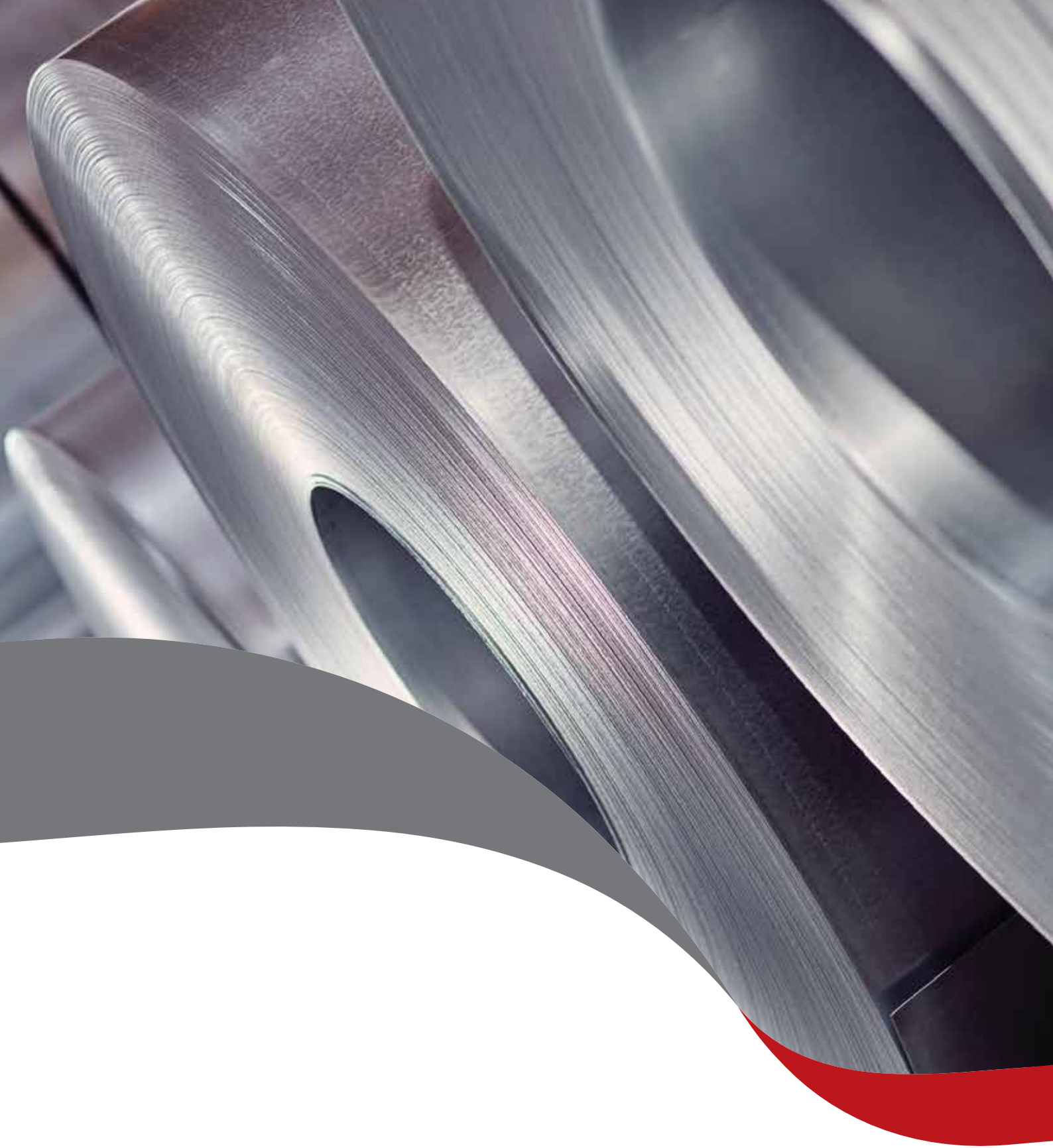




GALVANIZED PRODUCTS



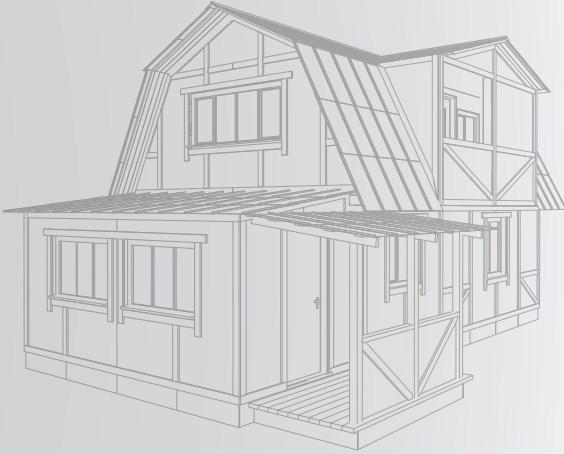
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ABOUT US

YILDIZ DEMİR ÇELİK is the investment in the iron and steel sector of YILDIZLAR YATIRIM HOLDİNG that is making major investments in Türkiye and in the world.

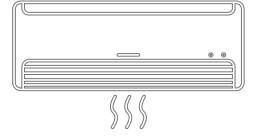
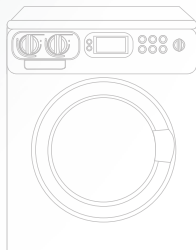
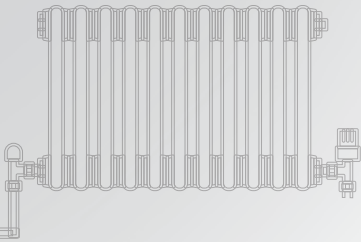
Established in 2018, Yıldız Demir Çelik is the first iron and steel facility in Türkiye that uses recycled Gray Water in production.



Our Mission

Why do we exist?

