5.00	8.00	900	2000	340	-	480	-
HU38	IRS M41 (Corten)	Dry	Railway Coach/Panel/Roof	2.00	4.99	900	2000	340	-	480	-
HU39	IRS M41 (Corten)	Dry	Railway Coach/Panel/Roof	8.00	12.00	900	2000	340	-	480	-





## PROJECTS & FABRICATION

As India moves ahead on a growth trajectory, infrastructure is an area which is expanding at breakneck speed. Industrial projects and fabrication jobwork will aid this growth.

Tata Astrum's structural and hi-tensile grade steels are available in a wide range of thicknesses and widths to meet the needs of this segment.



## TDCs FOR PROJECTS & FABRICATION

TDC	Grade	Remarks	Equivalent Standard	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR05	IS 2062 E 250 A (LC-MA)	Dry/PO	Fabrication	2.00	4.99	800	2050	250	-	410	-
HR06	IRS M41	Dry	Railway Coach/Panel/Roof	5.00	12.00	1100	1500	340	-	480	-
HR07	IS 2062 E 250 A (Peritectic)	Dry	Fabrication/ Auto Structural	2.51	4.99	800	2050	255	370	410	-
HR08	IS 2062 E 250 A (LC-MA)	Dry/PO	Fabrication/ Auto Structural	5.00	12.00	900	1680	250	-	410	600
HR12	ASTM 622M	HRSP0	Compressor Shell	1.60	4.50	1000	1540	-	-	-	-
HR15	IS 5986 Fe 360	Dry/PO	Structural/Fabrication	1.60	4.99	800	2050	235	-	370	-
HR18	IS 2062 Gr E250 BR	Dry/PO	Fabrication/ Structural	2.00	4.99	800	2050	250	-	410	-
HR19	IS 2062 Gr E250 BR	Dry	Fabrication/ Structural	5.00	12.00	800	2050	250	-	410	-
HR20	IS 2062 E 250 A (Peritectic)	Dry	Fabrication/ Auto Structural	5.00	12.00	800	2050	255	370	410	600
HR23	IS 2062 E 250 A	Dry	Structurals requiring Hot Dip Galvanizing	5.00	12.00	900	1540	255	370	410	600
HR25	IS 2062 E 250 Gr-B0	Dry	Fabrication/ Structural	5.00	12.00	900	1540	250	-	410	-
HR26	IS 2062 E 250 A	Dry	Fabrication/ Auto Structural	12.01	16.00	900	1680	250	-	410	600
HR27	IS 2062 E 450 A	Dry	Hi strength structural	2.00	5.00	900	1680	450	-	570	-
HR30	IS2062 E 250 Gr B0	Dry	Fabrication/ Structural	12.01	16.00	900	1680	250	-	410	600
HR31	IS 1079 Gr D	Dry/PO	Sheet Metal Components requiring draw	1.60	6.00	900	1680	-	-	240	420
HR40	IS 5986 235 (THICK)	Dry	Fabrication & Structural	5.00	12.00	1200	1680	235	-	360	470
HR41	IS 5986 255 (THICK)	Dry	Fabricated Components	5.01	12.00	900	1680	255	-	410	520
HR42	IS 5986 205	Dry	Fabricated Components	6.01	9.00	900	1680	205	-	330	440
HR43	IS:11513 CR2	Dry	HR for CR	1.60	12.00	800	2050	-	-	-	-
HR44	IS 1079 HR 2	Dry	Direct HR Components	1.60	6.00	800	2050	-	-	-	420
HR45	IS 2062 E 250 GR. A	Dry	Fabrication/ Auto Structural	5.00	7.99	800	2050	250	-	410	-
HR47	IS 2062 E 250 GR A	Dry	Fabrication/ Auto Structural	1.60	2.50	800	1700	250	-	410	-
HR63	IS 1079 HR2	Dry	Drawing Components	5.00	7.99	800	2050	170	-	-	420
HR64	IS5986 FE360	HRSP0	Panels	1.60	4.50	900	1620	235	-	370	-
HR66	IS 2062 E 350 C	Dry	Fabrication/ Structural	8.00	12.00	800	2050	350	-	490	-
HR68	IS 2062 E250 GR A (GAL)	Dry	Fabrication/ Structural (Requiring galvanizing)	2.00	4.99	900	1680	255	370	410	600
HR69	IS 2062 E450 A	Dry	Fabrication & Structural	5.00	12.00	900	1540	450	-	570	-
HR70	IS 2062 E 250 B0	Dry	Structurals	8.00	12.00	900	2050	250	-	410	-
HR76	IS 2062 E 250 BR	Dry	Fabrication/ Structural	16.01	20.00	800	2050	250	-	410	-
HR78	IS 2062 E 250 GR A	Dry	Fabrication/ Structural	12.01	16.00	800	2050	250	-	410	-
HR81	IS 5986 235 (PANEL)	Dry/PO	Direct Forming Applications	1.60	2.50	900	1680	235	-	370	-
HU30	EN 10025 S275 J2 (Si>0.14)	Dry	Structurals	2.00	4.99	900	2050	275	-	410	580
HU31	EN 10025 S275 J2 (Si>0.14)	Dry	Structurals	5.00	7.99	900	2000	275	-	410	580
HU32	EN 10025 S275 J2 (Si>0.14)	Dry	Structurals	8.00	12.00	900	2000	275	-	410	580
HU33	EN10025 S355J2 (Si>0.14)	Dry	Structurals	2.00	4.99	900	2000	355	-	470	680
HU34	EN10025 S355J2 (Si>0.14)	Dry	Structurals	5.00	7.99	900	2000	355	-	470	630
HU34	EN10025 S355J2 (Si>0.14)	Dry	Structurals	5.00	7.99	900	2000	355	-	470	630
SRP1	IS1079 Gr D	HRSP0	Panels	1.60	4.50	900	1540	-	-	-	420

