



Product Catalogue

 TATÇELİK



VALUE FOR FUTURE

With our expertise in flat steel production, we create solutions today for future needs and add value to the future goals of our business partners.

CONTENTS

2	1. Tatmetal
4	1.1 Capacity
6	1.2 Sectors
6	1.3 Advantages of Steel
8	2. Hot Rolled Pickled and Oiled Flat Steel
10	2.1 Production Process
12	2.2 Usage Areas
13	2.3 Standard and Quality
13	2.4 Production Limit
14	2.5 Mechanical and Chemical Properties
15	2.6 Quality Control
16	3. Cold Rolled Flat Steel
18	3.1 Production Process
20	3.2 Usage Areas
21	3.3 Standard and Quality
22	3.4 Production Limit
23	3.5 Mechanical and Chemical Properties
26	3.6 Quality Control
28	4. Galvanized Flat Steel
30	4.1 Production Process
32	4.2 Usage Areas
33	4.3 Standard and Quality
34	4.4 Production Limits
34	4.5 Mechanical and Chemical Properties
37	4.6 Quality Control
38	5. Prepainted Steel
40	5.1 Production Process
42	5.2 Usage Areas
43	5.3 Standard and Quality
43	5.4 Production Limits
44	5.5 Mechanical and Chemical Properties
45	5.6 Quality Control
46	6. Steel Service Centers
46	6.1 Cut To Length Sheet
46	6.2 Slitted Strip
47	6.3 Roll Formed PrePainted and Galvanized Steel Sheet

TATMETAL, TURKEY'S LEADING MANUFACTURER OF FLAT STEEL

Export to More than 70 Countries in 6 Continents

Tatmetal produces hot rolled pickled, cold rolled, galvanized and prepainted flat steel through Tatçelik brand as one of Turkey's leading flat steel producers. Automotive, White Goods, Construction, Energy, and Machinery-Equipment are the leading industries Tatmetal serves.

As a global player in the sector, Tatmetal exports to more than 70 countries in 6 continents and it is ranked at the top among the largest industrial companies in Turkey.

1.1 CAPACITY



Steel Production Complex with **177.000 m²** area

Production capacity exceeding **1.5 million tons**



Automotive

- Automobile
- Commercial Vehicle
- Agricultural Vehicle
- Rail Transport



Durable Consumption

- White Goods
- Small Appliances
- Brown Goods



Machine Equipment

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



- Roof and Facade Systems
- Pipe & Profile
- Busbar
- Heating and Cooling, Air Conditioning Systems

Construction

- Ceiling and Floor Systems
- Greenhouse Cultivation
- Storage and Shelving Systems



Energy

- Transformer - Power Systems
- Solar Energy



Packaging

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



Low Cost & Easy Supply



High Strength



Formability



Recycling Opportunity



Weldability



High Corrosion Resistance



Paintability

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 is 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.



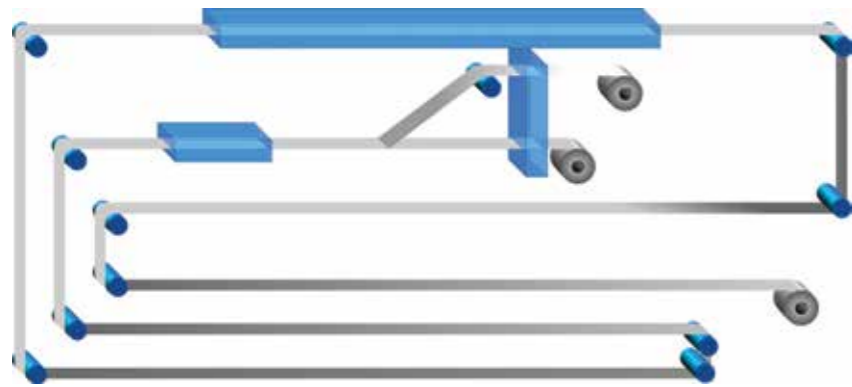
1.5 million tons / year production capacity

Advantages of Hot Rolled Pickled Steel



2.1 PRODUCTION PROCESS

PLTCM (Pickling Line Tandem Cold Mill)



HRP+0



CRFH



Alkaline Cleaning Line - Annealing Line - Temper Mill



CR



Continuous Galvanizing Line



GI



Color Coating Line



PPGI





Application

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



	Product Group	TATCELIK Grades	Standard Grades	Standard	Similar Standards			
					ASTM Standard	EN Standard	JIS Standard	AS/NZS Standard
Hot Rolled Unalloyed Structural Steels	HRC - P60	S235JR	S235JR	EN 10025-2:2004	SS Gr.33	-	-	HA200-HA250-HU250
	HRC - P60	S275JR	S275JR	EN 10025-2:2004	SS Gr.40	-	-	HA300-HU300
	HRC - P60	S355JR	S355JR	EN 10025-2:2004	SS Gr.50	-	-	HA350
Hot Rolled Steels for Deep-drawing and Cold Forming	HRC - P60	DD11	DD11	EN 10111:2008	CS Type B	-	SPHC	HA1
	HRC - P60	DD12	DD12	EN 10111:2008	DS Type A	-	SPHD	HA1
	HRC - P60	DD13	DD13	EN 10111:2008	DS Type B	-	SPHD	HA3
	HRC - P60	DD14	DD14	EN 10111:2008	-	-	SPHE	HA4N
Hot Rolled High Yield Strength Steels for Cold Forming	HRC - P60	S315MC	S315MC	EN 10149-2:2013	HSLAS Gr.45	-	-	XF300
	HRC - P60	S355MC	S355MC	EN 10149-2:2013	HSLAS Gr.50	-	-	XF400
	HRC - P60	S420MC	S420MC	EN 10149-2:2013	HSLAS Gr.60	-	-	-
	HRC - P60	S460MC	S460MC	EN 10149-2:2013	HSLAS Gr.65	-	-	XF500
	HRC - P60	S500MC ^{(1) (2) (3)}	S500MC	EN 10149-2:2013	HSLAS Gr.70	-	-	-
	HRC - P60	S550MC ^{(1) (2) (3)}	S550MC	EN 10149-2:2013	HSLAS Gr.80	-	-	-
High Yield Strength Dual Phase Steel	HRC - P60	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.

Product Group	Min. Thickness	Max Thickness	Min. Width	Max Width	Surface Protection	Inner Diameter
Pickled	1,50	5,00	900	1500	0,50 - 3,00 gr / m ²	610

Order Thickness (mm)	Order Width (mm)							Order Thickness (mm)
	800	900	1000	1200	1300	1400	1500	
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	
	Order Width (mm)							

2.5 MECHANICAL AND CHEMICAL PROPERTIES

Hot Rolled Steels for Deep-drawing and Cold Forming

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

Hot Rolled Unalloyed Structural Steels

Chemical Composition (%)									
TATÇELİK 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									
TATÇELİK Grades	Grade	Standard	Min. Re	Rm			Min. A (%)		
			N/mm ²	N/mm ²			A80		
			t ≤ 16	t < 3	3 ≤ t ≤ 100	1,5 < t ≤ 2	2 < t ≤ 2,5	2,5 < t < 3	3 ≤ t ≤ 5
S235JR	S235JR	EN 10025-2:2004	235	360-510	360-510	17	18	19	24
S275JR	S275JR	EN 10025-2:2004	275	430-580	410-560	15	16	17	21
S355JR	S355JR	EN 10025-2:2004	355	510-680	470-630	14	15	16	20

Hot Rolled High Yield Strength Steels for Cold Forming

Chemical Composition (%)											
TATÇELİK 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						
TATÇELİK Grades	Grade	Standard	Min. Re N/mm ²	Rm N/mm ²	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 (%)												
TATÇELİK 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						
TATÇELİK Grades	Grade	Standard	Min. Re N/mm ²	Rm N/mm ²	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

3

COLD ROLLED STEEL

Cold Rolled Non Annealed Flat Steel (CRFH)

Cold Rolled Non annealed Flat Steel is produced by cold rolling of hot rolled pickled steel. Because the strength values are very high, they are not suitable for shaping.

Cold Rolled Annealed Flat Steel (CR)

Cold rolled annealed steel (CRFH) products are obtained by surface cleaning, annealing (recrystallization annealing), tempering and oiling processes. In this way, the values defined in the standards for surface smoothness, width and thickness tolerances are met.



