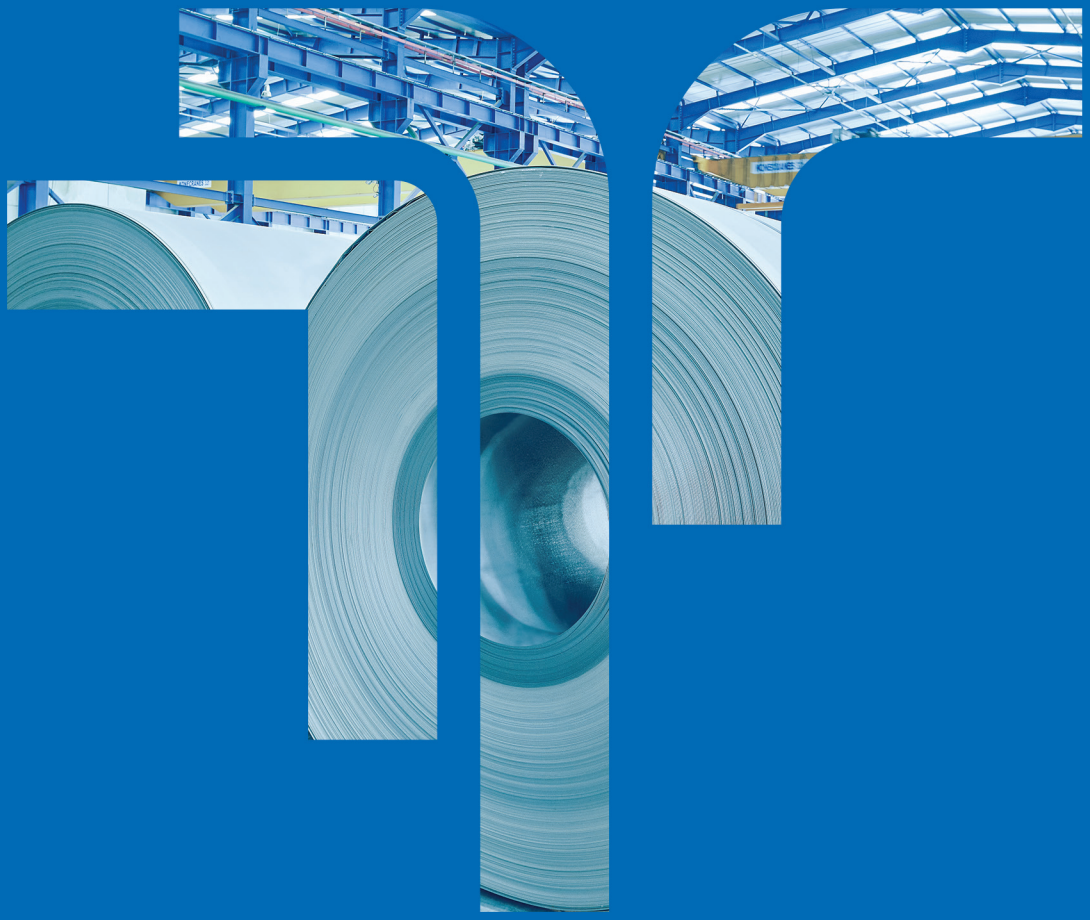