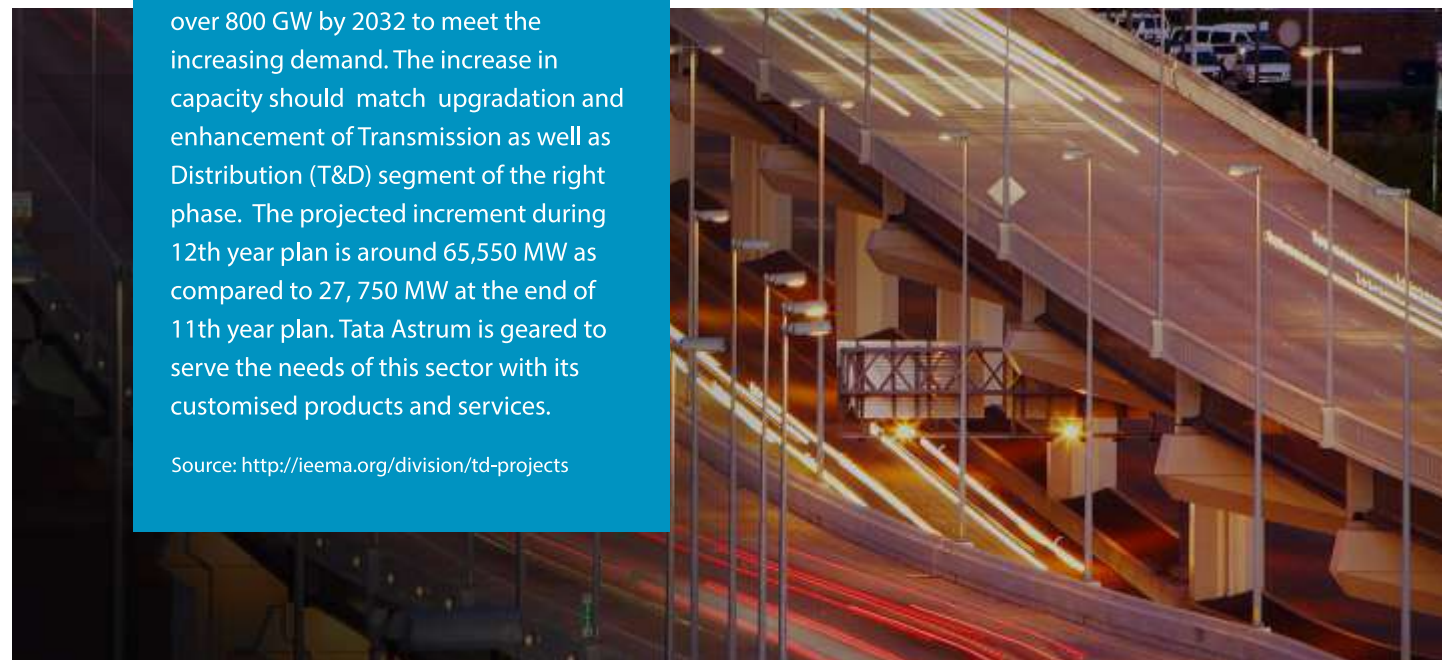




## TRANSMISSION & DISTRIBUTION

As India's annual GDP is estimated to grow at the rate of around to 7% over the next 20 years, the demand for electricity will also increase. This in turn requires increase in the present electricity generation capacity from around 200 GW by 2010 to over 800 GW by 2032 to meet the increasing demand. The increase in capacity should match upgradation and enhancement of Transmission as well as Distribution (T&D) segment of the right phase. The projected increment during 12th year plan is around 65,550 MW as compared to 27, 750 MW at the end of 11th year plan. Tata Astrum is geared to serve the needs of this sector with its customised products and services.

Source: <http://ieema.org/division/td-projects>



## TDCs FOR TRANSMISSION & DISTRIBUTION

TDC	Grade	Remarks	Application	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HU29	IS 2062 E250 Gr A (Si>0.14)	Dry	Structurals	8.00	12.00	900	1540	250	-	410	-
HU30	EN 10025 S275 J2 (Si>0.14)	Dry	Structurals	2.00	4.99	900	2050	275	-	410	580
HU31	EN 10025 S275 J2 (Si>0.14)	Dry	Structurals	5.00	7.99	900	2050	275	-	410	580
HU32	EN 10025 S275 J2 (Si>0.14)	Dry	Structurals	8.00	12.00	900	2050	275	-	410	580
HU33	EN10025 S355J2 (Si>0.14)	Dry	Structurals	2.00	4.99	900	2050	355	-	470	680
HU34	EN10025 S355J2 (Si>0.14)	Dry	Structurals	5.00	7.99	900	2050	355	-	470	630
HU35	EN10025 S355J2 (Si>0.14)	Dry	Structurals	8.00	12.00	900	2050	355	-	470	630
HR38	IS 2062 E350 Gr A (Si>0.14)	Dry	Structurals	5.00	7.99	800	1540	350	-	490	-
HR39	IS 2062 E350 Gr A (Si>0.14)	Dry	Structurals	8.00	12.00	800	1540	350	-	490	-







## TUBE MANUFACTURING

Tubes are used for a wide array of applications, which include water/liquid conveyance, gas conveyance, structural framework, automotive/bicycle components, etc.

Tata Astrum caters to these needs of tube manufacturers with appropriate products. It is offered in different thickness & width combinations and slit to the requisite sizes. Owing to its better tolerances and optimal widths, it also helps to reduce wastage.



## TDCs FOR TUBE MANUFACTURING

TDC	Grade	Remarks	Equivalent Standard	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR01	IS 10748 Gr 1	Dry/PO	Tubes	1.60	4.99	900	2050	170	-	290	-
HR11	Tata PT(H)	Dry/PO	Precision Tubes	1.60	8.00	800	2050	195	-	320	480
HR16	IS 10748 Gr-1	Dry	Tubes	5.00	12.00	800	2050	170	-	290	-
HR80	ASTM A622(MOD)	Dry/PO	Precision Tubes	1.60	6.00	900	1680	250	-	350	-

“ We hereby confirm that we are procuring 2 mm & 3.15 mm coils in IS: 2062 E350 C grade - C from VATIKA TRACOM and as per quality norms and testing done by us this is satisfactory and catering to our all solar project's customer. If we get this materials in IS: 2062 E350A: grade, that will also serve our purpose so that we can serve in a better way and ensure better delivery to our onward customers accordingly. ”

KEC International Limited, Jaipur



## TDCs FOR SOLAR

## SOLAR PANEL MODULAR MOUNTING STRUCTURE

Tata Astrum Solar is an offering to meet the evolving needs of India's solar industry and spearhead development by helping to electrify every corner of the country.