1.5 million tons / year
production capacity

Advantages of Cold Rolled Steel



Cost Advantage



High Strength



Formability



Weldability



Corrosion Resistance



Paintability



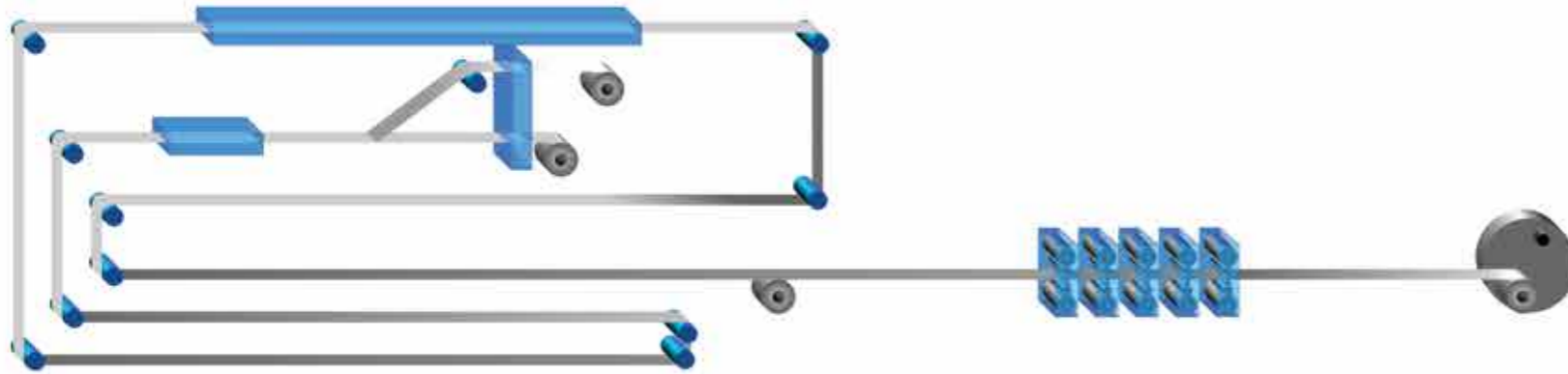
Easy Supply



Recycling Opportunity

3.1 PRODUCTION PROCESS

PLTCM (Pickling Line Tandem Cold Mill)



CRFH



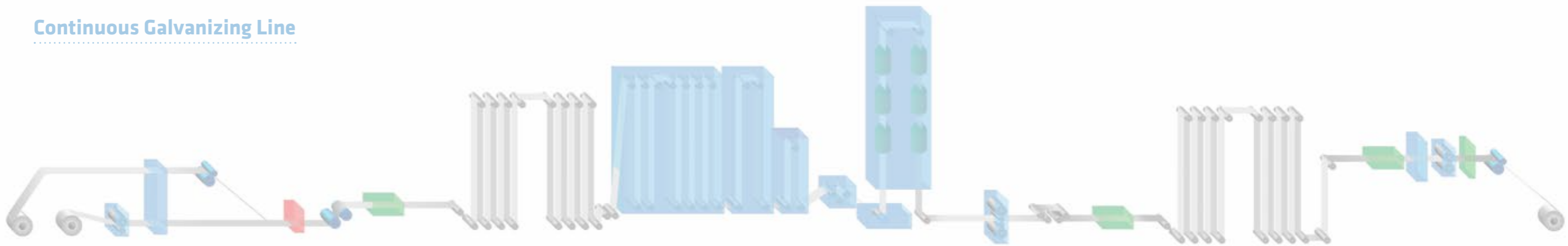
Alcaline Cleaning Line - Annealing Line - Temper Mill



CR



Continuous Galvanizing Line



GI



Color Coating Line



PPGI





Application

Cold Rolled Non Annealed Flat Steel (CRFH):

Packing steel (steel straps and seals), Gas and Hydraulic Pipe Clamps

Cold Rolled Annealed Flat Steel (CR):

Panel radiators, White goods / Brown goods, Automotive, Automotive supply industry, Filter productions and Ventilation equipment.

Fullhard Products

	Product Group	TATÇELİK Grades	Standard Grades	Standard	Similar Standards		
					ASTM Standard	JIS Standard	AS/NZS Standard
Fullhard Products	Fullhard	FHDC01	DC01	EN 10130:2007	CS Type B / CS Type C	SPCC	CA1
	Fullhard	FHDC03	DC03	EN 10130:2007	CS Type B	SPCD	CA2-CA3
	Fullhard	FHDC04	DC04	EN 10130:2007	ASTM A620 CD DDQAK	SPCEN	CA4
	Fullhard	FHDC05	DC05	EN 10130:2007	DDS	-	CA55N
	Fullhard	FHDC06	DC06	EN 10130:2007	EDDS	-	-
	Fullhard	SAE 1006	SAE 1006	SAE J403:2014	CS Type A	-	-
Carbon Steels	Fullhard	SAE 1008	SAE 1008	SAE J403:2014	CS Type B	-	-
	Fullhard	SAE 1010	SAE 1010	SAE J403:2014	CS Type B	-	CA1010
	Fullhard	SAE 1010SS	SAE 1010	SAE J403:2014	CS Type B	-	CA1010
	Fullhard	SAE 1012	SAE 1012	SAE J403:2014	-	-	-
	Fullhard	SAE 1015	SAE 1015	SAE J403:2014	-	-	-
	Fullhard	SAE 1016	SAE 1016	SAE J403:2014	-	-	-

Cold Products

	Product Group	TATÇELİK Grades	Standard Grades	Standard	Similar Standards			
					ASTM Standard	EN Standard	JIS Standard	AS/NZS Standard
Cold Rolled Low Carbon Steels For Drawing and Deep Drawing	Cold	DC01	DC01	EN 10130:2007	CS Type B	-	SPCC	CA1
	Cold	PDC01	DC01	EN 10130:2007	CS Type B	-	SPCC	CA1
	Cold	DC03	DC03	EN 10130:2007	CS Type B	-	SPCD	CA2-CA3
	Cold	DC04	DC04	EN 10130:2007	ASTM A620 CD DDQAK	-	SPCEN	CA4
	Cold	DC05 ⁽³⁾	DC05	EN 10130:2007	DDS	-	-	CA55N
	Cold	SAE 1006	SAE 1006	SAE J403:2014	CS Type A	-	-	-
	Cold	SAE 1008	SAE 1008	SAE J403:2014	CS Type B	-	-	-
Cold Rolled Carbon Steels	Cold	SAE 1010	SAE 1010	SAE J403:2014	CS Type B	-	-	CA1010
	Cold	SAE 1012	SAE 1012	SAE J403:2014	-	-	-	-
	Cold	SAE 1015	SAE 1015	SAE J403:2014	-	-	-	-
	Cold	SAE 1016	SAE 1016	SAE J403:2014	-	-	-	-
Cold Rolled Steels for Enamelling	Cold	S215G	S215G	DIN 1623:2009	SS GRADE 33	-	-	-
	Cold	DC01EK ⁽²⁾	DC01EK	EN 10209:2013	-	-	-	-
Cold Rolled Low Carbon Steels for Drawing	Cold	DC04EK ⁽²⁾	DC04EK	EN 10209:2013	ASTM A424 Tip 2	-	-	-
	Cold	CS TB 1006	CS Type B	ASTM A1008M:16	-	DC01	SPCC	CA1
Medium and High Strength General Structural Steels	Cold	DS TYPE B	DS TYPE B	ASTM A1008M:16	-	-	-	-
	Cold	SSGR33	SS GRADE 33	ASTM A1008M:16	-	S215G	-	-
Cold Rolled High Yield Strength Steels For Cold Forming	Cold	HC260LA	HC260LA	EN 10268:2006+A1:2013	SS Gr.33	-	-	CA260
	Cold	HC300LA ⁽³⁾	HC300LA	EN 10268:2006+A1:2013	SS Gr.40	-	-	-
	Cold	HC340LA ⁽³⁾	HC340LA	EN 10268:2006+A1:2013	HSLAS Gr.45	-	-	CA350
	Cold	HC380LA ⁽³⁾	HC380LA	EN 10268:2006+A1:2013	HSLAS Gr.50	-	-	CA400
	Cold	HC420LA ⁽³⁾	HC420LA	EN 10268:2006+A1:2013	HSLAS Gr.55	-	-	CA400
	Cold	HC460LA ⁽³⁾	HC460LA	EN 10268:2006+A1:2013	-	-	-	CA450
	Cold	HC500LA ⁽³⁾	HC500LA	EN 10268:2006+A1:2013	-	-	-	CA500

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.

3.4 PRODUCTION LIMITS

Tatçelik Production Limits

Product Group	Min. Thickness	Max. Thickness	Min. Width	Max. Width	Inner Diameter
Fullhard	0,25	0,29	900	1100	508/610
Fullhard	0,30	0,40	900	1300	508/610
Fullhard	0,41	0,50	900	1400	508/610
Fullhard	0,51	2,50	900	1520	508/610

Fullhard Products

		Order Width (mm)									
		800	900	1000	1100	1200	1300	1400	1520		
Order Thickness (mm)	3.50										3.50
	3.00										3.00
	2.50										2.50
	2.00										2.00
	1.50										1.50
	1.20										1.20
	1.00										1.00
	0.80										0.80
	0.60										0.60
	0.50										0.50
	0.40										0.40
	0.30										0.30
	0.25										0.25
0.20										0.20	

- Products below 0,25 mm in thickness are subject to negotiation.

- Products between 0.25-0.29 mm in thickness and above 1100 mm in width are subject to negotiation.