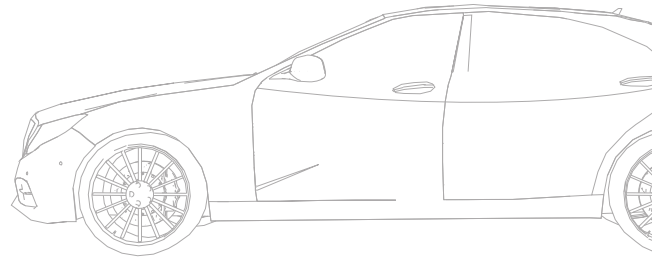
We exist to increase the **competitive advantage** of our business partners with our value-added products



Our Vision

Where are we running?

Until 2030, we will become a global brand that has been integrated into iron and steel and leaves a mark in every area **where steel comes to life**



Our Values

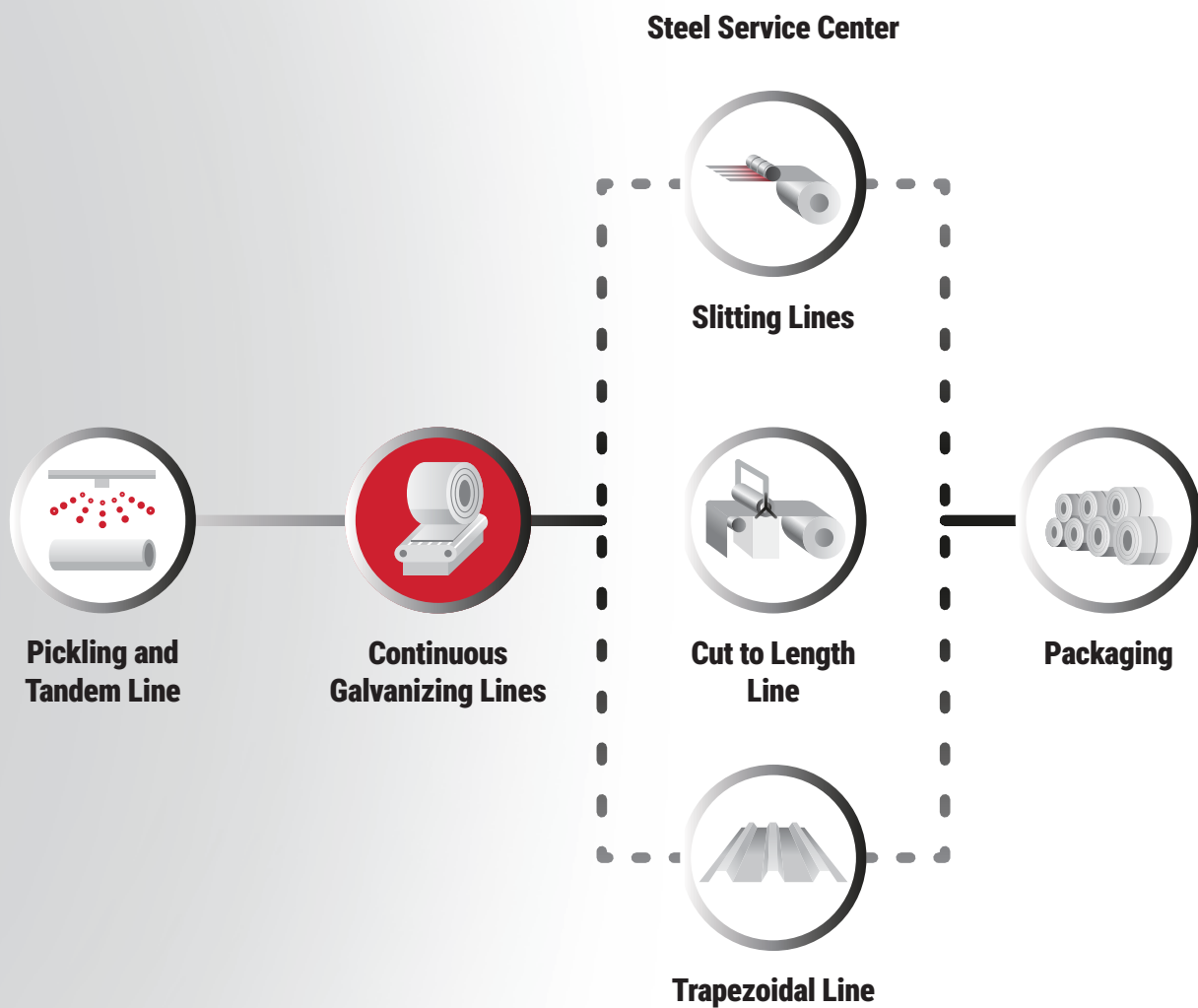
Where do we get our strength from?

From saying '**Human First**'.
From our **innovative perspective**.
From our **passion for quality**.
From our **determination to succeed**.
From being **one heart** for the same goal.