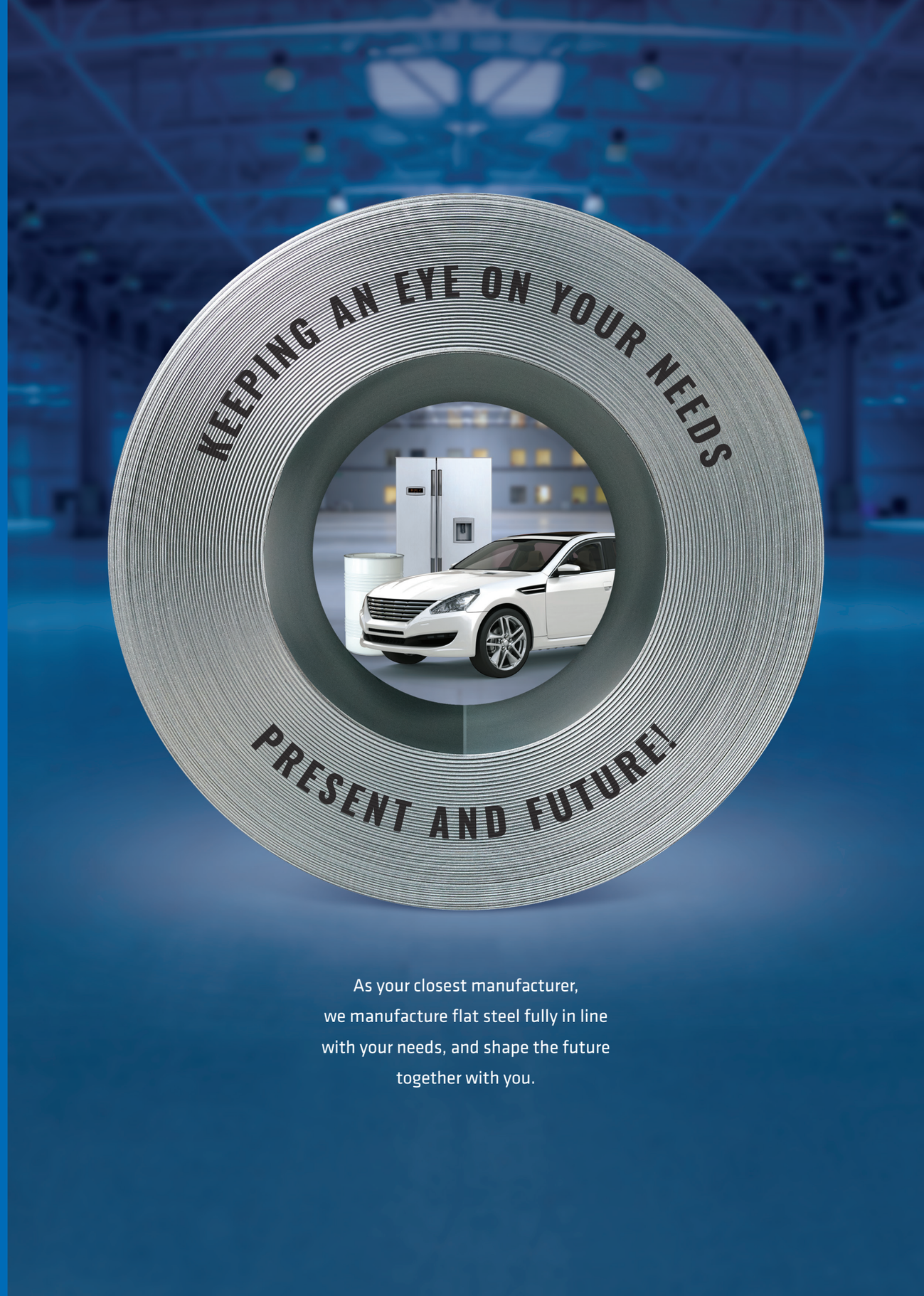