Cold Products

Product Group	Min. Thickness	Max. Thickness	Min. Width	Max. Width	Surface Quality	Surface Type	Surface Protection	Inner Diameter
Cold	0,30	0,39	900	1200	A	Bright (BR) Semi Bright (SB) Matt (M) Rough (R)	0,50 - 3,00 gr / m ²	610/508
Cold	0,40	2,50	900	1300	A	Bright (BR) Semi Bright (SB) Matt (M) Rough (R)	0,50 - 3,00 gr / m ²	610/508

		Order Width (mm)									
		800	900	1000	1100	1200	1250	1300	1350		
Order Thickness (mm)	3.50										3.50
	3.00										3.00
	2.50										2.50
	2.00										2.00
	1.50										1.50
	1.20										1.20
	1.00										1.00
	0.80										0.80
	0.60										0.60
	0.45										0.45
	0.40										0.40
	0.39										0.39
	0.35										0.35
0.30										0.30	
0.28										0.28	
0.25										0.25	

- Products below 0,28 mm in thickness, are subject to negotiation.

- Products below 0,28 mm in thickness, and above 1000 mm in width are subject to negotiation.

- Products between 0,30-0,39 mm in thickness and above 1200 mm in width are subject to negotiation.

MECHANICAL AND CHEMICAL PROPERTIES 3.5

Fullhard Products

Low Carbon Steels For Drawing and Deep Drawing

Chemical Composition (%)							
TATÇELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Ti (max.)
FHDC01	DC01	EN 10130:2007	0,12	0,60	0,045	0,045	-
FHDC03	DC03	EN 10130:2007	0,10	0,45	0,035	0,035	-
FHDC04	DC04	EN 10130:2007	0,08	0,40	0,030	0,030	-
FHDC05	DC05	EN 10130:2007	0,06	0,35	0,025	0,025	-
FHDC06	DC06	EN 10130:2007	0,02	0,25	0,020	0,020	0,3

Chemical Composition (%)						
TATÇELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)
SAE 1006	SAE 1006	SAE J403:2014	0,08	0,45	0,030	0,035
SAE 1008	SAE 1008	SAE J403:2014	0,10	0,50	0,030	0,035
SAE 1010	SAE 1010	SAE J403:2014	0,08-0,13	0,30-0,60	0,030	0,035
SAE 1010SS	SAE 1010	SAE J403:2014	0,08-0,13	0,30-0,60	0,030	0,035
SAE 1012	SAE 1012	SAE J403:2014	0,08-0,15	0,30-0,60	0,030	0,035
SAE 1015	SAE 1015	SAE J403:2014	0,08-0,18	0,30-0,60	0,030	0,035
SAE 1016	SAE 1016	SAE J403:2014	0,08-0,18	0,30-0,60	0,030	0,035

- Mechanical properties not guaranteed for Fullhard Products.

Cold Products

Cold Rolled Low Carbon Steels For Drawing and Deep Drawing

Chemical Composition (%)						
TATÇELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)
DC01	DC01	EN 10130:2007	0,12	0,60	0,045	0,045
PDC01	DC01	EN 10130:2007	0,12	0,60	0,045	0,045
DC03	DC03	EN 10130:2007	0,10	0,45	0,035	0,035
DC04	DC04	EN 10130:2007	0,08	0,40	0,030	0,030
DC05	DC05	EN 10130:2007	0,06	0,35	0,025	0,025

Mechanical Properties							
TATÇELİK Grade	Grade	Standard	Re N/mm ² (max.)	Rm N/mm ²	A (%) A80 (min.)	r90 min.	n90 min.
DC01	DC01	EN 10130:2007	280	270-410	28	-	-
PDC01	DC01	EN 10130:2007	280	270-410	28	-	-
DC03	DC03	EN 10130:2007	240	270-370	34	1,3	-
DC04	DC04	EN 10130:2007	210	270-350	38	1,6	0,18
DC05	DC05	EN 10130:2007	180	270-330	40	1,9	0,20

Cold Rolled Steels For Enamelling

Chemical Composition (%)						
TATÇELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)
DC01EK	DC01EK	EN 10209:2013	0,08	0,60	0,045	0,050
DC04EK	DC04EK	EN 10209:2013	0,08	0,50	0,030	0,050

Mechanical Properties					
TATÇELİK Grade	Grade	Standard	Re N/mm ² (max.)	Rm N/mm ²	A (%) A80 (min.)
DC01EK	DC01EK	EN 10209:2013	270	270-390	30
DC04EK	DC04EK	EN 10209:2013	220	270-350	36

Cold Rolled Low Carbon Steels For Drawing

Chemical Composition (%)														
TATÇELİK Grade	Grade	Standard	C	Mn (max.)	P (max.)	S (max.)	Cu (max.)	Ni (max.)	Cr (max.)	Mo (max.)	V (max.)	Nb (max.)	Ti (max.)	Al (min.)
CS TB 1006	CS Type B 1006	ASTM 1008M:2016	0,02-0,15	0,60	0,025	0,035	0,20	0,20	0,15	0,06	0,008	0,008	0,025	-
DS TYPE B	DS TYPE B	ASTM 1008M:2016	0,02-0,08	0,50	0,020	0,020	0,20	0,20	0,15	0,06	0,008	0,008	0,025	0,020

Mechanical Properties							
TATÇELİK Grade	Grade	Standard	Re N/mm ² (max.)	Rm N/mm ²	A (%) A80 (min.)	rm	n - value
CS TB 1006	CS Type B 1006	ASTM 1008M:2016	140-275	-	30	-	-
DS TYPE B	DS TYPE B	ASTM 1008M:2016	150-240	-	36	1,30-1,70	0,17-0,22

Medium and High Strength General Structural Steels

Chemical Composition (%)													
TATÇELİK Grade	Grade	Standard	C	Mn (max.)	P (max.)	S (max.)	Cu (max.)	Ni (max.)	Cr (max.)	Mo (max.)	V (max.)	Nb (max.)	Ti (max.)
SS GR 33	SS GRADE33	ASTM 1008M:2016	0,20 max.	0,60	0,035	0,035	0,20	0,20	0,15	0,06	0,008	0,008	0,025

Mechanical Properties					
TATÇELİK Grade	Grade	Standard	Re N/mm ²	Rm N/mm ²	A (%) A80 (min.)
SS GR 33	SS GRADE33	ASTM 1008M:2016	230 min.	330 min.	22

Chemical Composition (%)						
TATÇELİK Grade	Grade	Standard	C	Mn	P (max.)	S (max.)
SAE 1006	SAE 1006	SAE J403:2014	0,08	0,45	0,030	0,035
SAE 1008	SAE 1008	SAE J403:2014	0,10	0,50	0,030	0,035
SAE 1010	SAE 1010	SAE J403:2014	0,08-0,13	0,30-0,60	0,030	0,035
SAE 1012	SAE 1012	SAE J403:2014	0,10-0,15	0,30-0,60	0,030	0,035
SAE 1015	SAE 1015	SAE J403:2014	0,13-0,18	0,30-0,60	0,030	0,035
SAE 1016	SAE 1016	SAE J403:2014	0,13-0,18	0,60-0,90	0,030	0,035
S215G	S215G	DIN 1623:2009	0,18 max.	1,50 max.	0,030	0,025

Mechanical Properties					
TATÇELİK Grade	Grade	Standard	Re N/mm ²	Rm N/mm ²	A (%) A80 (min.)
S215G	S215G	DIN 1623:2009	215 min.	360-510	20