The offering is IS 2062 E 350 grade steel with enhanced strength, durability and weather resistance. Backed by a basket of services that is the hallmark of Tata Astrum's offering.

TDC	Grade	Remarks	Equivalent Standard	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR28	IS 2062 E 350 Gr C	Dry/PO	Structurals for Solar/ Transmission towers	2.00	4.99	800	2050	350	-	490	-
HR29	IS 2062 E 350 Gr C	Dry	Structurals for Solar/ Transmission towers	5.00	8.00	800	2050	350	-	490	-
HR05	IS 2062 E 250 A (LC-MA)	Dry/PO	Fabrication	2.00	4.99	800	2050	250	-	410	-
HR08	IS 2062 E 250 A (LC-MA)	Dry/PO	Fabrication/ Auto Structural	5.00	12.00	900	1680	250	-	410	600







## PRE-ENGINEERED BUILDINGS

With the thrust on Smart Cities and growth of infrastructure, the PEB segment is witnessing phenomenal growth. PEBs are delivered as a complete finished product to the site with a basic structural steel framework with attached factory finish roofing and cladding. Tata Astrum is geared to meet the structural requirements of PEB projects with its product and service advantages. The scope of using PEBs ranges from showrooms, low height commercial complexes, industrial building and workshops, stadiums, schools, bridges, fuel stations to aircraft hangers, exhibition centres, railway stations and metro applications.

“We are proudly associated with Tata Steel for all our hot rolled sheets & plates requirements since last 5 years. The product quality in terms of dimensional tolerance and weldability are most important to our process and we are fully satisfied with Tata Steel for these parameters. Product marking is an added benefit which helps establish confidence with our customers on the raw material being used.”

Paramount Building Solutions Pvt Ltd

## TDCs FOR PEB

TDC	Grade	Remarks	Equivalent Standard	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR34	ASTM A 572 Gr 50 Type 1	Dry/PO	PEB	2.50	4.99	900	1500	345	-	450	-
HR35	ASTM A 572 Gr 50 Type 1	Dry	PEB	5.00	10.00	900	1680	345	-	450	-
HR28	IS 2062 E 350 Gr C	Dry/PO	Structurals for Solar/Transmission towers	2.00	4.99	800	2050	350	-	490	-
HR29	IS 2062 E 350 Gr C	Dry	Structurals for Solar/Transmission towers	5.00	8.00	800	2050	350	-	490	-
HR66	IS 2062 E 350 C	Dry	Fabrication/Structurals	8.00	12.00	800	2050	350	-	490	-
HT33	IS2062 E350 GR.C	Dry	Fabrication/Structurals	12.01	16.00	900	2000	350	-	490	-

## ENSURING A HASSLE-FREE PROCESS

### Processed Material

Tata Astrum is processed at service centres, owned and operated by our channel partners and certified to the highest quality standards for service and quality. These service standards are evaluated every year and upgraded to raise the benchmark for service.



### SOURCE AUTHENTICITY

#### Test Certificate

A Test Certificate is provided with every coil to ensure source authenticity.



#### Marking

The logo, Tata Astrum, is printed on the sheets as a guarantee of source authenticity.



### Packaging & Material Identification

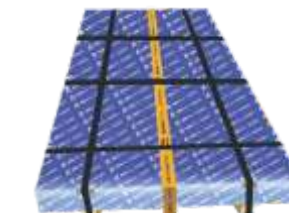
Tata Steel's stringent packaging standards have been developed to ensure failsafe packing. Each coil/bundle has a label carrying the consignment & material details. It ensures proper identification and traceability.



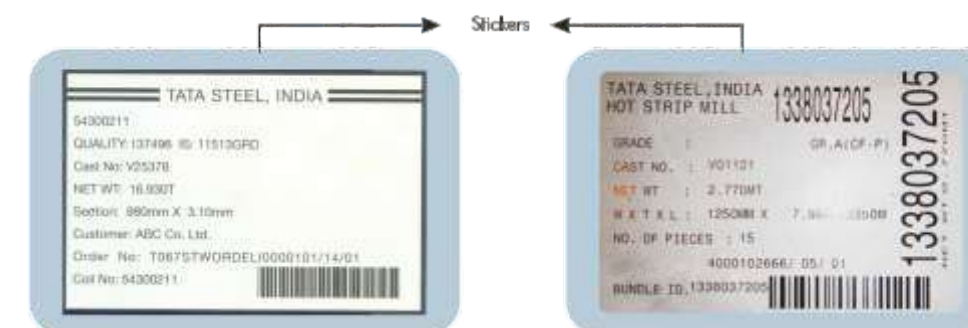
Dry HR Packaging



Coil Packaging



PO & SPO Packaging





# SERVICES TO ENHANCE COMPETITIVENESS



## Product Application Engineer support

Tata Astrum's team of Application Engineers work with customers to help them choose the right grade for their application and offer every kind of technical support.



## Value Creation through focused engagement programs

Programmes such as Ecafez Qualithon create a forum for offline and online knowledge sharing on topics that impact quality. The objective is to create a mindset of quality thinking at every level of the organisation and ensure customers' competitiveness in rapidly evolving markets.

*"The Ecafez Qualithon session was excellent. I would like to attend other such sessions. Detailed programme on lean manufacturing and ZED initiative would be appreciated."*

**Vijay Kathote**  
Plant Head P S Camshafts Pvt. Ltd.

*"Safety First programme was very useful and such training should be conducted in future. Accident prevention, fire safety and housekeeping sessions were very good. Machine Maintenance Plan and Tool Maintenance Plan should be included in future seminars."*

**Naresh Tyagi**  
Quality Head, Neumann Components Pvt.Ltd.

*"Technical support & knowledge sharing have had admirable effects in our customer services. Product range of Tata Astrum is useful to cater new customers as well as new developments. We expect continuation & long term association in business opportunities."*

**Vijay Kathote**  
Plant Head P S Camshafts Pvt. Ltd.



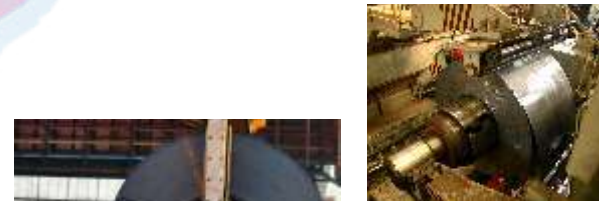
## Collaborating to Excel

Our marketing and technical teams collaborate with customers to jointly develop offerings which are customised to their needs, thus reducing cost and improving process efficiency.