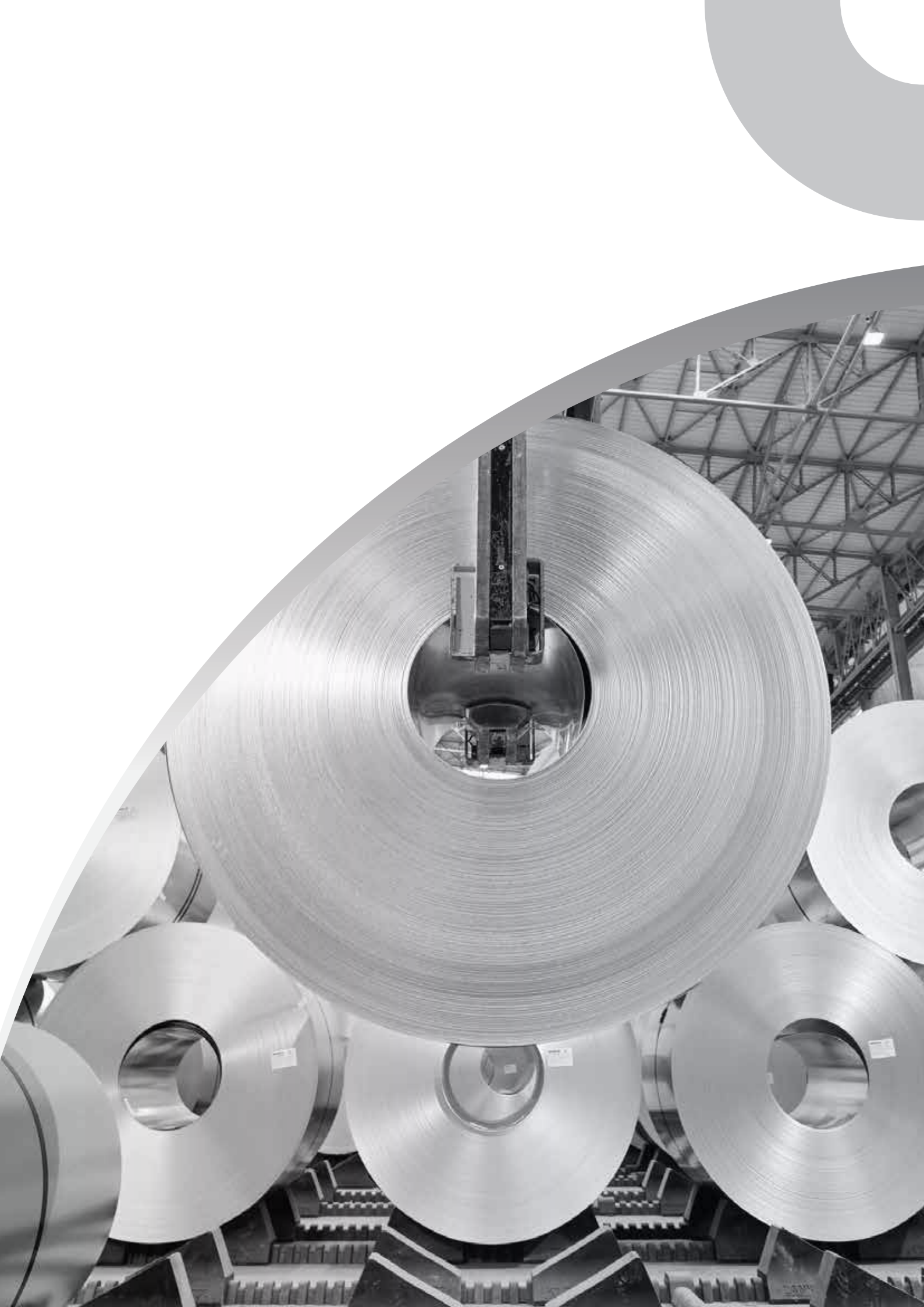
Quality System Certifications



Production Lines



* Painted application on cold roll sheet is subject to negotiation



GALVANIZING LINE

Production Limits

Thickness	0,25-4,00 mm
Width	700-1300 mm
Inner Diameter	508-610 mm
Max.Coil Weight	30 ton

Production Limits

Thickness	0,25-2,00 mm
Width	700-1500 mm
Inner Diameter	508-610 mm
Max.Coil Weight	30 ton





GALVANIZED PRODUCTS





Galvanized Products

Product Description

These are products produced by hot-dip zinc coating of both surfaces of cold rolled or hot rolled products whose surface has been cleaned with acid. A or B surface quality production is possible with chromate, oil or organic coating.

Product Name and Descriptions

GHR: Hot rolled zinc coated (galvanized) coil

GHRM: Hot rolled zinc coated (galvanized) coil without trimmed edge

GCR: Cold rolled zinc coated (galvanized) coil

GCRM: Cold rolled zinc coated (galvanized) coil without trimmed edge

Coating Mass

Total Coating Weight (Two Surfaces) gr/m ²	Min Coating Weight (Two Surfaces Total) gr/m ²		Surface Grade
	Three-point test value	Two-point test value	
Z100	100	85	A, B
Z140	140	120	A, B
Z200	200	170	A, B
Z225	225	195	A, B
Z275	275	235	A, B
Z350*	350	300	A
Z450*	450	385	A
Z600*	600	510	A

*These coatings are not applicable for IF and Bake-Hardening grades. Coating amount not in the table are subject to negotiation. The coating type is zero spangle.

Remarks:

1. As surface quality, A (as coated) and B (improved surface) surface qualities are produced. Unless specified, production is made in accordance with surface quality A.
2. Surfaces that are not temper rolled have a glossy appearance and may show signs of flow marks.
3. Marking can be applied on one surface and one edge. (on request)
4. Galvanized products can be produced as coil, cut to length and slitted.
5. Galvanized products can be produced as trimmed and untrimmed.
6. A surface grades are subjected to chemical passivation treatment to protect the surface against corrosion under storage and transportation conditions unless otherwise specified. Passivation and lubrication is recommended for longer protection. No guarantee is given against corrosion that may occur if surface protection is not requested.