Cold Rolled High Yield Strength Steels For Cold Forming

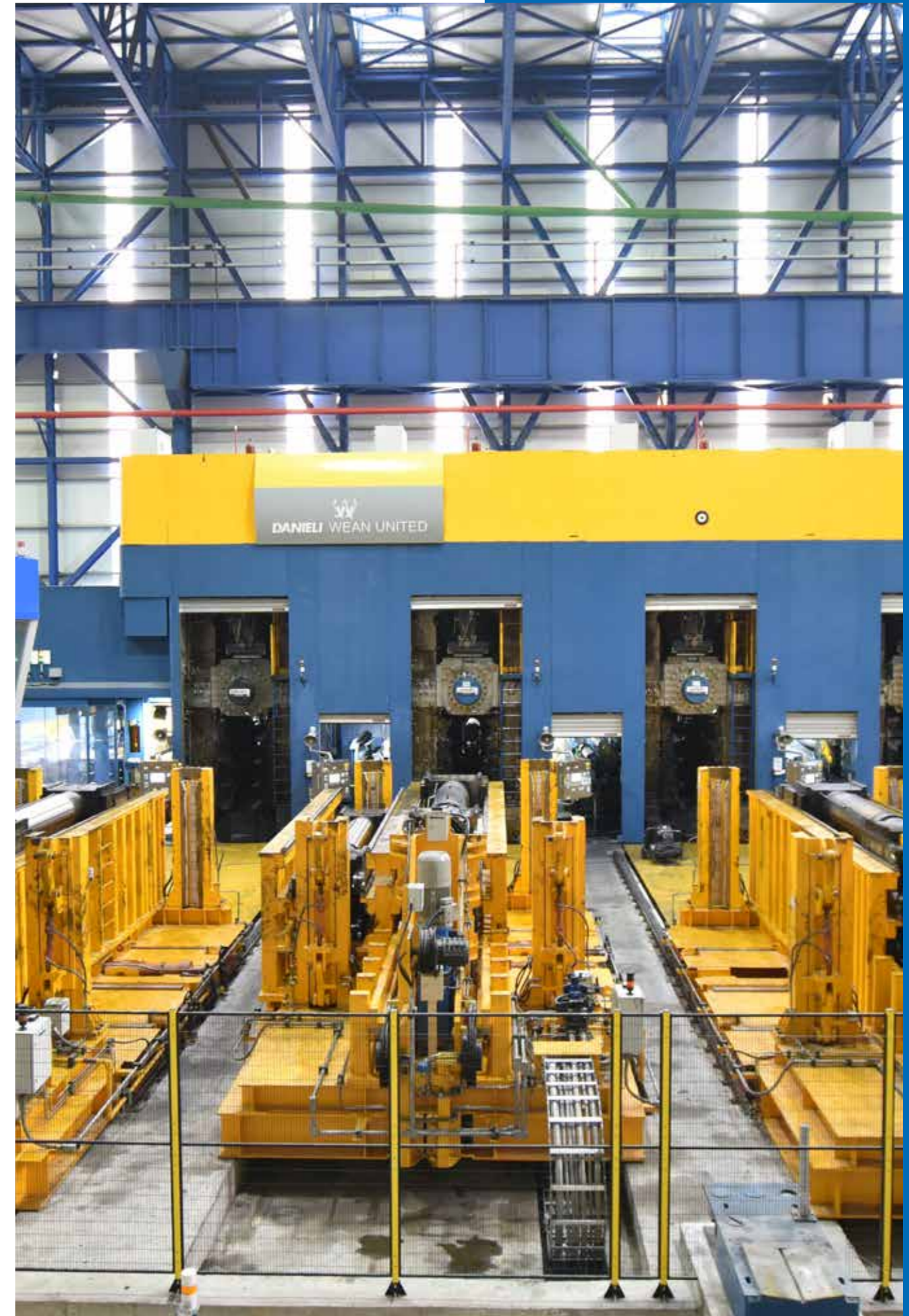
Chemical Composition (%)										
TATÇELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Al (min.)	Ti (max.)	Nb (max.)
HC260LA	HC260LA	EN 10268:2006 +A1:2013	0,10	1,0	0,030	0,025	0,50	0,015	0,15	0,09
HC300LA	HC300LA	EN 10268:2006 +A1:2013	0,12	1,40	0,030	0,025	0,50	0,015	0,15	0,09
HC340LA	HC340LA	EN 10268:2006 +A1:2013	0,12	1,50	0,030	0,025	0,50	0,015	0,15	0,09
HC380LA	HC380LA	EN 10268:2006 +A1:2013	0,12	1,60	0,030	0,025	0,50	0,015	0,15	0,09
HC420LA	HC420LA	EN 10268:2006 +A1:2013	0,14	1,60	0,030	0,025	0,50	0,015	0,15	0,09
HC460LA	HC460LA	EN 10268:2006 +A1:2013	0,14	1,80	0,030	0,025	0,60	0,015	0,15	0,09
HC500LA	HC500LA	EN 10268:2006 +A1:2013	0,14	1,80	0,030	0,025	0,60	0,015	0,15	0,09

Mechanical Properties					
TATÇELİK Grade	Grade	Standard	Re N/mm ² (max.)	Rm N/mm ²	A (%) A80 (min.)
HC260LA	HC260LA	EN 10268:2006 +A1:2013	260-330	350-430	26
HC300LA	HC300LA	EN 10268:2006 +A1:2013	300-380	380-480	23
HC340LA	HC340LA	EN 10268:2006 +A1:2013	340-420	410-510	21
HC380LA	HC380LA	EN 10268:2006 +A1:2013	380-480	440-580	19
HC420LA	HC420LA	EN 10268:2006 +A1:2013	420-520	470-600	17
HC460LA	HC460LA	EN 10268:2006 +A1:2013	460-580	510-660	13
HC500LA	HC500LA	EN 10268:2006 +A1:2013	500-620	550-710	12

3.6 QUALITY CONTROL

Mechanical Tests

- ✓ Tensile Test
- ✓ Surface Roughness Test
- ✓ Hardness Test (optional)



GALVANIZED STEEL

Hot Dipped Galvanized Flat Steel is obtained by the process of surface cleaning, annealing, galvanize (zinc) coating, drying, respectively, of Fullhard product rolled to the final thickness. Optionally, tempering, lubrication and passivation applications are also made. It has improved corrosion resistance. It can be shaped, welded and painted.



850.000 Tons / year
production capacity

Advantages of Galvanized Steel



Cost Advantage



High Strength



Formability



Weldability



Corrosion Resistance



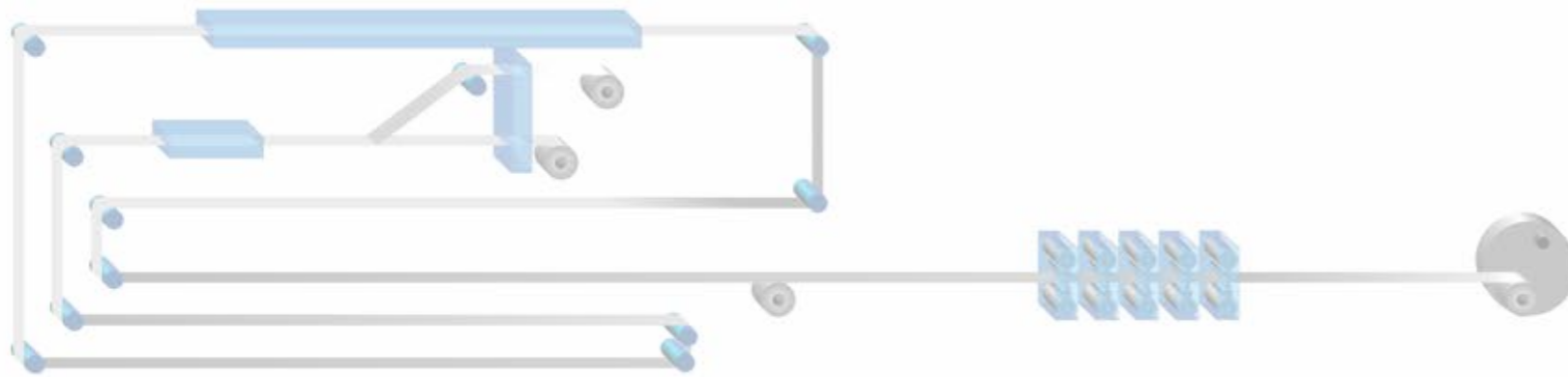
Paintability



Recycling Opportunity

4.1 PRODUCTION PROCESS

PLTCM (Pickling Line Tandem Cold Mill)



CRFH



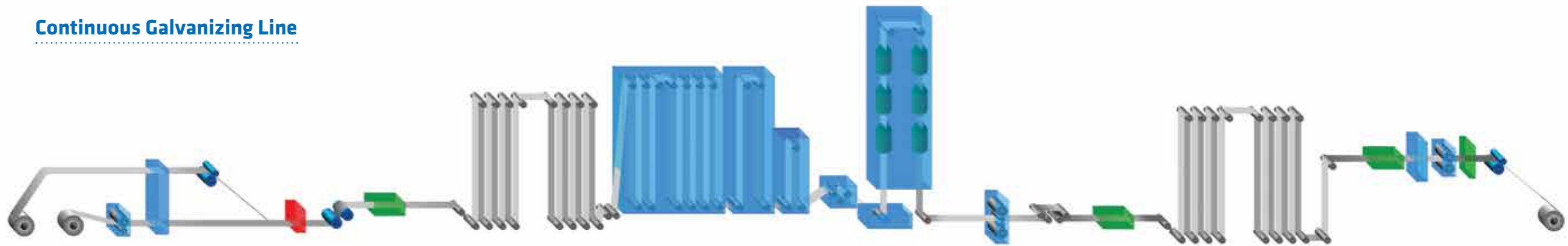
Alcaline Cleaning Line - Annealing Line - Temper Mill