HOT ROLLED PICKLED AND OILED STEEL

TATÇELİK

TATMETAL



As your closest manufacturer,
we manufacture flat steel fully in line
with your needs, and shape the future
together with you.

CONTENTS

TATMETAL, TURKEY'S LEADING MANUFACTURER OF FLAT STEEL

Export to More than 60 Countries in 6 Continents

Tatmetal produces hot rolled pickled, cold rolled, galvanized and painted flat steel under Tatçelik brand as one of Turkey's leading flat steel producer. Automotive, Durable Goods, Construction, Energy and Machinery-Equipment are the leading industries it serves.

With a capacity exceeding 1.5 million tons, Tatmetal produces in many different steel grades such as commercial, deep drawing, extra deep drawing steels, low alloy high strength HSLA steels, medium and high strength structural steels and enameling steel.

In addition to its production, it performs cut to lenght, slitting, roll forming processes in the Steel Service Centers in line with the demands and needs of the user.

As a global player in the sector, it exports to more than 60 countries in 6 continents and it is ranked at 74st among the first 500 largest industrial companies in Turkey.

1.1 CAPACITY

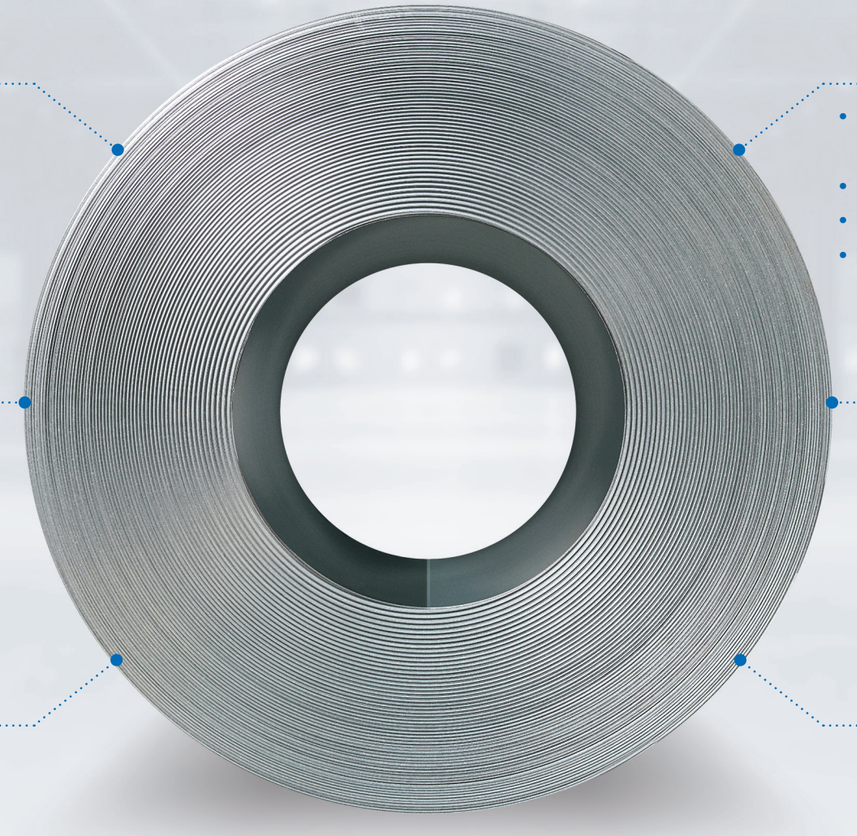
Steel Production Complex with **177.000 m²** area

Production capacity exceeding **1.5 million** tons

1.2 SECTORS

Automotive

- Automobile
- Commercial Vehicle
- Agricultural Vehicle
- Rail Transport



Construction

- Roof and Facade Systems
- Pipe & Profile
- Busbar
- Heating and Cooling, Air Conditioning Systems
- Ceiling and Floor Systems
- Greenhouse Cultivation
- Storage and Shelving Systems

Durable Consumption

- White Goods
- Small Appliances
- Brown Goods

Energy

- Transformer - Power Systems
- Solar Energy

Machine Equipment

- Sheet Metal Processing Machinery
- Miscellaneous Agricultural, Forestry, Mining and Food Industry Machinery
- Heavy Equipment
- Crane and Work Tools

Packaging

- Steel Drum
- Packaging (Steel Strap and seals)
- Storage Tank

1.3 ADVANTAGES OF STEEL

Low Cost & Easy Supply

High Strength

Formability

Recycling Opportunity

Weldability

High Corrosion Resistance

Paintability

2

HOT ROLLED PICKLED AND OILED FLAT STEEL

Hot Rolled Steel
Hot Rolled Flat Steel is obtained by heating the slab, which is a rectangular semi-product produced by continuous casting method, at a certain temperature and then hot rolling. In general, it is used as building steel with welding applications requiring ductility and toughness.
Tatçelik supplies its hot rolled flat steel products, and offers its customers by cutting and slitting them in desired sizes at the Steel Service Centers.

Hot Rolled Pickled and Oiled Steel
Hot Rolled Pickled Flat Steel product obtained by cleaning the scale layer formed on the surface of the hot rolled sheet in a continuous line with hydrochloric acid. Then the acid on the surface is rinsed with water, the product is lubricated with protective oil. The mechanical properties of the Pickled Flat Steel product are generally the same as the hot rolled product.