Galvanized Products

Low Carbon Galvanized Steel for Drawing and Deep Drawing

Standart: EN 10346:2015

Chemical Composition (%)							
Standard		C max.	Si max.	Mn max.	P max.	S max.	Ti max.
Standard	Grade						
EN 10346	DX51D+Z	0,18	0,50	1,20	0,12	0,45	0,30
	DX52D+Z	0,12	0,50	0,60	0,10	0,45	0,30
	DX53D+Z	0,12	0,50	0,60	0,10	0,45	0,30
	DX54D+Z	0,12	0,50	0,60	0,10	0,45	0,30
	DX56D+Z	0,12	0,50	0,60	0,10	0,45	0,30

Mechanical Properties						
Standard		R _e N/mm ²	R _m ⁽¹⁾ N/mm ²	A ₈₀ ⁽²⁾ (%) min.	r ₉₀ ⁽⁴⁾ min	n ₉₀ min
Standard	Grade					
EN 10346	DX51D+Z	-	270-500	22	-	-
	DX52D+Z	140-300(3)	270-420	26	-	-
	DX53D+Z	140-260	270-380	30	-	-
	DX54D+Z	120-220	260-350	36	1,6	0,18
	DX56D+Z	120-180	260-350	39	1,9	0,21

Remarks:

1. Tensile test values are applied to "transverse" test specimens.
2. The minimum % elongation values are reduced by 2 units for products in the thickness range $0,50 \text{ mm} < t \leq 0,70 \text{ mm}$ including coating and by 4 units for products in the thickness range $t \leq 0,50 \text{ mm}$.
3. The yield strength value is applied to temper rolled products.
4. For products with a thickness above 1.5 mm, the r_{90} value is reduced by 0.2 units.
5. The upper limit of yield strength of DX52D+Z grade without temper rolling process is 360 MPa.

Galvanized Products

Low Carbon Galvanized Steel for Drawing and Deep Drawing

Standart: ASTM A653

Chemical Composition (%)													
Standard	Grade	C	Mn max.	P max.	S max.	Al max.	Cu max.	Ni max.	Cr max.	Mo max.	V max.	Nb max.	Ti max.
ASTM A653	CS Type A	0,10 max	0,60	0,030	0,035	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	CS Type B	0,02-0,15	0,60	0,030	0,035	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	CS Type C	0,08 max	0,60	0,100	0,035	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	FS Type A	0,10 max	0,50	0,020	0,035	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	FS Type B	0,02-0,10	0,50	0,020	0,030	-	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	DDS Type A	0,06 max	0,50	0,020	0,025	0,010	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	EDDS	0,02 max	0,40	0,020	0,020	0,010	0,25	0,20	0,15	0,06	0,008	0,100	0,150

Mechanical Properties						
Standard	Grade	R _e N/mm ²	R _m N/mm ²	A ₅₀ (%) min.	r _m	n
ASTM A653	CS Type A	170-380	-	20	-	-
	CS Type B	205-380	-	20	-	-
	CS Type C	140-410	-	15	-	-
	FS Type A ve	170-310	-	26	1,0-1,4	0,17-0,21
	DDS Type A	140-240	-	32	1,4-1,8	0,19-0,24
	EDDS	105-270	-	40	1,6-2,1	0,22-0,27

Remarks:

1. Tensile test values are applied to "longitudinal" test specimens.
2. The mechanical values indicated are reference values.

Galvanized Products

Galvanized Structural Steel

Standart: EN 10346:2015

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

Mechanical Properties				
Standard	Grade	R _e N/mm ² min.	R _m ⁽¹⁾ N/mm ² min.	A ₈₀ ⁽²⁾ (%) min.
EN 10346	S220GD+Z	220	300	20
	S250GD+Z	250	330	19
	S280GD+Z	280	360	18
	S320GD+Z	320	390	17
	S350GD+Z	350	420	16
	S390GD+Z	390	460	16
	S420GD+Z	420	480	15
	S450GD+Z	450	510	14
	S550GD+Z	550	560	-

Remarks:

1. Tensile test values are applied to "longitudinal" test specimens.
2. If the yield point is not obvious, a value of Rp 0.2 is applied. If the yield point is significant, the Re H value is applied.
3. The minimum % elongation value is reduced by 4 units for products with t (thickness) ≤ 0,50 mm and by 2 units for products with thickness range 0,50 mm < t ≤ 0,70 mm. Thicknesses including coating.

Galvanized Products

Galvanized Structural Steel

Standart: ASTM A653

Chemical Composition (%)												
Standard	Grade	C max.	Mn max.	P max.	S max.	Cu max.	Ni max.	Cr max.	Mo max.	V max.	Nb max.	Ti max.
ASTM A653	SS Grade 33	0,20	1,35	0,10	0,04	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	SS Grade 37	0,20	1,35	0,10	0,04	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	SS Grade 40	0,25	1,35	0,10	0,04	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	SS Grade 50 Class 1,2,4	0,25	1,35	0,20	0,04	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	SS Grade 50 Class 3	0,25	1,35	0,04	0,04	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	SS Grade 55	0,25	1,35	0,04	0,04	0,25	0,20	0,15	0,06	0,008	0,008	0,025
	SS Grade 60	0,25	1,35	0,04	0,04	0,25	0,20	0,15	0,06	0,008	0,008	0,025

Mechanical Properties				
Standard	Grade	R _e (min) N/mm ²	R _e (min) ⁽¹⁾⁽²⁾ N/mm ²	A ₅₀ ⁽²⁾ % min.
ASTM A653	SS Grade 33	230	310	20
	SS Grade 37	255	360	18
	SS Grade 40	275	380	16
	SS Grade 50 Class 1	340	450	12
	SS Grade 50 Class 2	340	-	12
	SS Grade 50 Class 3	340	480	12
	SS Grade 50 Class 4	340	410	12
	SS Grade 55	380	480	11
	SS Grade 60	410	480	10

Remarks:

1. Tensile test values are applied to "longitudinal" test specimens.
2. The mechanical values indicated are reference values.