CR



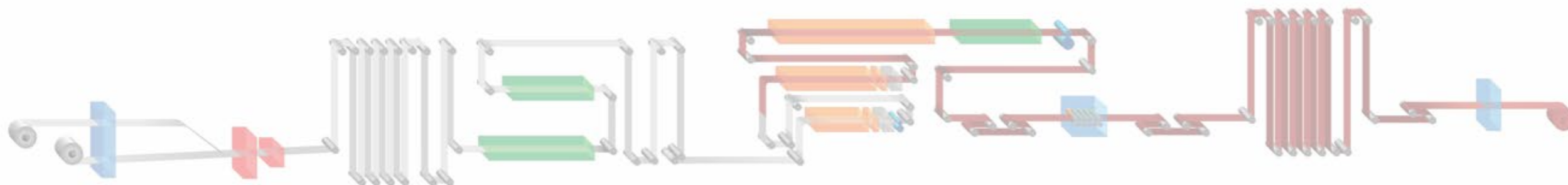
Continuous Galvanizing Line



GI



Color Coating Line



PPGI



Application

Automotive, White Goods, Construction and Building Sectors



	Product Group	TATÇELİK Grades	Standard Grades	Standard	Similar Standards			
					ASTM Standard	EN Standard	JIS Standard	AS/NZS Standard
Continuously Hot Dip Zinc Coated Low Carbon Steel for Cold Forming	GZR	DX51D+Z	DX51D+Z	EN 10346:2015	CS Type C	-	SGCC	G1-G2
	GZR	DX52D+Z	DX52D+Z	EN 10346:2015	CS Type B	-	SGCD1	G2
Continuously Hot Dip Zinc Coated Low/Ultra Low Carbon Steel for Cold Forming	GZR	DX53D+Z	DX53D+Z	EN 10346:2015	FS Type B	-	SGCD2	G3
	GZR	DX54D+Z	DX54D+Z	EN 10346:2015	DDS Type A	-	SGCD3	-
Continuously Hot Dip Zinc Coated Low Carbon Steel for Cold Forming	GZR	DX56D+Z	DX56D+Z	EN 10346:2015	EDDS	-	-	-
	GZR	DX57D+Z ⁽³⁾	DX57D+Z	EN 10346:2015	EDDS	-	-	-
Continuously Hot Dip Zinc Coated Ultra Low Carbon Steel for Cold Forming	GZR	CS Type C	CS Type C	ASTM A653M:2015	CS Type C	DX51D+Z	SGCC	G1-G2
	GZR	CS Type B	CS Type B	ASTM A653M:2015	CS Type B	DX52D+Z	SGCD1	G2
Continuously Hot Dip Zinc Coated High Yield Strength Dual Phase Steels	GZR	FS Type B	FS Type B	ASTM A653M:2015	FS Type B	DX53D+Z	SGCD2	G3
	GZR	DDS Type A ⁽¹⁾⁽²⁾	DDS Type A	ASTM A653M:2015	DDS Type A	DX54D+Z	SGCD3	-
Continuously Hot Dip Zinc Coated Structural Steels	GZR	HCT450X ⁽³⁾	HCT450X	EN 10346:2015	-	-	-	-
	GZR	HCT490X ⁽³⁾	HCT490X	EN 10346:2015	-	-	-	-
Hot Rolled and Pickled Products	GZR	HCT590X ⁽³⁾	HCT590X	EN 10346:2015	-	-	-	-
	GZR	S220GD+Z	S220GD+Z	EN 10346:2015	SS Gr. 230	-	SGCC	-
	GZR	S250GD+Z	S250GD+Z	EN 10346:2015	SS Gr. 255	-	SGC340	G250
	GZR	S280GD+Z	S280GD+Z	EN 10346:2015	SS Gr. 275	-	SGC400	-
	GZR	S320GD+Z	S320GD+Z	EN 10346:2015	ASTM A53 HSLAS Gr. 340	-	SGC440	G300
	GZR	S350GD+Z	S350GD+Z	EN 10346:2015	SS Gr. 340	-	SGC490	G350
	GZR	S390GD+Z	S390GD+Z	EN 10346:2015	SS Gr. 410	-	-	-
	GZR	S420GD+Z	S420GD+Z	EN 10346:2015	SS Gr. 410	-	-	-
	GZR	S450GD+Z ⁽³⁾	S450GD+Z	EN 10346:2015	SS Gr. 480	-	-	G450
	GZR	S550GD+Z	S550GD+Z	EN 10346:2015	SS Gr. 550	-	SGC570	G500 - G550
Continuously Hot Dip Zinc Coated Structural Steels	GZR	SSGRADE33	SS Gr. 230	ASTM A653M:2015	-	S220GD+Z	SGCC	-
	GZR	CSTB1008	CS TYPE B 1008	ASTM A653M:2015	-	-	-	-
	GZR	SSGRADE37	SS Gr. 255	ASTM A653M:2015	-	S250GD+Z	SGC340	G250
	GZR	SSGRADE40	SS Gr. 275	ASTM A653M:2015	-	S280GD+Z	SGC400	-
	GZR	SSGRADE50	SS Gr. 340	ASTM A653M:2015	-	S350GD+Z	SGC490	G350
	GZR	SSGRADE80	SS Gr. 550	ASTM A653M:2015	-	S550GD+Z	SGC570	G500 - G550
Continuously Hot-Dip Zinc Coated Bake-Hardening High Yield Strength Steels For Cold Forming	GZR	HX180BD+Z ⁽³⁾	HX180BD+Z	EN 10346:2015	-	-	-	-
	GZR	HX220BD+Z ⁽³⁾	HX220BD+Z	EN 10346:2015	BHS Gr. 180	-	-	-
	GZR	HX260BD+Z ⁽³⁾	HX260BD+Z	EN 10346:2015	SHS Gr. 210	-	-	-
	GZR	HX300BD+Z ⁽³⁾	HX300BD+Z	EN 10346:2015	BHS Gr. 210	-	-	-
	GZR	HX340BD+Z ⁽³⁾	HX340BD+Z	EN 10346:2015	SHS Gr. 280	-	-	-
High Yield Strength Steel With Zinc Coating By Continuous Hot-Dip Process For Cold Forming	GZR	HX180YD+Z ⁽³⁾	HX180YD+Z	EN 10346:2015	BHS Gr. 280	-	-	-
	GZR	HX220YD+Z ⁽³⁾	HX220YD+Z	EN 10346:2015	-	-	-	-
	GZR	HX260YD+Z ⁽³⁾	HX260YD+Z	EN 10346:2015	SHS Gr. 300	-	-	-
	GZR	HX300YD+Z ⁽³⁾	HX300YD+Z	EN 10346:2015	BHS Gr. 300	-	-	-
High Strength Low Alloyed Zinc Coated Steels by Continuous Hot-Dip Process for Cold Forming	GZR	HX260LAD+Z	HX260LAD+Z	EN 10346:2015	-	-	-	-
	GZR	HX300LAD+Z	HX300LAD+Z	EN 10346:2015	-	-	-	-
	GZR	HX340LAD+Z	HX340LAD+Z	EN 10346:2015	-	-	-	-
	GZR	HX380LAD+Z ⁽³⁾	HX380LAD+Z	EN 10346:2015	-	-	-	-
	GZR	HX420LAD+Z ⁽³⁾	HX420LAD+Z	EN 10346:2015	-	-	-	-
	GZR	HX460LAD+Z ⁽³⁾	HX460LAD+Z	EN 10346:2015	-	-	-	-
	GZR	HX500LAD+Z ⁽³⁾	HX500LAD+Z	EN 10346:2015	-	-	-	-

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.

4.4 PRODUCTION LIMITS

Product Group	Min. Thickness	Max Thickness	Min. Width	Max Width	Surface Quality	Coating Mass	Surface Type	Passivation Type	Oiling Type	Inner Diameter
Galvanized	0,25	0,29	900	1000	A	60/600	Bright (BR) Semi Bright (SB) Matt (M) Rough (R)	Chromated Non Chromated	0,50 - 3,00 gr / m ²	610/508
Galvanized	0,30	3,00	900	1300	A	60/600	Bright (BR) Semi Bright (SB) Matt (M) Rough (R)	Chromated Non Chromated	0,50 - 3,00 gr / m ²	610/508
Galvanized	0,25	0,29	900	1000	B	60/275	Bright (BR) Semi Bright (SB) Matt (M) Rough (R)	Chromated Non Chromated	0,50 - 3,00 gr / m ²	610/508
Galvanized	0,30	3,00	900	1300	B	60/275	Bright (BR) Semi Bright (SB) Matt (M) Rough (R)	Chromated Non Chromated	0,50 - 3,00 gr / m ²	610/508

		Order Width (mm)										
		800	900	1000	1100	1200	1250	1300	1350			
Order Thickness (mm)	3.50											Order Thickness (mm)
	3.00											
	2.50											
	2.00											
	1.50											
	1.00											
	0.50											
	0.49											
	0.40											
	0.39											
	0.35											
	0.34											
	0.30											
0.25												
0.20												
		Sipariş Genişliği (mm)										
		800	900	1000	1100	1200	1250	1300	1350			

- Products below 0,30 mm in thickness, above 1100 mm in width are subject to negotiation.