Digital Knowledge Sharing Platform  
[www.ecafez.com](http://www.ecafez.com)

# PAN-INDIA DISTRIBUTION NETWORK



Tata Astrum's pan India distribution network ensures faster delivery and consistent availability of the material in the required sizes.



### NORTH ZONE

Distributor Name	Territory	Contact Person	Mobile No.	E-Mail ID
Bansal Brothers	Delhi, Haryana	Mr. Ravi Bansal	9810019257	bansalbrothers@yahoo.com
Bhagwati Steel Sales	Chandigarh	Mr. Pawan Mangla	9872201862	bss379@gmail.com
Dharamvir & Sons	Punjab	Mr. Varinder Aggarwal	9814061764	dvb_juc@yahoo.co.in
Fairdeal Steels Pvt.Ltd.	Punjab	Mr. Mahavir	9814225811	fairdealsteels@gmail.com
Punjab Agro Implements Works	Punjab	Mr. Vinod Singal	9878549000	vksingal@yahoo.com
Sangeeta Steel Corporation	Punjab	Mr. Sanjay Bhatia	9914365665	sanjay@sangeetasteel.co.in
TSPDL Ludhiana	Punjab	Mr. Neeraj Sharma	9216608443	neerajsharma@tspd.com
GR Gupta & Bros. ( D &G)	Faridabad, Ghaziabad	Mr. Rajiv Gupta, Mr. Sanjay Gupta	9810057050, 9810019054	rajiv@grgupta.com, sanjay@grgupta.com
Devi Dayal Hari Kishan	Kanpur	Mr. Manish Gupta	9984804111	ddhkkanpur@yahoo.com
OVS ISPAT	Kanpur	Mr. Sandeep Bansal	9839039929	ovsispatudyog@gmail.com
Hansraj Steel	Haryana	Mr. Bhuwan Bansal	9810067753	hansrajsteels@yahoo.co.in
Rakesh Steels	Haryana	Mr. Anil Bansal	9216551104	steelium@rakeshsteels.in
TSPDL Faridabad	Haryana	Mr. Manish Arora	9911145225	manisharora@tspd.com
Ferro Steel Solutions	Faridabad	Mr. Sudeep Agarwal	9818181898	info@ferrosteelsolutions.com
Sanjeev Industrial Corporation	Faridabad	Mr. Sanjeev Agarwal	9810009369	info@sanjeevindustrial.com
Vikrant Ispat Udyog Limited	Ghaziabad	Mr. Rajat Bansal	9811022458	rajatbns@yahoo.com rajat.bansal@vikrantgroup.in
Pelikan Dossier	Rajasthan	Mr. Sanjeev Sharda	9829010590	pelikan@pelikandossier.com
Vatika Tracom	Rajasthan	Mr.Keshav Bihani	9829015661	vatika.jaipur@gmail.com, kbihani71@gmail.com
TSPDL Pantnagar	Uttarakhand	Mr. Pushpendra	8979000254	pushpendra@tspd.com

### EAST ZONE

Distributor Name	Territory	Contact Person	Mobile No.	E-Mail ID
Amit Iron	West Bengal	Mr. Amit Agarwal	9830038331	amitskic@gmail.com
B K Steel	West Bengal	Mr. Sunil Khemka	9831025469	bksteel@vsnl.net
Ramesh Company	West Bengal	Mr. Rajesh Bihani	9831037701	rameshcosales@gmail.com
Tikmani Steels	West Bengal	Mr. Abhisek Tikmani	9831047274	tikmanisteel@gmail.com
TSPDL Kolkata	West Bengal	Mr. Arjun Saha	9903978788	arjun.saha@tspd.com
Birma Industrial	Ranchi	Mr. Sunil Kejriwal	9934010266	birmaind@gmail.com; birmarnc@gmail.com
BMW Ventures	Bihar	Mr. Nitin Kishorepuriya	9234667222	nitin@bmwventures.com
PSPL	Jamshedpur	Mr. Bimal Jain	9831068150	psplsteel@gmail.com
RS Bokaro	Jharkhand	Mr. Deepak Jhajharia	8002284677	bkodeepakj@gmail.com
Sagar Steels	Guwahati	Mr. Hemant Agarwal	8720900000, 8486023200	hemant@sagarsteels.co.in, sagarst20@gmail.com

### SOUTH ZONE

Distributor Name	Territory	Contact Person	Mobile No.	E-Mail ID
G K Ispat	Hyderabad	Mr. Gopal Agarwal Mr. Rohan Agarwal	9845015997, 9573284347	ap@gkispat.com
Govindaraja Mudaliar	Chennai	Mr Vijay Baskar	9176612967	vijay@gmspl.net
Indicor	Sahibabad	Mr. B Ramakrishna Mr D Venkat Ram	8096563333	sales@indicorsteel.com
Kummenchery Steels	Cochin	Mr.Mahin KK	9947850301	sales1@kummencherysteels.com
Ramsaroop & Sons	Bangalore	Mr.Rajan Aggarwal	9845446001	steelium@hotmail.com
S C Shettar & Sons	Hubli	Mr.Vijay Shettar	9844052229	vijaykumar@scshettar.in
Sri Balaji Steel Traders	Chennai	Mr Sridhar	9444034467	sbst@sbst.in
Thirupathy Steels	Chennai	Mr.Nitesh Gupta	9884126387	tschennai@yahoo.in
G K Steels	Bangalore	Mr Rahul Aggarwal	9945761378	fp@gksteels.com
TSPDL Chennai	Chennai	Mr Kannan Babu	9677124128	kannanbabu@tspd.com
TSPDL Bangalore	Bangalore	Mr Sushil Rajpoot	9448287850	sushilrajpoot@tspd.com
Karthik Steel	Chennai	Mr Suresh	9841298983	karthiksteel@yahoo.co.in
Shiva Ferric	Bangalore	Mr Surya Prakash	9342557361	surya@shivaferric.com
GK Steels	Bangalore	Mr. Gopal Agarwal Mr. Rohan Agarwai	9845015997	fp@gksteels.com