Galvanized Products

High Strength Low Alloy Galvanized Steels

Standart: EN 10346:2015

Chemical Composition (%)									
Standard	Grade	C max.	Si max.	Mn max.	P max.	S max.	Al _{total} max.	Nb max.	Ti max.
EN 10346	HX260LAD+Z	0,11	0,5	1,0	0,03	0,50	0,15	0,09	0,15
	HX300LAD+Z	0,12	0,5	1,4	0,03	0,50	0,15	0,09	0,15
	HX340LAD+Z	0,12	0,5	1,4	0,03	0,50	0,15	0,09	0,15
	HX380LAD+Z	0,12	0,5	1,5	0,03	0,50	0,15	0,09	0,15
	HX420LAD+Z	0,12	0,5	1,6	0,03	0,50	0,15	0,09	0,15

Mechanical Properties				
Standard	Grade	R _e N/mm²	R _e ⁽¹⁾ N/mm²	A ₈₀ ⁽²⁾ % min.
EN 10346	HX260LAD+Z	260-330	350-430	26
	HX300LAD+Z	300-380	380-480	23
	HX340LAD+Z	340-420	410-510	21
	HX380LAD+Z	380-480	440-560	19
	HX420LAD+Z	420-520	470-590	17

Remarks:

1. The tensile test is applied to "transverse" test specimens.
2. If the yield point is not obvious, a value of Rp 0.2 is applied. If the yield point is significant, the Re L value is applied.
3. The minimum % elongation value is reduced by 4 units for products with $t \leq 0,50$ mm and by 2 units for products in the thickness range $0,50 \text{ mm} < t \leq 0,70$ mm. Thicknesses including coating.t

Galvanized Products

Dual Phase Galvanized Steels for Cold Forming

Standart: EN 10346:2015

Chemical Composition (%)											
Standard	Grade	C max.	Si max.	Mn max.	P max.	S max.	Al max.	Cr+Mo max.	Nb+Ti max.	V max.	B max.
EN 10346	HCT590X+Z	0,15	0,75	2,5	0,04	0,015	0,015-1,5	1,4	0,15	0,2	0,005

Mechanical Properties				
Standard	Grade	$R_e^{(2)}$ N/mm ²	$R_m^{(1)}$ N/mm ² min.	A_{80} % min.
EN 10346	HCT590X+Z	330-430	590	20

Remarks:

1. The tensile test is applied to "longitudinal" test specimens.
2. If the yield point is not obvious, a value of $R_p 0.2$ is applied. If the yield point is significant, the $R_e L$ value is applied.

Advantages of Galvanized Products



Cost Advantage



Strength



Formability



Weldability



Corrosion Resistance



Paintability



Recycling Possibility

Galvanized Products Usage Areas

- White Goods Industry
- Pipe / Profile
- Pre-painted Steel Manufacturers
- Slitting and Cut-to-Length Line (SSC)
- Industrial Pipe & Profile
- Industrial Cooling, Energy
- General Manufacturing
- HVAC
- Brown Goods
- Automotive
- Sandwich Panel
- Agriculture and Animal Husbandry
- Consumer Products
- Drum
- Construction



Production Limits

Cold Rolled and Continuous Galvanized Products

Product Type	Low Carbon Grades and Structural Steels Suitable for Cold Forming				Ultra Low Carbon and IF Steels					
Grades	DX51D+Z-CS Type C S220GD+Z-S250GD+Z SS Grade 33- SS Grade 37		DX52D+Z- CS Type A CS Type B- FS Type AFS Type B		DX53D+Z, DDS Type A		DX54D+Z		DX56D+Z, EDDS	
Coated Thickness (t) mm	Width (w) mm		Width (w) mm		Width (w) mm		Width (w) mm		Width (w) mm	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
0,20-0,22	700	1100	-	-	-	-	-	-	-	-
0,23-0,34	700	1250	-	-	-	-	-	-	-	-
0,35-0,39	700	1350	700	1350	-	-	-	-	-	-
0,40-0,49	700	1350	700	1350	700	1350	700	1350	700	1350
0,50-0,59	700	1550	700	1550	700	1550	700	1550	700	1550
0,60-0,69	700	1550	700	1550	700	1550	700	1550	700	1550
0,70-0,79	700	1550	700	1550	700	1550	700	1550	-	-
0,80-0,99	700	1550	700	1550	700	1550	700	1550	-	-
1,00-1,20	700	1550	700	1550	700	1550	700	1550	-	-
1,21-2,00	700	1550	700	1550	700	1550	700	1550	-	-

Product Type	High Strength Structural Steels									
Grades	S280GD+Z SS Grade 40		S320GD+Z SS Grade 50 Class 1,2,3,4		S350GD+Z SS Grade 55		S390GD+Z- S420GD+Z S450GD+Z- SS Grade 60		S550GD+Z SS Grade 80 Class 1	
Coated Thickness (t) mm	Width (w) mm		Width (w) mm		Width (w) mm		Width (w) mm		Width (w) mm	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
0,25-0,34	700	1250	-	-	-	-	-	-	-	-
0,35-0,39	700	1350	-	-	-	-	-	-	-	-
0,40-0,49	700	1350	700	1300	-	-	-	-	-	-
0,50-0,59	700	1550	700	1300	-	-	-	-	-	-
0,60-0,69	700	1550	700	1300	700	1300	-	-	700	1300
0,70-0,79	700	1550	700	1300	700	1300	-	-	700	1300
0,80-0,99	700	1550	700	1300	700	1300	700	1300	700	1300
1,00-1,20	700	1550	700	1300	700	1300	700	1300	700	1300
1,21-2,00	700	1550	700	1300	700	1300	700	1300	-	-

*Production limits over 0.20-0.30 mm thickness range and 1300 mm width are subject to negotiation.