4.5 MECHANICAL AND CHEMICAL PROPERTIES

Continuously Hot Dip Zinc Coated Low Carbon Steel for Cold Forming

Chemical Composition (%)								
TATCELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Ti (max.)
DX51D+Z	DX51D+Z	EN 10346:2015	0,18	1,20	0,12	0,045	0,50	0,30
DX52D+Z	DX52D+Z	EN 10346:2015	0,12	0,60	0,10	0,045	0,50	0,30

Mechanical Properties					
TATCELİK Grade	Grade	Standard	Re N/mm ² (max.)	Rm N/mm ²	A (%) A80 (min.)
DX51D+Z	DX51D+Z	EN 10346:2015	-	270-500	22
DX52D+Z	DX52D+Z	EN 10346:2015	140-300	270-420	26

Continuously Hot Dip Zinc Coated Low/Ultra Low Carbon Steel for Cold Forming

Chemical Composition (%)								
TATCELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Ti (max.)
DX53D+Z	DX53D+Z	EN 10346:2015	0,12	0,60	0,10	0,045	0,50	0,30
DX54D+Z	DX54D+Z	EN 10346:2015	0,12	0,60	0,10	0,045	0,50	0,30
DX56D+Z	DX56D+Z	EN 10346:2015	0,12	0,60	0,10	0,045	0,50	0,30
DX57D+Z	DX57D+Z	EN 10346:2015	0,12	0,60	0,10	0,045	0,50	0,30

Mechanical Properties							
TATCELİK Grade	Grade	Standard	Re N/mm ² (max.)	Rm N/mm ²	A (%) A80 (min.)	r90 (min.)	n90 (min.)
DX53D+Z	DX53D+Z	EN 10346:2015	140-260	270-380	30	-	-
DX54D+Z	DX54D+Z	EN 10346:2015	120-220	260-350	36	1,60	0,18
DX56D+Z	DX56D+Z	EN 10346:2015	120-180	260-350	39	1,90	0,21
DX57D+Z	DX57D+Z	EN 10346:2015	120-170	260-350	41	2,10	0,22

Continuously Hot Dip Zinc Coated Structural Steels

Chemical Composition (%)								
TATCELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Ti (max.)
S220GD+Z	S220GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S250GD+Z	S250GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S280GD+Z	S280GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S320GD+Z	S320GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S350GD+Z	S350GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S390GD+Z	S390GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S420GD+Z	S420GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S450GD+Z	S450GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S550GD+Z	S550GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-

Mechanical Properties					
TATCELİK Grade	Grade	Standard	Re N/mm ² (min.)	Rm N/mm ² (min.)	A (%) A80 (min.)
S220GD+Z	S220GD+Z	EN 10346:2015	220	300	20
S250GD+Z	S250GD+Z	EN 10346:2015	250	330	19
S280GD+Z	S280GD+Z	EN 10346:2015	280	360	18
S320GD+Z	S320GD+Z	EN 10346:2015	320	390	17
S350GD+Z	S350GD+Z	EN 10346:2015	350	420	16
S390GD+Z	S390GD+Z	EN 10346:2015	390	460	16
S420GD+Z	S420GD+Z	EN 10346:2015	420	480	15
S450GD+Z	S450GD+Z	EN 10346:2015	450	510	14
S550GD+Z	S550GD+Z	EN 10346:2015	550	560	-

High Strength Low Alloyed Zinc Coated Steels by Continuous Hot-Dip Process for Cold Forming

Chemical Composition (%)										
TATCELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Al Total (min.)	Nb (max.)	Ti (max.)
HX260LAD+Z	HX260LAD+Z	EN 10346:2015	0,11	1,00	0,03	0,025	0,50	0,015	0,09	0,15
HX300LAD+Z	HX300LAD+Z	EN 10346:2015	0,12	1,40	0,03	0,025	0,50	0,015	0,09	0,15
HX340LAD+Z	HX340LAD+Z	EN 10346:2015	0,12	1,40	0,03	0,025	0,50	0,015	0,10	0,15
HX380LAD+Z	HX380LAD+Z	EN 10346:2015	0,12	1,50	0,03	0,025	0,50	0,015	0,10	0,15
HX420LAD+Z	HX420LAD+Z	EN 10346:2015	0,12	1,60	0,03	0,025	0,50	0,015	0,10	0,15
HX460LAD+Z	HX460LAD+Z	EN 10346:2015	0,15	1,70	0,03	0,025	0,50	0,015	0,10	0,15
HX500LAD+Z	HX500LAD+Z	EN 10346:2015	0,15	1,70	0,03	0,025	0,50	0,015	0,10	0,15

Mechanical Properties					
TATCELİK Grade	Grade	Standard	Re N/mm ² (max.)	Rm N/mm ²	A (%) A80 (min.)
HX260LAD+Z	HX260LAD+Z	EN 10346:2015	260-330	350-430	26
HX300LAD+Z	HX300LAD+Z	EN 10346:2015	300-380	380-480	23
HX340LAD+Z	HX340LAD+Z	EN 10346:2015	340-420	410-510	21
HX380LAD+Z	HX380LAD+Z	EN 10346:2015	380-480	440-560	19
HX420LAD+Z	HX420LAD+Z	EN 10346:2015	420-520	470-590	17
HX460LAD+Z	HX460LAD+Z	EN 10346:2015	460-560	500-640	15
HX500LAD+Z	HX500LAD+Z	EN 10346:2015	500-620	530-690	13

Continuously Hot Dip Zinc Coated High Yield Strength Dual Phase Steels

Chemical Composition (%)												
TATCELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Al total	Cr+Mo (max.)	Nb+Ti (max.)	V (max.)	B (max.)
HCT450X	HCT450X	EN 10346:2015	0,14	2,00	0,08	0,015	0,75	0,015-1,0	1,00	0,15	0,20	0,005
HCT490X	HCT490X	EN 10346:2015	0,14	2,00	0,08	0,015	0,75	0,015-1,0	1,00	0,15	0,20	0,005
HCT590X	HCT590X	EN 10346:2015	0,15	2,50	0,04	0,015	0,75	0,015-1,5	1,40	0,15	0,20	0,005

Mechanical Properties							
TATCELİK Grade	Grade	Standard	Re N/mm ²	Rm N/mm ² (min.)	A (%) A80 (min.)	n10-UE (min.)	BH2 N/mm ² (min.)
HCT450X	HCT450X	EN 10346:2015	260-340	450	27	0,16	30
HCT490X	HCT490X	EN 10346:2015	290-380	490	24	0,15	30
HCT590X	HCT590X	EN 10346:2015	330-430	590	20	0,14	30

Continuously Hot Dip Zinc Coated Low Carbon Steel for Cold Forming

Chemical Composition (%)														
TATCELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Al (min.)	Cu (max.)	Ni (max.)	Cr (max.)	Mo (max.)	V (max.)	Nb (max.)	Ti (max.)
CS Type B	CS Type B	ASTM A653M:2015	0,02-0,15	0,60	0,03	0,035	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
CS Type C	CS Type C	ASTM A653M:2015	0,08	0,60	0,10	0,035	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
FS Type B	FS Type B	ASTM A653M:2015	0,02-0,10	0,50	0,02	0,03	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
DDS Type A	DDS Type A	ASTM A653M:2015	0,06	0,50	0,02	0,025	0,01	0,25	0,20	0,15	0,06	0,008	0,008	0,025

Mechanical Properties					
TATCELİK Grade	Grade	Standard	Re N/mm ² (min.)	Rm N/mm ² (min.)	A (%) A50 (min.)
CS Type B	CS Type B	ASTM A653M:2015	205-380	-	20
CS Type C	CS Type C	ASTM A653M:2015	170-410	-	15
FS Type B	FS Type B	ASTM A653M:2015	170-310	-	26
DDS Type A	DDS Type A	ASTM A653M:2015	140-240	-	32

Continuously Hot Dip Zinc Coated Structural Steels

Chemical Composition (%)														
TATCELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Cu (max.)	Ni (max.)	Cr (max.)	Mo (max.)	V (max.)	Nb (max.)	Ti (max.)
SSGRADE33	SS Gr. 230	ASTM A653M:2015	0,20	1,35	0,10	0,04	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
CSTB1008	CS TYPE B 1008	ASTM A653M:2015	0,02-0,15	0,60	0,03	0,035	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
SSGRADE37	SS Gr. 255	ASTM A653M:2015	0,20	1,35	0,10	0,04	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
SSGRADE40	SS Gr. 275	ASTM A653M:2015	0,25	1,35	0,10	0,04	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
SSGRADE50	SS Gr. 340	ASTM A653M:2015	0,25	1,35	0,20	0,04	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
SSGRADE80	SS Gr. 550	ASTM A653M:2015	0,20	1,35	0,04	0,04	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025

Mechanical Properties					
TATCELİK Grade	Grade	Standard	Re N/mm ² (min.)	Rm N/mm ² (min.)	A (%) A50 (min.)
SSGRADE33	SS Gr. 230	ASTM A653M:2015	230	310	20
CSTB1008	CS TYPE B 1008	ASTM A653M:2015	250	330	20
SSGRADE37	SS Gr. 255	ASTM A653M:2015	255	360	18
SSGRADE40	SS Gr. 275	ASTM A653M:2015	275	380	16
SSGRADE50	SS Gr. 340	ASTM A653M:2015	340	450	12
SSGRADE80	SS Gr. 550	ASTM A653M:2015	550	570	-

QUALITY CONTROL 4.6

Mechanical Tests

- ✓ Tensile Test
- ✓ Adhesion of Coating Test
- ✓ Surface Roughness Test
- ✓ Hardness Test (Optional)
- ✓ Bending Test

Chemical Analysis

- ✓ Galvanized Coating Weight Test
- ✓ Ladle Elemental Analysis of Zinc - OES
- ✓ Chromate Analysis

PREPAINTED STEEL

Prepainted Steel is obtained by painting zinc coated steel products produced as hot dip galvanized sheet. The products are painted on the continuous color coating line to the colors in the RAL K7 catalog or to the specific colors created in accordance with the demand, different paint types and thickness applications are made. Zinc-coated steel becomes extremely resistant to atmospheric corrosion with the application of primer and top coat on the surface.