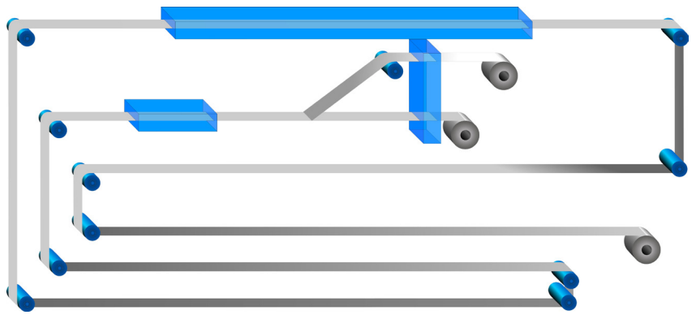
1.3 million tons / year
production capacity

Advantages of Hot Rolled Pickled Steel

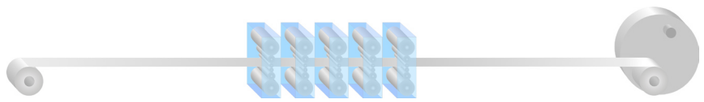
- Cost Advantage
- High Strength
- Formability
- Weldability
- Paintability
- Easy Supply
- Recycling Opportunity

2.1 PRODUCTION PROCESS

PLTCM (Pickling Line Tandem Cold Mill)

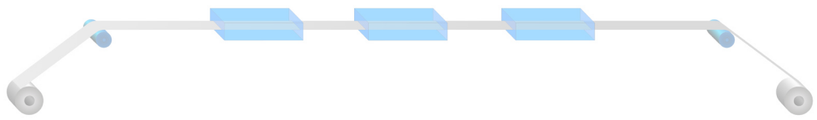


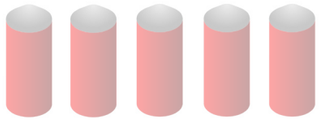
HRP+O

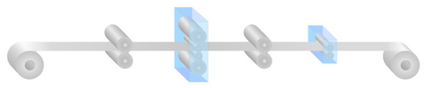


CRFH

Alcaline Cleaning Line - Annealing Line - Temper Mill

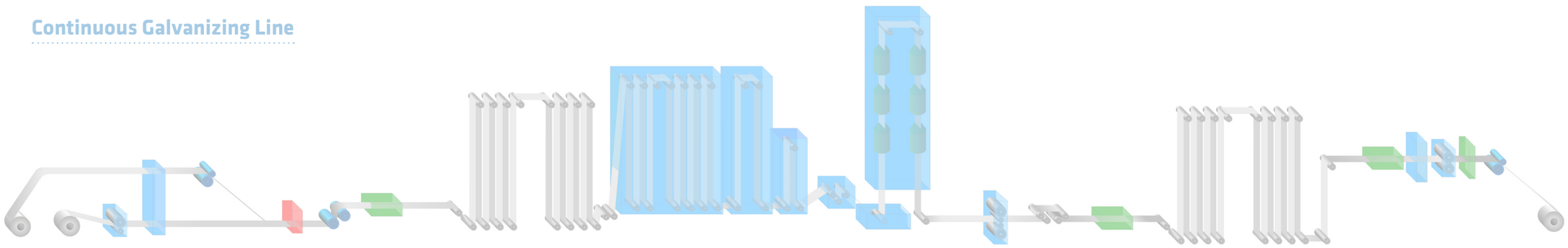






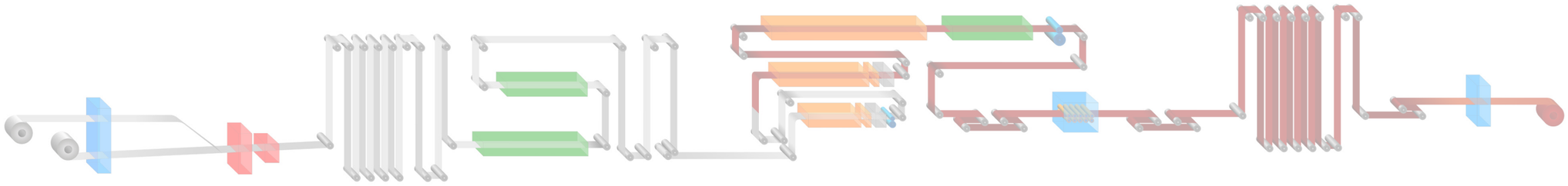
CR

Continuous Galvanizing Line



GI

Color Coating Line



PPGI

2.2 AREAS OF USAGE

Areas of Usage

Hot Rolled Flat Steel

Construction Machinery, Construction Equipment, Road and Rail Vehicles Manufacturing, Pipe Manufacturing, Pressure Vessel Manufacturing.