### WEST ZONE

Distributor Name	Territory	Contact Person	Mobile No.	E-Mail ID
Naresh Steel Industries	Mumbai	Mr. Saurav Shah	9820121494	info@nareshsteel.com
Rohit & Company	Mumbai	Mr. Manoj Mantry	9819307965	coordinator.rohitandco@gmail.com
SKM Steel	Mumbai	Mr. Mahinder Mistry	9820700881	ssteel@vsnl.com
Rohit & Company	Ahmedabad	Mr. Kishor Mundhra	9574004902	kishormundhra@rohitandco.com
Anm Ispat	Ahmedabad	Mr. Kunal Jathal	9879605104	vkunal.jathal@anmispac.com
SKM-Indore	Indore	Mr. R.D Farkiya	9827033232	rdf.indore@skmsteels.com
Tejram Ramniwas Agrawal	Nagpur	Mr. Sumit Agarwal	9823249659	trasteel@yahoo.com
TSPDL-Pune	Pune	Mr. Vivek Yadav	9822092324	vivekyadav@tspd.com
B.Odhavji & Co.	Pune	Mr. Rajan Wadivkar	9923374406	rajan.wadivkar@bodhavji.com
Pasa Associates	Chhattisgarh	Mr. Yogesh Beriwal	9893626700	yogeshberiwal@pasahouse.com



# TATA STEEL SALES OFFICES

## North Zone

- Delhi** : 1st Floor, Jeevan Tara Building,  
5 Sansad Marg, New Delhi 110 001  
Phone: 011-66248500, Fax: 91 11 2334 3196
- Ghaziabad** : Plot No. 1227-1229,GT Road,  
Lalkuan ,Ghaziabad 201 001, Phone: 0120-866780
- Faridabad** : 2nd Floor, Business Centre  
33-B NIT, Faridabad  
Haryana - 121001, Tel no 0129-4098321
- Chandigarh**: SCO-16 1st Floor, Sector 26,  
Madhya Marg, Chandigarh - 160 019  
Phone: 91 172 2791047, 2790932 , Fax: 91 172 279 2426
- Kanpur** : 16/97, Navroz Building,  
The Mall, Kanpur 208 001  
Phone: 91 512 231 6605, Fax: 91 512 231 6631
- Ludhiana** : B-30, 1858/1 Focal Point,  
Ludhiana 141 010  
Phone: 91 161 267 3759 / 0806, Fax: 91 161 267 6659
- Chandigarh**: SCO-16 1st Floor, Sector 26,  
Madhya Marg, Chandigarh - 160 019  
Phone: 91 172 2791047, 2790932 , Fax: 91 172 279 2426
- Ludhiana** : B-30, 1858/1 Focal Point,  
Ludhiana 141 010  
Phone: 91 161 267 3759 / 0806, Fax: 91 161 267 6659
- Jaipur** : G - Business Park, 6th Floor,  
D-34, Near Agrasen Circle,  
Subhash Marg, C-Scheme, Jaipur - 302 001
- Patna** : 401,402,orchid Mall Opp .a.n Collage Main Gate  
Boring Road, patna - 80000 Ph. No.0612-2570094/95/96

## South Zone

- Chennai** : 8th Floor, Chettinad Sigapi Achi Building,  
18/3- Rukmini Lakshmi pathy Road, Egmore,  
Chennai – 600008
- Bangalore** : A Wing, 2nd Floor, Jubilee Building,  
45 Museum Road, Bangalore 560 025  
Office- 080 66950001, Fax- 080 66950038
- Secunderabad** : 6th Floor, Surya Towers,  
104 Sardar Patel Road,  
Secunderabad 500 003  
Phone: 91 40 5526 1020 / 1030,  
Fax: 91 40 2781 2418
- Coimbatore** : No: 6, New Damunagar, Puliakulam,  
Coimbatore – 641036

## East Zone

- Kolkata** : 52 Jawaharlal Nehru Road,  
Kolkata 700 071 Phone: 91  
332282 1778 / 2282 1348  
Fax: 91 33 2282 1687
- Bhubaneswar**: 2 - B , Fortune Tower  
Chandrasekharpur  
Bhubaneswar - 751023, Odisha
- Jamshedpur** : 191, Burma Road, Burma Mines,  
Jamshedpur 831001  
Phone: 91 657 227 0123  
191, Burma Road, Burma Mines,  
Jamshedpur 831001,  
Phone: 91 657 227 0123
- Guwahati** : Guwahati Sales Office  
4th floor, Subham Velocity,  
Honuram Boro Path, Opp.  
Wallford, G.S.Road,Guwahati –  
781005

## West Zone

- Mumbai** : 3rd Floor, One Forbes  
1, Dr V B Gandhi Marg, Fort,  
Mumbai - 400001
- Ahmedabad**: 2nd Floor, Premchand House,  
Annexe, P.O. Box No. 4096,  
Ashram Road, Old High Court Way,  
Ahmedabad 380 009,  
Phone: 91 79 801 2306,  
Fax: 91 79 801 2604
- Indore** : 3rd Floor , NRK Business Park ,  
Block B-1 , PU-4, Scheme No 54,  
Vijay Nagar Square , A.B.Road  
Indore – 452010, MP  
Office Tel :- 0731-6450688/ 691
- Nagpur** : Museum Road, Civil Lines,  
Nagpur 440 001,  
Phone: 91 712 252 0170 / 253 3209,  
Fax: 91 172 253 7078
- Pune** : Office No.6 and 7, Second floor, Wing B,  
Great Eastern Plaza ( Bajaj Allianz  
Building ), Airport Road, Pune-411001.