200,000 Tons / year
production capacity

Advantages of Prepainted Galvanized Steel



Cost Advantage



High Strength



Formability



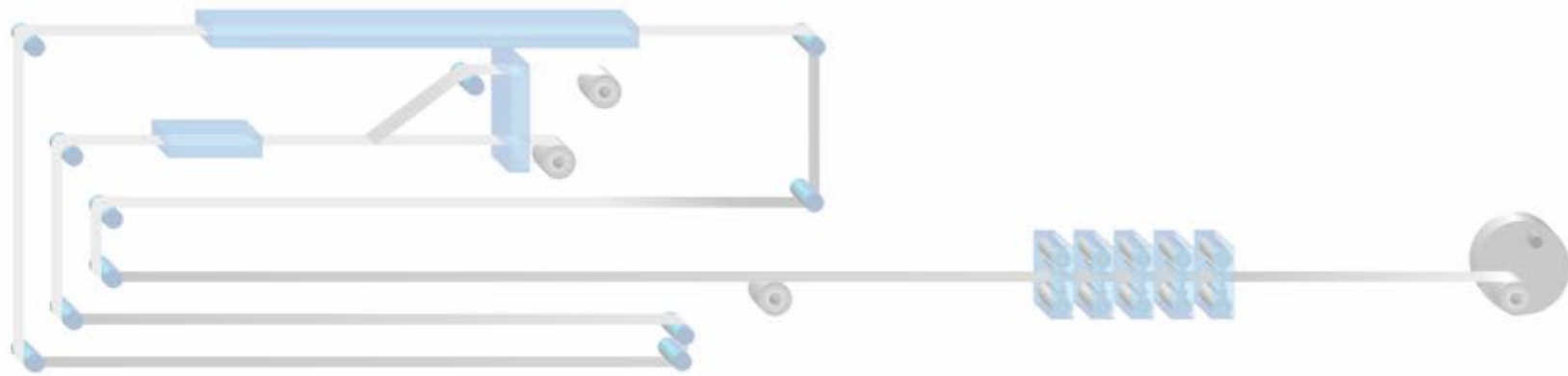
Recycling Opportunity



Corrosion Resistance

5.1 PRODUCTION PROCESS

PLTCM (Pickling Line Tandem Cold Mill)



CRFH



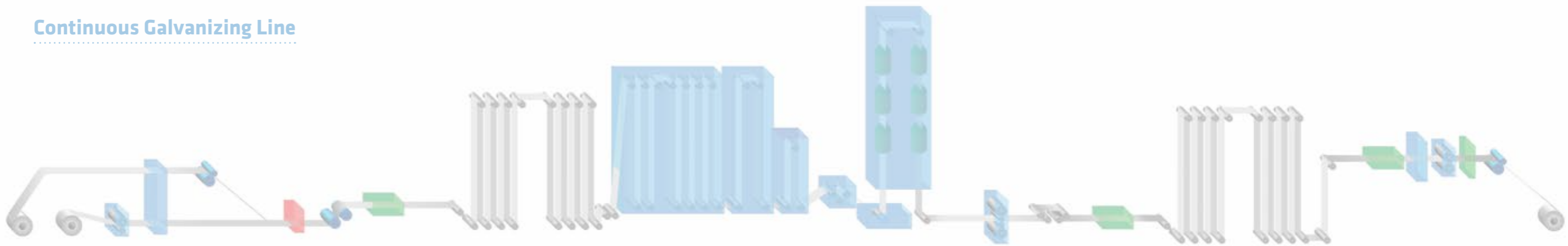
Alcaline Cleaning Line - Annealing Line - Temper Mill



CR



Continuous Galvanizing Line



GI



Color Coating Line



PPGI





Paint Type

SP	Polyester
HDP	High Strength Polyester
WP	Wrinkle-Patterned Polyester
PUR-PA	Polyurethane-Polyamide
PVDF	Polyvinyl Fluoride
PVC (P)	Plastisol

Application

Single layer corrugated sheets, Sandwich panel, Composite panel, Garage door in the building sector and Visible exterior surfaces in White goods.

Coating

PET (F)	PET Film Coating
PVC (F)	PVC Film Coating

Protective Film

Film Thickness 35 - 100 micron

Paint Color

RAL catalog or special customer demands

Brightness Type

Matte, Low Bright, Semi-Bright, Bright, High Bright

Coating Material	Colour Coating Thickness Min. (µm)	Colour Coating Thickness Max. (µm)	Layer
Polyester (SP)	15	50	Top Coat
Wrinkle (WP)	15	30	Top Coat
Pvdf	15	50	Top Coat
Purpa	15	30	Top Coat
Plastisol PVC (F)	100	200	Top Coat
Epoxy	5	10	Back Coat
Epoxy Polyester	5	10	Back Coat



	Product Group	TATÇELİK Grades	Standard Grades	Standard	Similar Standards			
					ASTM Standard	EN Standard	JIS Standard	AS/NZS Standard
Continuously Hot Dip Zinc Coated Low Carbon Steel for Cold Forming	BGR	DX51D+Z	DX51D+Z	EN 10346:2015	CS Type C	-	SGCC	G1-G2
	BGR	DX52D+Z	DX52D+Z	EN 10346:2015	CS Type B	-	SGCD1	G2
Continuously Hot Dip Zinc Coated Low/Ultra Low Carbon Steel for Cold Forming	BGR	DX53D+Z	DX53D+Z	EN 10346:2015	FS Type B	-	SGCD2	G3
	BGR	DX54D+Z	DX54D+Z	EN 10346:2015	DDS Type A	-	SGCD3	-
Continuously Hot Dip Zinc Coated Low Carbon Steel for Cold Forming	GZR	CS Type C	CS Type C	ASTM A653M:2015	CS Type C	DX51D+Z	SGCC	G1-G2
	GZR	CS Type B	CS Type B	ASTM A653M:2015	CS Type B	DX52D+Z	SGCD1	G2
Continuously Hot Dip Zinc Coated Ultra Low Carbon Steel for Cold Forming	GZR	FS Type B	FS Type B	ASTM A653M:2015	FS Type B	DX53D+Z	SGCD2	G3
	GZR	DDS Type A ⁽¹⁾	DDS Type A	ASTM A653M:2015	DDS Type A	DX54D+Z	SGCD3	-
Continuously Hot Dip Zinc Coated Structural Steels	BGR	S220GD+Z	S220GD+Z	EN 10346:2015	SS Gr. 230	-	SGCC	-
	BGR	S250GD+Z	S250GD+Z	EN 10346:2015	SS Gr. 255	-	SGC340	G250
	BGR	S280GD+Z	S280GD+Z	EN 10346:2015	SS Gr. 275	-	SGC400	-
	BGR	S320GD+Z	S320GD+Z	EN 10346:2015	ASTM A53 HSLAS Gr. 340	-	SGC440	G300
	BGR	S350GD+Z	S350GD+Z	EN 10346:2015	SS Gr. 340	-	SGC490	G350
	BGR	SSGRADE33	SS Gr. 230	ASTM A653M:2015	-	S220GD+Z	SGCC	-
Continuously Hot Dip Zinc Coated Structural Steels	BGR	CSTB1008	CS TYPE B 1008	ASTM A653M:2015	-	-	-	-
	BGR	SSGRADE37	SS Gr. 255	ASTM A653M:2015	-	S250GD+Z	SGC340	G250
	BGR	SSGRADE40	SS Gr. 275	ASTM A653M:2015	-	S280GD+Z	SGC400	-
	BGR	SSGRADE50	SS Gr. 340	ASTM A653M:2015	-	S350GD+Z	SGC490	G350

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.