Production Limits

Remarks:

1. Coil inner diameter is 508 mm. Coil outside diameter is minimum 900 mm and maximum 2100 mm. 610 mm is subject to negotiation.
2. Coil weight is minimum 5,000 kg and maximum 30,000 kg.
3. Unless otherwise specified, all B surface orders are produced with surface roughness in the range 0.61-1.90 μm . Special Ra values are subject to negotiation.
4. Total coating thickness is min 50 gr/m^2 and max 600 gr/m^2 .
5. Surface flatness is not guaranteed for coils. Complaints of wave defects are not accepted if the ordered coils are cut to length and used without the use of appropriate straightening equipment and practice. For this purpose, it is recommended to order products cut to length.
6. As surface quality, A (as coated) and B (improved surface, skinpass treated) surface qualities are produced.
7. For B surface grades, Skinpass process can be done brightly upon request. Unless specified, B surface products have a matt appearance.
8. All grades are produced A surface quality unless otherwise specified. Chemical passivation is applied to protect the surface from corrosion during storage and transportation conditions, unless otherwise specified for longer protection, passivation and lubrication are recommended together. Yıldız Demir Çelik is not responsible for any corrosion that may occur if surface protection is not required.
9. If Skinpass is not desired, the yield strength value (Re) and the absence of yield marks are not guaranteed.
10. Orders with a maximum surface roughness (Ra) of 0.40 μm (glossy) are only accepted in surface quality A.
11. Marking is not performed unless otherwise specified. Marking can be applied on one surface and one edge.
12. For orders over 275 gr/m^2 coated, the winding type is produced as a staggered winding.
13. You can contact the Customer Technical Services Department for quality and dimensions not specified in the table.

Production Limits

Cold Rolled and Continuous Galvanized Products

Product Type	High Strength Low Alloy Steels				Dual Phase Steels	
Grades	HX260LAD+Z, HX300LAD+Z, HX340LAD+Z		HX380LAD+Z,HX420LAD+Z		HCT590X+Z	
Coated Thickness (t) mm	Width (w) mm		Width (w) mm		Width (w) mm	
	min.	max.	min.	max.	min.	max.
0,60-0,79	700	1300	-	-	-	-
0,80-0,99	700	1300	700	1300	700	1300
1,00-1,20	700	1300	700	1300	700	1300
1,21-2,00	700	1300	700	1300	700	1300

*Production limits over 1300 mm width are subject to negotiation.

Production Limits

Remarks:

1. Coil inner diameter is 508 mm. Roll out diameter is minimum 900 mm and maximum 2100 mm. 610 mm is subject to negotiation.
2. Coil weight is minimum 5,000 kg and maximum 30,000 kg.
3. Unless otherwise specified, all B surface orders are produced with surface roughness in the range 0.61-1.90 μm . Special Ra values are subject to negotiation.
4. Total coating thickness is min 50 gr/m² and max 600 gr/m².
5. Surface flatness is not guaranteed for coils. Complaints of wave defects are not accepted if the ordered coils are cut to length and used without the use of appropriate straightening equipment and practice. For this purpose, it is recommended to order products cut to length.
6. As surface quality, A (as coated) and B (improved surface, skinpass treated) surface qualities are produced.
7. For B surface grades, Skinpass process can be done brightly upon request. Unless specified, B surface products have a matt appearance.
8. All grades are produced in A surface quality unless otherwise specified and chemical passivation treatment is applied to protect the surface against corrosion under storage and transportation conditions unless otherwise specified. For longer protection, passivation and lubrication are recommended together. Yıldız Demir Çelik is not responsible for any corrosion that may occur if surface protection is not required.
9. If Skinpass is not desired, the yield strength value (Re) and the absence of yield marks are not guaranteed.
10. Orders with a maximum surface roughness (Ra) of 0.40 μm (glossy) are only accepted in surface quality A.
11. Marking is not performed unless otherwise specified. Marking can be applied on one surface and one edge.
12. For orders over 275 gr/m² coated, the winding type is produced as a staggered winding.
13. You can contact the Customer Technical Services Department for quality and dimensions not specified in the table.

Production Limits

Product Type	Hot Rolled, Pickled and Continuous Galvanized Zinc Coated Galvanized Steel											
Grades	Steel Grades for Drawing and Deep Drawing						Galvanized Structural Steel					
	Low Carbon				Ultra Low Carbon		Medium and High Strength					
	DX51D+Z CS Type C		DX52D+Z CS Type A- CS Type B		DX53D+Z DX54D+Z							
Thickness (t) mm Uncoated	Width (w) mm		Width (w) mm		Width (w) mm		Width (w) mm		Width (w) mm		Width (w) mm	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
2,00-3,00	700	1300	700	1300	700	1300	700	1300	700	1300	700	1300
3,10-3,50	700	1000	-	-	-	-	700	1000	700	1000	-	-
3,51-4,00	700	1000	-	-	-	-	700	1000	-	-	-	-

Product Type	High Strength Low Alloy Steels			
Grades	HX260LAD+Z-HX300LAD +Z-HX340LAD+Z		HX380LAD+Z-HX420LAD+Z	
Coated Thickness (t) mm	Width (w) mm		Width (w) mm	
	min.	max.	min.	max.
2,00-3,00	700	1300	700	1300
3,10-3,50	700	1000	-	-

Production Limits

Remarks:

1. Coil inner diameter is 610 mm. 508 mm inner diameter subject to negotiation.
2. Maximum coil weight is 30,000 kg. Under 5,000 kg is subject to negotiation.
3. Total coating thickness min. 50 gr/m² maximum 600 gr/m².
4. Surface flatness tolerance is applied only for cut to length products and not for coil products.
5. As surface quality, A (as coated) and B (improved surface, skinpass treated) surface qualities are produced.
6. For B surface grades, Skinpass process can be done brightly upon request. Unless specified, B surface products have a matt appearance.
7. All grades are produced in A surface; chromated and oil-free unless otherwise specified. For surface protection, the presence or absence of one or both chromate and oil may be desirable. Yıldız Demir Çelik is not responsible for the risk of corrosion on the surface of chromate-free + oil-free products.
8. If Skinpass is not desired, the yield strength value (Re) and the absence of yield marks are not guaranteed.
9. Orders with a maximum surface roughness (Ra) of 0.40 µm (glossy) are only accepted in surface quality A.
10. Marking is not performed unless otherwise specified. Marking can be applied on one surface and one edge.
11. For orders over 275 gr/m² coated, the winding type can be produced as a staggered type.
12. You can contact the Customer Technical Services Department for quality and dimensions not specified in the table.