# SPECTRUM OF APPLICATIONS

SERVING AN ARRAY OF SEGMENTS



## THE PRODUCT RANGE INCLUDES

Hot Rolled Coils (HRC)

Cut to length (CTL) Sheets

Slit Coils

Pickled & Oiled (PO)

Skin Pass , Pickled & Oiled (SPO)

### CUSTOMER CARE



Toll free number  
1800-108-8282



Website  
[www.tataastrum.com](http://www.tataastrum.com)

Digital Knowledge Sharing Platform [www.ecafez.com](http://www.ecafez.com)

### TATA STEEL

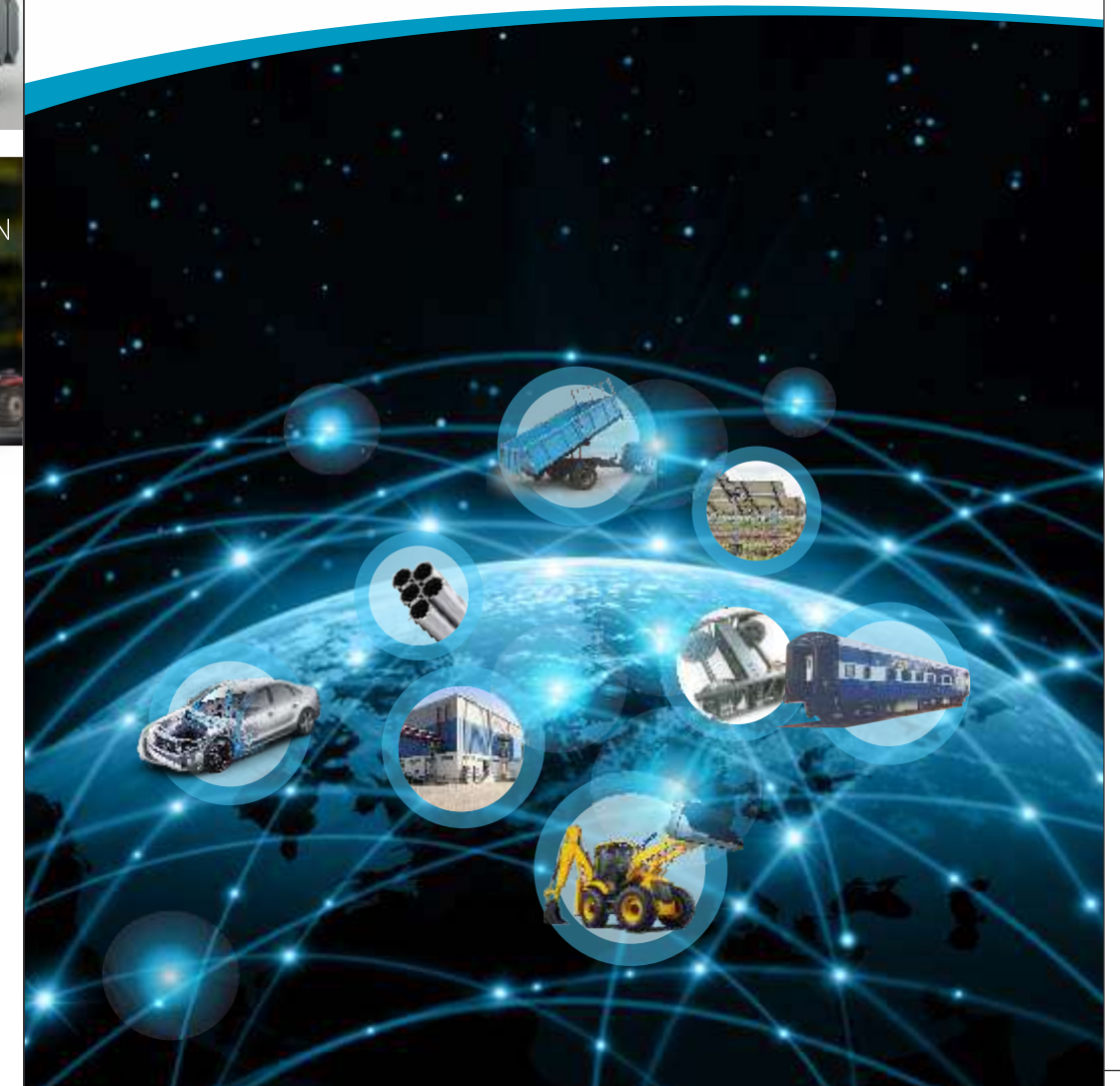
Tata Steel Limited, Tata Centre, 43, Jawaharlal Nehru Road, Kolkata-700 071  
Phone: 91 33 2288 7051/8251

**TATA STEEL**  
WeAlsoMakeTomorrow

**TATA**  
**ASTRUM**  
HR SHEETS AND COILS

## CREATING VALUE THROUGH CUSTOMISATION AND SERVICES

Technical Delivery Conditions (TDCs)