Product Group	Min. Thickness	Max Thickness	Min. Width	Max Width	Coating Mass	Color Type	Paint Color	Paint Thickness µm	Gloss Type	Inner Diameter
Prepainted	0,28	1,20	800	1265	60/275	Polyester Wrinkle Pvdf Purpa Plastisol Epoxy Epoxy Polyester	RAL K7 Color Catalogue	200 max.	Matt Low Gloss Semi Gloss Gloss High Gloss	508/610

Order Thickness (mm)	Order Width (mm)							Order Thickness (mm)	
	700	800	900	1000	1100	1200	1265		1300
1.30									1.30
1.20									1.20
1.10									1.10
1.00									1.00
0.90									0.90
0.80									0.80
0.70									0.70
0.60									0.60
0.55									0.55
0.50									0.50
0.45									0.45
0.40									0.40
0.30									0.30
0.28									0.28
0.25									0.25
	700	800	900	1000	1100	1200	1265	1300	

5.5 MECHANICAL AND CHEMICAL PROPERTIES

Continuously Hot Dip Zinc Coated Low Carbon Steel for Cold Forming

Chemical Composition (%)								
TATÇELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Ti (max.)
DX51D+Z	DX51D+Z	EN 10346:2015	0,18	1,20	0,12	0,045	0,50	0,30
DX52D+Z	DX52D+Z	EN 10346:2015	0,12	0,60	0,10	0,045	0,50	0,30

Mechanical Properties					
TATÇELİK Grade	Grade	Standard	Re N/mm ² (max.)	Rm N/mm ²	A (%) A80 (min.)
DX51D+Z	DX51D+Z	EN 10346:2015	-	270-500	22
DX52D+Z	DX52D+Z	EN 10346:2015	140-300	270-420	26

Continuously Hot Dip Zinc Coated Low/Ultra Low Carbon Steel for Cold Forming

Chemical Composition (%)								
TATÇELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Ti (max.)
DX53D+Z	DX53D+Z	EN 10346:2015	0,12	0,60	0,10	0,045	0,50	0,30
DX54D+Z	DX54D+Z	EN 10346:2015	0,12	0,60	0,10	0,045	0,50	0,30

Mechanical Properties							
TATÇELİK Grade	Grade	Standard	Re N/mm ² (max.)	Rm N/mm ²	A (%) A80 (min.)	r90 (min.)	n90 (min.)
DX53D+Z	DX53D+Z	EN 10346:2015	140-260	270-380	30	-	-
DX54D+Z	DX54D+Z	EN 10346:2015	120-220	260-350	36	1,60	0,18

Continuously Hot Dip Zinc Coated Structural Steels

Chemical Composition (%)								
TATÇELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Ti (max.)
S220GD+Z	S220GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S250GD+Z	S250GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S280GD+Z	S280GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S320GD+Z	S320GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-
S350GD+Z	S350GD+Z	EN 10346:2015	0,20	1,70	0,10	0,045	0,60	-

Mechanical Properties					
TATÇELİK Grade	Grade	Standard	Re N/mm ² (min.)	Rm N/mm ² (min.)	A (%) A80 (min.)
S220GD+Z	S220GD+Z	EN 10346:2015	220	300	20
S250GD+Z	S250GD+Z	EN 10346:2015	250	330	19
S280GD+Z	S280GD+Z	EN 10346:2015	280	360	18
S320GD+Z	S320GD+Z	EN 10346:2015	320	390	17
S350GD+Z	S350GD+Z	EN 10346:2015	350	420	16

Continuously Hot Dip Zinc Coated Low Carbon Steel for Cold Forming

Chemical Composition (%)														
TATÇELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Cu (max.)	Ni (max.)	Cr (max.)	Mo (max.)	V (max.)	Nb (max.)	Ti (max.)
CS Type B	CS Type B	ASTM A653M:2015	0,02-0,15	0,60	0,03	0,035	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
CS Type C	CS Type C	ASTM A653M:2015	0,08	0,60	0,10	0,035	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
FS Type B	FS Type B	ASTM A653M:2015	0,02-0,10	0,50	0,02	0,03	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
DDS Type A	DDS Type A	ASTM A653M:2015	0,06	0,50	0,02	0,025	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025

Mechanical Properties					
TATÇELİK Grade	Grade	Standard	Re N/mm ² (min.)	Rm N/mm ² (min.)	A (%) A50 (min.)
CS Type B	CS Type B	ASTM A653M:2015	205-380	-	20
CS Type C	CS Type C	ASTM A653M:2015	170-410	-	15
FS Type B	FS Type B	ASTM A653M:2015	170-310	-	26
DDS Type A	DDS Type A	ASTM A653M:2015	140-240	-	32

Continuously Hot Dip Zinc Coated Structural Steels

Chemical Composition (%)														
TATÇELİK Grade	Grade	Standard	C (max.)	Mn (max.)	P (max.)	S (max.)	Si (max.)	Cu (max.)	Ni (max.)	Cr (max.)	Mo (max.)	V (max.)	Nb (max.)	Ti (max.)
SSGRADE33	SS Gr. 230	ASTM A653M:2015	0,20	1,35	0,10	0,04	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
CSTB1008	CSTYPE B 1008	ASTM A653M:2015	0,02-0,15	0,60	0,03	0,035	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
SSGRADE37	SS Gr. 255	ASTM A653M:2015	0,20	1,35	0,10	0,04	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
SSGRADE40	SS Gr. 275	ASTM A653M:2015	0,25	1,35	0,10	0,04	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
SSGRADE50	SS Gr. 340	ASTM A653M:2015	0,25	1,35	0,20	0,04	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025

Mechanical Properties					
TATÇELİK Grade	Grade	Standard	Re N/mm ² (min.)	Rm N/mm ² (min.)	A (%) A50 (min.)
SSGRADE33	SS Gr. 230	ASTM A653M:2015	230	310	20
CSTB1008	CS TYPE B 1008	ASTM A653M:2015	250	330	20
SSGRADE37	SS Gr. 255	ASTM A653M:2015	255	360	18
SSGRADE40	SS Gr. 275	ASTM A653M:2015	275	380	16
SSGRADE50	SS Gr. 340	ASTM A653M:2015	340	450	12

QUALITY CONTROL 5.6

Laboratory Tests

- ✓ Coverage
- ✓ Viscosity
- ✓ Density
- ✓ Alkaline Bath Analysis
- ✓ Cr free Analysis
- ✓ 60° Gloss Test
- ✓ Colour Difference Test
- ✓ Dry Film Thickness Test
- ✓ Mek Rubbing Test
- ✓ T-Bend Test
- ✓ Cupping Test
- ✓ Reverse Impact Test

Colour Coating Line Tests

- ✓ 60° Gloss Test
- ✓ Colour Difference Test
- ✓ Dry Film Thickness Test
- ✓ Mek Rubbing Test
- ✓ T-Bend Test
- ✓ Cupping Test
- ✓ Reverse Impact Test

STEEL SERVICE CENTERS



6.1

CUT TO LENGTH SHEET

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

Thickness : 1,50 - 3,00 mm
Width : 600 - 1600 mm
Length : 500 - 6000 mm

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

2. Cut to Length production range for cold rolled coil, galvanized coil and prepainted coil;

Thickness : 0,30 - 3,00 mm
Width : 350 - 1600 mm
Length : 500 - 6000 mm

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



6.2

SLITTED STRIPS

1. 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.

2. Slitted Strips production range for cold rolled coil, galvanized coil, prepainted galvanized steel coil;

Thickness : 0,30 - 4,00 mm
Width : 20 - 1600 mm

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

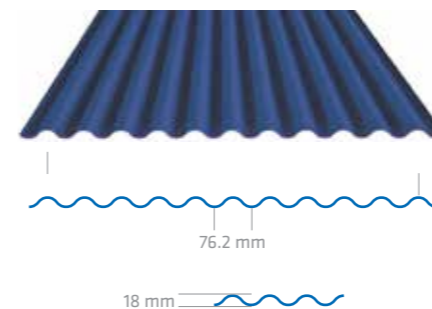


6.3

ROLL FORMED PREPAINTED AND GALVANIZED STEEL SHEET

Corrugated Steel Sheet

Thickness : 0,25-0,80 mm
Width : 875 mm Max.
Length : 6000 mm
Form : 18 / 76,2



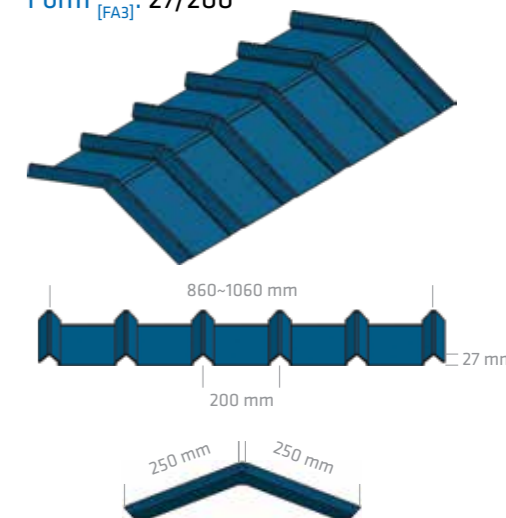
Trapezoidal Steel Sheet

Thickness : 0,25-1,20 mm
Width : 860 mm ve 1060 mm
Length : 500mm - 12.000 mm
Form : 27 / 200



Ridge Steel

Width : 860 mm veya 1060 mm
Length : 500 mm (250-250) - 3000 mm (1500+1500)
Form _[FA3] : 27/200



Additionally Tatçelik performs cut to length, slitting and roll forming in the Steel Service Centers.

VALUE FOR INDUSTRY

As one of the largest industrial enterprises of Turkey, we continue our journey with passion and courage and produce value-added solutions for the industry of the future with our innovative technologies.





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

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



Ereğli Office

Address : Hamzafakıhlı Mah. Ebetaşı Sok. No:1 Ereğli / Zonguldak



Bursa Office

Address : 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

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Phone : +90 372 318 00 27 / 29



Steel Service Center - 2

Address : Hamza Fakıhlı Köyü Girişi Ereğli / Zonguldak
Telefon : +90 372 334 35 85



Cold Rolling, Galvanizing and Color Coating Plant

Address : Hamzafakıhlı Mah. Organize Sanayi Bölgesi 2 NOLU Yol Sok. No:1 Ereğli / Zonguldak
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