Galvanized Product Dimension Tolerances

Standart: EN 10143:2006

THICKNESS TOLERANCE

Nominal Thickness (t) mm	Nominal Tolerances			Special Tolerances		
	Width (w) mm			Width (w) mm		
	w ≤ 1200	1200 ≤ w < 1500	>1500	≤ 1200	1200 < w ≤ 1500	>1500
0,2 < t ≤ 0,4	±0,040	±0,050	±0,060	±0,030	±0,035	±0,040
0,4 < t ≤ 0,6	±0,040	±0,050	±0,060	±0,035	±0,040	±0,045
0,6 < t ≤ 0,8	±0,050	±0,060	±0,070	±0,040	±0,045	±0,050
0,8 < t ≤ 1,0	±0,060	±0,070	±0,080	±0,045	±0,050	±0,060
1,0 < t ≤ 1,2	±0,070	±0,080	±0,090	±0,050	±0,060	±0,070
1,2 < t ≤ 1,6	±0,100	±0,110	±0,120	±0,060	±0,070	±0,080
1,6 < t ≤ 2,0	±0,120	±0,130	±0,140	±0,070	±0,080	±0,090
2,0 < t ≤ 2,5	±0,140	±0,150	±0,160	±0,090	±0,100	±0,110
2,5 < t ≤ 3,0	±0,170	±0,170	±0,180	±0,110	±0,120	±0,130
Thickness tolerances for DX51D and S550GD and grades with yield strength $260 \leq R_e < 360 \text{ N/mm}^2$						

Nominal Thickness (t) mm	Nominal Tolerances			Special Tolerances		
	Width (w) mm			Width (w) mm		
	≤ 1200	1200 < w ≤ 1500	>1500	≤ 1200	1200 < w ≤ 1500	>1500
0,2 < t ≤ 0,4	±0,050	±0,060	±0,070	±0,035	±0,040	±0,045
0,4 < t ≤ 0,6	±0,050	±0,060	±0,070	±0,040	±0,045	±0,050
0,6 < t ≤ 0,8	±0,060	±0,070	±0,080	±0,045	±0,050	±0,060
0,8 < t ≤ 1,0	±0,070	±0,080	±0,090	±0,050	±0,060	±0,070
1,0 < t ≤ 1,2	±0,080	±0,090	±0,110	±0,060	±0,070	±0,080
1,2 < t ≤ 1,6	±0,110	±0,130	±0,140	±0,070	±0,080	±0,090
1,6 < t ≤ 2,0	±0,140	±0,150	±0,160	±0,080	±0,090	±0,110
2,0 < t ≤ 2,5	±0,160	±0,170	±0,180	±0,110	±0,120	±0,130
2,5 < t ≤ 3,0	±0,190	±0,200	±0,200	±0,130	±0,140	±0,150
Thickness tolerances for grades with yield strength $420 \leq R_e < 900 \text{ N/mm}^2$						

Galvanized Product Dimension Tolerances

Nominal Thickness (t) mm	Nominal Tolerances			Special Tolerances		
	Width (w) mm			Width (w) mm		
	≤ 1200	1200 < w ≤ 1500	>1500	≤ 1200	1200 < w ≤ 1500	>1500
0,2 < t ≤ 0,4	±0,050	±0,060	±0,070	±0,040	±0,045	±0,050
0,4 < t ≤ 0,6	±0,060	±0,070	±0,080	±0,045	±0,050	±0,060
0,6 < t ≤ 0,8	±0,070	±0,080	±0,090	±0,050	±0,060	±0,070
0,8 < t ≤ 1,0	±0,080	±0,090	±0,110	±0,060	±0,070	±0,080
1,0 < t ≤ 1,2	±0,100	±0,110	±0,120	±0,070	±0,080	±0,090
1,2 < t ≤ 1,6	±0,130	±0,140	±0,160	±0,080	±0,090	±0,110
1,6 < t ≤ 2,0	±0,160	±0,170	±0,190	±0,090	±0,110	±0,120
2,0 < t ≤ 2,5	±0,180	±0,200	±0,210	±0,120	±0,130	±0,140
2,5 < t ≤ 3,0	±0,220	±0,220	±0,230	±0,140	±0,150	±0,160
Thickness tolerances for grades with yield strength $R_e < 260 \text{ N/mm}^2$						

Nominal Thickness (t) mm	Nominal Tolerances			Special Tolerances		
	Width (w) mm			Width (w) mm		
	≤ 1200	1200 < w ≤ 1500	>1500	≤ 1200	1200 < w ≤ 1500	>1500
0,2 < t ≤ 0,4	±0,060	±0,070	±0,080	±0,045	±0,050	±0,060
0,4 < t ≤ 0,6	±0,060	±0,080	±0,090	±0,050	±0,060	±0,070
0,6 < t ≤ 0,8	±0,070	±0,090	±0,110	±0,060	±0,070	±0,080
0,8 < t ≤ 1,0	±0,090	±0,110	±0,120	±0,070	±0,080	±0,090
1,0 < t ≤ 1,2	±0,110	±0,130	±0,140	±0,080	±0,090	±0,110
1,2 < t ≤ 1,6	±0,150	±0,160	±0,180	±0,090	±0,110	±0,120
1,6 < t ≤ 2,0	±0,180	±0,190	±0,210	±0,110	±0,120	±0,140
2,0 < t ≤ 2,5	±0,210	±0,220	±0,240	±0,140	±0,150	±0,170
2,5 < t ≤ 3,0	±0,240	±0,250	±0,260	±0,170	±0,180	±0,190
Thickness tolerances for DX51D and S550GD and grades with yield strength $260 \leq R_e < 360 \text{ N/mm}^2$						

Remarks:

1. Thickness is measured at any point at a minimum distance of 40 mm from the edges.
2. For slitted coil or sheet/plate with a width ≤ 80 mm, the thickness is measured at the center of the axis.
3. Normal and special thickness tolerances are increased by ± 0.01mm for Z450 and Z600 total coating weights.
4. Production with 25% thickness tolerance is subject to negotiation.