# TATA ASTRUM TDCs

TDC	Grade	Product Form	Application	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR01	IS 10748 Gr 1	DRY/HRPO	Tubes	1.60	4.99	900	2050	170	-	290	-
HR02	IS 1079 DD	DRY/HRPO	Sheet Metal components	1.60	12.00	900	2050	-	-	-	400
HR03	SAPH 440	DRY/HRPO	Auto Structural	2.00	4.99	900	2000	305	-	440	520
HR04	BSK 46	DRY	Auto Structural	5.00	7.99	900	2000	460	540	500	640
HR05	IS 2062 E 250 A (LC-MA)	DRY/HRPO	Fabrication	2.00	4.99	800	2050	250	-	410	-
HR06	IRS M41	DRY	Railway Coach/Panel/Roof	5.00	12.00	1100	1500	340	-	480	-
HR07	IS 2062 E 250 A (Peritectic)	DRY/HRPO	Fabrication/ Auto Structural	2.51	4.99	800	2050	255	370	410	-
HR08	IS 2062 E 250 A (LC-MA)	DRY/HRPO	Fabrication/ Auto Structural	5.00	12.00	900	1680	250	-	410	600
HR09	IS 10748 Gr-1	HRSP0	Farm Equipment	1.60	4.50	950	1650	-	-	-	-
HR10	IS 10748 Gr-2	HRSP0	Bottom Bracket & frames for cycles	1.60	4.50	950	1650	-	-	-	-
HR11	Tata PT(H)	DRY/HRPO	Precision Tubes	1.60	8.00	800	2050	195	-	320	480
HR12	ASTM 622M	HRSP0	Compressor Shell	1.60	4.50	1000	1540	-	-	-	-
HR13	IS 11513 DD	DRY/HRPO	Cold Rolling	2.00	12.00	900	1540	-	-	-	-
HR14	IS 5986 Fe 410	DRY/HRPO	Auto Structural/Axle Support	2.00	4.99	800	2050	265	400	430	520
HR15	IS 5986 Fe 360	DRY/HRPO	Structural/Fabrication	1.60	4.99	800	2050	235	-	370	-
HR16	IS 10748 Gr-1	DRY/HRPO	Tubes	5.00	12.00	800	2050	170	-	290	-
HR17	IS 1079 EDD	DRY/HRPO	Sheet Metal components (requiring extra deep draw)	2.00	6.50	900	1540	-	-	-	380
HR18	IS 2062 Gr E250 BR	DRY/HRPO	Fabrication/ Structural	2.00	4.99	800	2050	250	-	410	-
HR19	IS 2062 Gr E250 BR	DRY/HRPO	Fabrication/ Structural	5.00	12.00	800	2050	250	-	410	-
HR20	IS 2062 E 250 A (Peritectic)	DRY/HRPO	Fabrication/ Auto Structural	5.00	12.00	800	2050	255	370	410	600
HR21	DIN 17100 ST 52.3	DRY/HRPO	Tipper Body, Buckets for Earth Moving Equipment, PEB	5.00	8.00	900	1680	355	-	490	-
HR22	DIN 17100 ST 52.3	DRY/HRPO	Tipper Body, Buckets for Earth Moving Equipment, PEB	2.00	4.99	900	1680	355	-	490	-
HR23	IS 2062 E 250 A (Low Si)	DRY	Structurals requiring Hot Dip Galvanizing	5.00	12.00	900	1540	255	370	410	600
HR24	Gr-A CFS	DRY/HRPO	Web (Brake Shoe Component)	2.00	5.00	860	2050	255	-	410	-
HR25	IS 2062 E 250 Gr-B0	DRY	Fabrication/ Structural	5.00	12.00	900	1540	250	-	410	-
HR26	IS 2062 E 250 A	DRY	Fabrication/ Auto Structural	12.01	16.00	900	1680	250	-	410	600
HR27	IS 2062 E 450 A	DRY/HRPO	Hi strength structurals	2.00	5.00	900	1680	450	-	570	-
HR28	IS 2062 E 350 Gr C	DRY/HRPO	Structurals for Solar	2.00	4.99	800	2050	350	-	490	-
HR29	IS 2062 E 350 Gr C	DRY/HRPO	Structurals for Solar/Transmission towers	5.00	8.00	800	2050	350	-	490	-
HR30	IS2062 E 250 Gr B0	DRY	Fabrication/ Structural	12.01	16.00	900	1680	250	-	410	600
HR31	IS 1079 Gr D	DRY	Sheet Metal Components requiring draw	1.60	6.00	900	1680	-	-	240	420
HR33	ST 52.3 (Low Si) / EN 10025 S355 J2	DRY	Tipper Body	5.00	8.00	900	1680	355	-	470	630
HR34	ASTM A 572 Gr 50 Type 1	DRY	PEB	2.50	4.99	900	1500	345	-	450	-
HR35	ASTM A 572 Gr 50 Type 1	DRY	PEB	5.00	10.00	900	1680	345	-	450	-
HR36	BSK46 (Thin)	DRY/HRPO	Auto Structural	2.50	4.99	900	2000	460	540	500	640
HR38	IS 2062 E 350 Gr A (Si > 0.14)	DRY	Structurals	5.00	7.99	900	1540	360	-	500	620
HR39	IS 2062 E 350 Gr A (Si > 0.14)	DRY	Structurals	8.00	12.00	900	1540	360	-	500	620
HR40	IS 5986 235 (THICK)	DRY	Fabrication & Structural	5.00	12.00	1200	1680	235	-	360	470
HR41	IS 5986 255 (THICK)	DRY/HRPO	Fabricated Components	5.00	12.00	900	1680	255	-	410	520
HR42	IS 5986 205	DRY	Fabricated Components	6.01	9.00	900	1680	205	-	330	440
HR43	IS:11513 CR2	DRY	HR for CR	1.60	12.00	800	2050	-	-	-	-
HR44	IS 1079 HR 2	DRY	Direct HR Components	1.60	6.00	800	2050	-	-	-	420
HR45	IS 2062 E 250 GR. A	DRY	Fabrication/ Auto Structural	5.00	7.99	800	2050	250	-	410	-
HR46	E 34 S54012A	DRY	Auto Structural	1.60	2.50	900	1680	333	412	392	470
HR47	IS 2062 E 250 GR A	DRY	Fabrication/ Auto Structural	1.20	2.50	800	1700	250	-	410	-
HR48	IS 1079 HR1	DRY	Drawing Components	1.60	4.99	800	2050	-	-	-	440
HR49	E-38 SHEET	DRY/HRPO	Auto Structural	1.60	4.99	900	2000	373	461	441	558
HR50	JIS G 3113 SAPH 370	DRY	Auto Structural	2.00	5.00	900	1680	225	-	370	-
HR51	E-38 SS 4012 Thin	DRY/HRPO	Auto Structural	2.00	7.99	900	1680	372	461	441	560
HR53	FE 360	DRY	Rim Application for wheels	8.00	12.00	900	1680	240	-	350	410
HR54	SAPH440	DRY	Auto structural	5.00	8.00	900	2000	305	-	440	-
HR55	E-34 SHEET	DRY	Auto Structural	2.50	4.99	900	2000	333	412	392	470
HR56	E 34 S54012A	DRY	Auto Structural	5.00	7.99	900	2000	333	412	392	470
HR57	E 34 S54012A	DRY	Auto Structural	8.00	12.00	900	2000	333	412	392	470
HR58	BSK-46/E-46	DRY	Auto Structural	8.00	12.00	900	2000	460	-	500	640
HR59	E-36 SHEET	DRY/HRPO	Auto Structural	2.50	4.99	900	1540	355	450	430	550
HR60	HRSP0 IS1079 HR3	HRSP0	Sheet metal requiring draw (HRSP0)	1.60	4.50	900	1620	-	-	-	400
HR61	SAPH440	HRSP0	Auto Structural	2.00	4.50	900	1540	305	-	440	520
HR63	IS 1079 HR2	DRY	Drawing Components	5.00	7.99	800	2050	170	-	-	420
HR64	IS5986 FE360	HRSP0	Panels	1.60	4.50	900	1620	235	-	370	-
HR65	E-34	HRSP0	Auto Internals	2.51	4.50	900	1620	333	412	392	470
HR66	IS 2062 E 350 C	DRY	Fabrication/ Structural	8.00	12.00	800	2050	350	-	490	-
HR67	DIN 17100 ST 52.3	DRY	Tipper Body, Buckets for Earth Moving Equipment, PEB	8.00	12.00	900	1680	355	-	490	-
HR68	IS 2062 E250 GR A (GAL)	DRY	Fabrication/ Structural (Requiring galvanizing)	2.00	4.99	900	1680	255	370	410	600
HR69	IS 2062 E450 GRADE A	DRY	High Strength Structural/Fabrication	5.00	12.00	900	1540	450	-	570	-
HR70	IS 2062 E 250 B0	DRY	Fabrication/ Structural	8.00	12.00	900	2050	250	-	410	-
HR71	JIS G 3134 SPFH590	DRY	Auto	2.50	6.00	900	2000	420	-	590	690
HR76	IS 2062 E 250 BR	DRY	Fabrication/ Structural	16.01	20.00	800	2050	250	-	410	-
HR78	IS 2062 E 250 GR A	DRY	Fabrication/ Structural	12.01	16.00	800	2050	250	-	410	-
HR80	ASTM A622(MOD)	DRY	Precision Tubes	1.60	6.00	900	1680	250	-	350	-