Hot Rolled Pickled Flat Steel

Automotive, Automotive Supply Industry, Wheel Rim Production, Construction, Pressure Vessel production

STANDARD AND QUALITIES 2.3

		Product Group	TATCELIK Grades	Standard Grades	Standard	Similar Standards			
						ASTM Standard	EN Standard	JIS Standard	AS/NZS Standard
Hot Rolled and Pickled Products	Hot Rolled Unalloyed Structural Steels	Hot - Pickled	S235JR	S235JR	EN 10025-2:2004	SS Gr.33	-	-	HA200-HA250-HU250
		Hot - Pickled	S275JR	S275JR	EN 10025-2:2004	SS Gr.40	-	-	HA300-HU300
		Hot - Pickled	S355JR	S355JR	EN 10025-2:2004	SS Gr.50	-	-	HA350
	Hot Rolled Steels for Deep-drawing and Cold Forming	Hot - Pickled	DD11	DD11	EN 10111:2008	CS Type B	-	SPHC	HA1
		Hot - Pickled	DD12	DD12	EN 10111:2008	DS Type A	-	SPHD	HA1
		Hot - Pickled	DD13	DD13	EN 10111:2008	DS Type B	-	SPHD	HA3
		Hot - Pickled	DD14	DD14	EN 10111:2008	-	-	SPHE	HA4N
	Hot Rolled High Yield Strength Steels for Cold Forming	Hot - Pickled	S315MC	S315MC	EN 10149-2:2013	HSLAS Gr.45	-	-	XF300
		Hot - Pickled	S355MC	S355MC	EN 10149-2:2013	HSLAS Gr.50	-	-	XF400
		Hot - Pickled	S420MC	S420MC	EN 10149-2:2013	HSLAS Gr.60	-	-	-
		Hot - Pickled	S460MC	S460MC	EN 10149-2:2013	HSLAS Gr.65	-	-	XF500
		Hot - Pickled	S500MC (1) (2) (3)	S500MC	EN 10149-2:2013	HSLAS Gr.70	-	-	-
		Hot - Pickled	S550MC (1) (2) (3)	S550MC	EN 10149-2:2013	HSLAS Gr.80	-	-	-
	High Yield Strength Dual Phase Steel	Hot - Pickled	HDT580X (DP600) (1)	HDT580X	EN 10338:2015	-	-	-	-

1 - All grades which is nearest EN standards shall be subject to negotiation at the time of enquiry and order.
2 - Issues and/or tolerances not mentioned here to be agreed at the time of enquiry and order.
3 - Under development.

PRODUCTION LIMITS 2.4

Product Group	Min. Thickness	Max Thickness	Min. Width	Max Width	Surface Protection	Inner Diameter
Pickled	1,50	6,00	900	1500	0 - 3,00 gr / m2	610

Order Thickness (mm)	Order Width (mm) 800	900	1000	1200	1300	1400	1500	1600	Order Thickness (mm)
6.50									6.50
6.00		•	•	•	•				6.00
5.50		•	•	•	•				5.50
5.00		•	•	•	•	•	•		5.00
4.50		•	•	•	•	•	•		4.50
4.00		•	•	•	•	•	•		4.00
3.50		•	•	•	•	•	•		3.50
3.00		•	•	•	•	•	•		3.00
2.50		•	•	•	•	•	•		2.50
2.00		•	•	•	•	•	•		2.00
1.50		•	•	•	•	•	•		1.50
1.00									1.00
	800	900	1000	1200	1300	1400	1500	1600	

Order Width (mm)

2.5 MECHANICAL AND CHEMICAL PROPERTIES

Hot Rolled Steels for Deep-drawing and Cold Forming

Chemical Composition (%)						
TATCELIK Grades	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)
DD11	DD11	EN 10111:2008	0,12	0,60	0,045	0,045
DD12	DD12	EN 10111:2008	0,10	0,45	0,035	0,035
DD13	DD13	EN 10111:2008	0,08	0,40	0,030	0,030
DD14	DD14	EN 10111:2008	0,08	0,35	0,025	0,025