TDC	Grade	Product Form	Application	Width and Thickness				Mechanical Properties			
				Thickness Range (mm)		Width Range (mm)		YS (MPa)		UTS (MPa)	
				Min	Max	Min	Max	Min	Max	Min	Max
HR81	IS 5986 235 (PANEL)	DRY	Direct Forming Applications	1.60	2.50	900	1680	235	-	370	-
HR87	EN 10025 S355 J2	DRY	Direct HR Components	8.00	12.00	900	1680	355	-	470	630
HR95	EN10149 S460MC	DRY	Fabrication/ Structural	5.00	8.00	900	2000	460	-	520	670
HR99	IS 1079 HR2	DRY/HRPO	Drawing	1.60	6.00	900	2000	-	-	-	420
HT03	IS 2062 E 250 A	DRY	Fabrication & Structural	16.01	20.00	800	2050	250	-	410	-
HT05	IS 2062 E250 A	DRY	Fabrication & Structural	2.00	4.99	900	2050	250	-	410	-
HT06	IS 2062 E250 A	DRY	Fabrication & Structural	5.00	7.99	900	2050	250	-	410	-
HT07	IS 2062 E250 A	DRY	Fabrication & Structural	8.00	12.00	900	2050	250	-	410	-
HT08	E-34 Thin	DRY	Reinforcement & Chassis Application	1.60	4.99	900	2000	333	412	392	470
HT09	JIS G3113 SAPH440	DRY	HR for Cold Forming	2.00	4.99	900	2000	325	430	460	-
HT10	EN 10149 S355 MC	DRY	Fabrication/ Auto	2.00	4.99	900	2000	355	-	430	550
HT15	E-38 Thick	DRY	Rim & Disc Application	8.00	12.00	900	1680	372	461	441	560
HT29	ST52.3	DRY	Structurals/ Commercial Tubes	2.00	7.00	900	2000	355	-	490	680
HT32	IS2062 E350 GR.C	DRY	Fabrication/ Structural	12.01	16.00	900	1680	350	-	490	-
HT33	IS2062 E350 GR.C	DRY	Fabrication/ Structural	12.01	16.00	900	2000	350	-	490	-
HT34	IS 2062 E250 GR C	DRY	Structurals	2.00	4.99	900	1680	250	-	410	600
HT35	IS 2062 E250 GR C	DRY	Structurals	5.00	7.99	900	1680	250	-	410	600
HT36	IS 2062 E250 GR C	DRY	Structurals	8.00	12.00	900	1680	250	-	410	600
HT37	IS 2062 E250 GR C	DRY	Structurals	12.01	16.00	900	1680	250	-	410	600
HT81	ASTM A572 GR 65 Type 2 (Low Si)	DRY	Fabrication & Structural (High Mast Poles)	5.00	7.99	900	2000	450	-	550	-
HT82	ASTM A572 GR 65 Type 2 (Low Si)	DRY	Fabrication & Structural (High Mast Poles)	8.00	12.00	900	2000	450	-	550	-
HT85	IS2062 E450 Gr A	DRY	Fabrication & Structural	5.00	7.99	900	2000	450	-	570	-
HT90	EN 10149 S500 MC	DRY	Railways/ Fabrication	5.00	7.99	800	2050	500	-	550	650
HT91	EN 10149 S500 MC	DRY	Railways/ Fabrication	8.00	12.00	800	2050	500	-	550	650
HT92	EN 10149 S550MC	DRY	Fabricated Components	5.00	7.99	800	2050	550	-	600	760
HT93	EN 10149 S550 MC	DRY	Fabricated Components	8.00	12.00	800	2050	550	-	600	760
HT96	EN10025-2 S355 J0	DRY	Structurals	1.60	4.99	900	1680	355	-	470	-
HT97	EN10149-2 S700MC	DRY	High Strength HR for CF, ATM Safe	4.00	13.00	900	2000	700	-	750	950
HT99	EN 100025 S235 JR	DRY	Structurals	2.00	4.99	900	1540	235	-	360	-
HU03	EN 10025 S 275 JR	DRY	Fabrication & Structural	2.50	4.99	900	2000	275	-	410	560
HU09	IS 2062 E 250 A (CU)	DRY	Railway Coach Panel/Roof	5.00	7.99	800	2050	250	-	410	-
HU12	IS 2062 E 250 BR	DRY	Fabrication & Structural	1.60	4.99	900	2000	250	-	410	-
HU13	IS2062 E250 BR	DRY	Fabrication & Structural	5.00	7.99	900	2000	250	-	410	-
HU14	IS2062 E250 BR	DRY	Fabrication & Structural	8.00	12.00	900	2000	250	-	410	-
HU24	IS 2062 E350 GR C (Low Si - Si<0.04)	DRY	Fabrication & Structural	2.00	4.99	900	1680	350	-	490	-
HU28	IS 2062 E250 Gr A (Si>0.14)	DRY	Transmission & Distribution	5.00	7.99	900	1540	280	-	420	-
HU29	IS 2062 E250 Gr A (Si>0.14)	DRY	Transmission & Distribution	8.00	12.00	900	1540	280	-	420	-
HU30	EN 10025 S275 J2 (Si>0.14)	DRY	Structurals	2.00	4.99	900	2050	275	-	410	580
HU31	EN 10025 S275 J2 (Si>0.										