Mechanical Properties								
TATCELIK Grades	Grade	Standard	Re N/mm²		Rm N/mm²	A (%)		
						A80		A5
			1,5 ≤ t < 2	2 ≤ t ≤ 4	max.	1,5 ≤ t < 2	2 ≤ t < 3	3 ≤ t ≤ 4
						min.	min.	min.
DD11	DD11	EN 10111:2008	170 - 360	170 - 340	440	23	24	28
DD12	DD12	EN 10111:2008	170 - 340	170 - 320	420	25	26	30
DD13	DD13	EN 10111:2008	170 - 330	170 - 310	400	28	29	33
DD14	DD14	EN 10111:2008	170 - 310	170 - 290	380	31	32	36

Hot Rolled Unalloyed Structural Steels

Chemical Composition (%)									
TATCELIK Grades	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Cu (max.)	N (max.)
S235JR	S235JR	EN 10025-2:2004	0,17	1,40	0,035	0,035	-	0,55	0,012
S275JR	S275JR	EN 10025-2:2004	0,21	1,50	0,035	0,035	-	0,55	0,012
S355JR	S355JR	EN 10025-2:2004	0,24	1,60	0,035	0,035	0,55	0,55	0,012

Mechanical Properties								
TATCELIK Grades	Grade	Standard	Min. Re N/mm²	Rm N/mm²		Min. A (%) A80		
			t ≤ 16	t < 3	3 ≤ t ≤ 100	1,5 < t ≤ 2	2 < t ≤ 2,5	2,5 < t ≤ 3
S235JR	S235JR	EN 10025-2:2004	235	360-510	360-510	19	20	21
S275JR	S275JR	EN 10025-2:2004	275	430-580	410-560	17	18	19
S355JR	S355JR	EN 10025-2:2004	355	510-680	470-630	16	17	18

Hot Rolled High Yield Strength Steels for Cold Forming

Chemical Composition (%)											
TATCELIK Grades	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Ti (max.)	Nb (max.)	V (max.)	Al total (min.)
S315MC	S315MC	EN 10149-2:2013	0,12	1,30	0,025	0,020	0,50	0,15	0,09	0,20	0,015
S355MC	S355MC	EN 10149-2:2013	0,12	1,50	0,025	0,020	0,50	0,15	0,09	0,20	0,015
S420MC	S420MC	EN 10149-2:2013	0,12	1,60	0,025	0,015	0,50	0,15	0,09	0,20	0,015
S460MC	S460MC	EN 10149-2:2013	0,12	1,60	0,025	0,015	0,50	0,15	0,09	0,20	0,015
S500MC	S500MC	EN 10149-2:2013	0,12	1,70	0,025	0,015	0,50	0,15	0,09	0,20	0,015
S550MC	S550MC	EN 10149-2:2013	0,12	1,80	0,025	0,015	0,50	0,15	0,09	0,20	0,015

Mechanical Properties						
TATCELIK Grades	Grade	Standard	Min. Re N/mm²	Rm N/mm²	Min. A (%)	
					A80	A5
					t < 3	t ≥ 3
S315MC	S315MC	EN 10149-2:2013	315	390-510	20	24
S355MC	S355MC	EN 10149-2:2013	355	430-550	19	23
S420MC	S420MC	EN 10149-2:2013	420	480-620	16	19
S460MC	S460MC	EN 10149-2:2013	460	520-670	14	17
S500MC	S500MC	EN 10149-2:2013	500	550-700	12	14
S550MC	S550MC	EN 10149-2:2013	550	600-760	12	14

High Yield Strength Dual Phase Steel

Chemical Composition (%)											
TATCELIK Grades	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Ti + Nb (max.)	V (max.)	Al total	Cr + Mo (max.)	B (max.)
HDT580X	HDT580X	EN 10338:2015	0,14	2,20	0,085	0,015	1,00	0,15	0,20	0,015-0,10	1,40	0,005

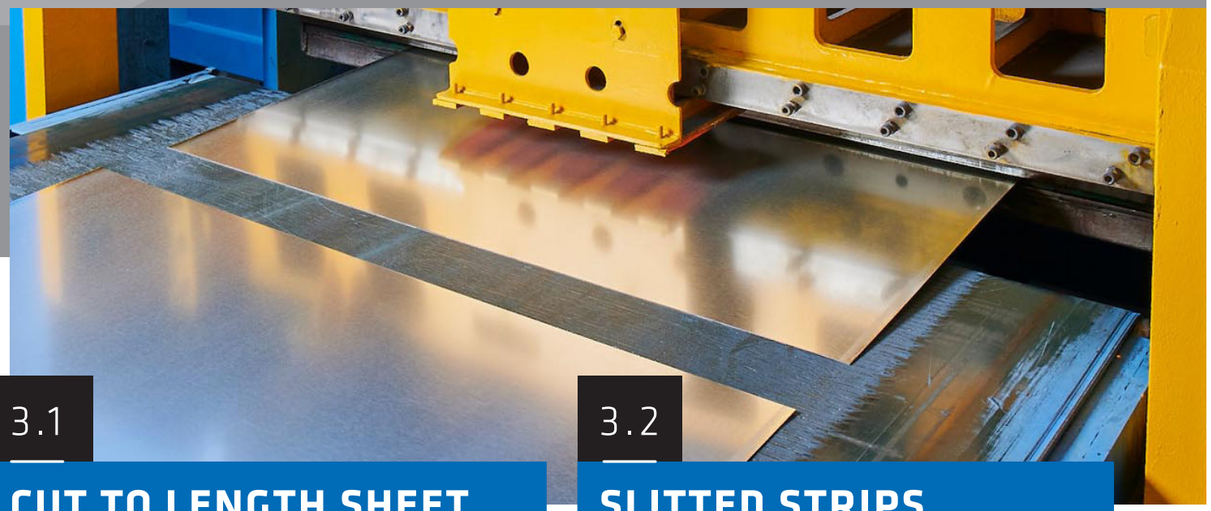
Mechanical Properties						
TATCELIK Grades	Grade	Standard	Min. Re N/mm²	Rm N/mm²	Min. A (%)	
					A80	A5
					t < 3	t ≥ 3
HDT580X	HDT580X	EN 10338:2015	580	330-450	19	23

QUALITY CONTROL 2.6

Mechanical Tests

- Tensile Test
- Bending Test

STEEL SERVICE CENTERS



3.1 CUT TO LENGTH SHEET

Cut to Length production range for hot rolled coil, hot rolled pickled and oiled coil;

Thickness : 1.50 - 6.00 mm
Width : 350 - 1600 mm
Length : 500 - 12000 mm

Packaging : It is packed on pallets with paper or steel packaging.

3.2 SLITTED STRIPS

Slitted Strips production range for hot rolled, pickled, oiled coil;

Thickness : 0.30 - 4.00 mm
Width : 20 - 1600 mm

Packaging : Slitted steel coils are packed vertically or horizontally, with or without pallets.

In addition to its production, Tatçelik performs cut to lenght, slitting in the Steel Service Centers.

TATMETAL ÇELİK SANAYİ VE TİCARET A.Ş.
Tax Administration : Büyük Mükellefler Vergi Dairesi
Tax No : 831 044 0672
Billing Address : Hamzafakıhlı Mah. Ebetaşı Sok. No:1 Ereğli / Zonguldak

Headquarters
Adress : Küçükbakkalköy Mah. Merdivenköy Yolu Cad. Rüya Sok. No: 12 Kat: 20
Vogue Business Center PK: 34750 Ataşehir/ İstanbul
Phone : +90 216 574 08 28

Ereğli Office
Adress : Hamzafakıhlı Mah. Ebetaşı Sok. No:1 Ereğli / Zonguldak

Bursa Office
Adress : Konak Mahallesi Barış Sokak Ofis Artı İş Merkezi, No:3 Kat:6 D:31 Nilüfer Bursa
Telefon : +90 224 249 03 63

Steel Service Center - 1
Adress : Bölücek Mah. 2 Numaralı Sanayi Sok. No: 32 Ereğli/ Zonguldak
Phone : +90 372 318 00 27 / 29

Steel Service Center - 2
Adress : Hamza Fakıhlı Köyü Girişi Ereğli/ Zonguldak
Telefon : +90 372 334 35 85

Cold Rolling, Galvanizing and Color Coating Plant
Adress : Hamzafakıhlı Mah. Organize Sanayi Bölgesi 2 NOLU Yol Sok. No:1 Ereğli / Zonguldak
Phone : +90 372 334 37 30

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