Galvanized Product Dimension Tolerances

Standart: EN 10143:2006

WIDTH TOLERANCES

For products with width of equal and greater than 600mm

Nominal Width (w) mm	Width (w) mm Tolerances	
	min.	max.
$600 < w \leq 1200$	0	5
$1200 < w \leq 1500$	0	6
$1500 < w$	0	7

Slitted coils and cut to length products with width less than 600 mm

Nominal Thickness (t) mm	Tolerances (mm)							
	w < 125		125 < w ≤ 250		250 < w ≤ 400		400 < w ≤ 600	
	min.	max.	min.	max.	min.	max.	min.	max.
$t < 0,60$	0	0,4	0	0,5	0	0,7	0	1
$0,6 \leq t < 1,0$	0	0,5	0	0,6	0	0,9	0	1,2
$1,0 \leq t < 2,0$	0	0,6	0	0,8	0	1,1	0	1,4
$2,0 \leq t < 3,0$	0	0,7	0	1	0	1,3	0	1,6

Note: The width is measured perpendicular to the longitudinal axis of the product.

LENGTH TOLERANCE

Nominal Length (L) mm	Normal Tolerances (mm)	
	min.	max.
$L < 2000$	0	6,0
$L \geq 2000$	0	$0,3 \times L$

Note: The length is measured along the long side of the sheet.

Galvanized Product Dimension Tolerances

SURFACE FLATNESS TOLERANCE

Surface tolerances for grades with minimum yield strength $260 \leq Re \leq 360 \text{ N/mm}^2$ and for DX51D and S550GD.

Tolerance Class	Nominal Width	Max Wave Height for Nominal Thickness (t)		
		$t < 0,7$	$0,7 \leq t < 1,6$	$1,6 \leq t < 3,0$
Normal	$w < 1200$	10	8	
	$1200 \leq w < 1500$	12	10	
	$1500 \leq w$	17	15	
Özel (FS)	$w < 1200$	5	4	3
	$1200 \leq w < 1500$	6	5	4
	$1500 \leq w$	8	7	6
Surface flatness tolerances for grades with minimum yield strength $Re < 260 \text{ N/mm}^2$				

Surface flatness tolerances for grades with minimum yield strength $Re < 260 \text{ N/mm}^2$.

Tolerance Class	Nominal Width (w) mm	Max Wave Height for Nominal Thickness (t)			
		$t < 0,7$	$0,7 \leq t < 1,6$	$1,6 \leq t < 3,0$	$3 \leq t \leq 5$
Normal	$w < 1200$	10	8		15
	$1200 \leq w < 1500$	12	10		18
Special	$w < 1200$	5	4	3	8
	$1200 \leq w < 1500$	6	5	4	9

Surface flatness tolerances for grades with minimum yield strength $260 \leq Re < 360 \text{ N/mm}^2$ and grades DX51D and S550GD

Tolerance Class	Tolerance Class mm	Max Wave Height for Nominal Thickness (t)			
		$t < 0,7$	$0,7 \leq t < 1,6$	$1,6 \leq t < 3,0$	$3 \leq t \leq 5$
Normal	$w < 1200$	13	10		18
	$1200 \leq w < 1500$	15	13		25
Special	$w < 1200$	8	6	5	9
	$1200 \leq w < 1500$	9	8	6	12

Remarks:

- Remarks 1. Surface flatness tolerance for grades with minimum yield strength $Re \geq 360 \text{ N/mm}^2$ is subject to negotiation at the order stage.

Galvanized Products

Dimension and Size Tolerances

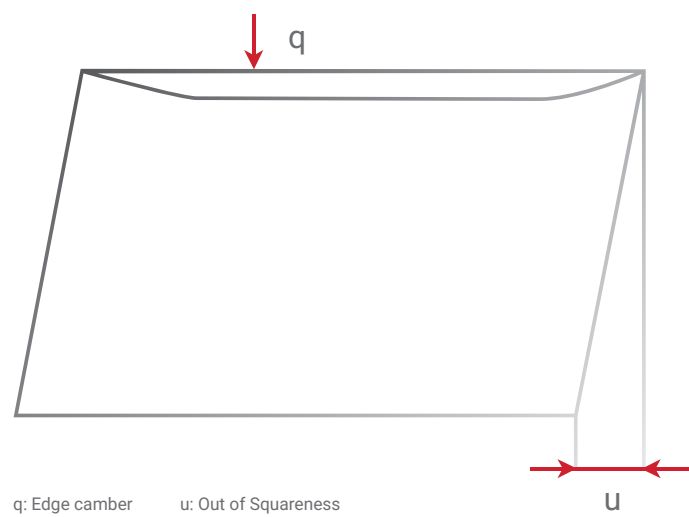
EDGE CAMBER TOLERANCE

- Edge camber is the maximum distance between a straight line joining the two ends of a long edge and that long edge.
- The edge camber measurement is performed on the concave edge of the product.
- Edge camber measurement length is the length measured from any point on the edge.
- For sheet products with a width greater than 600 mm, for sheet lengths of 2000 mm and more, the measurement length is taken as 2000 mm and a tolerance of 5 mm is applied.
- If the sheet length is less than 2000 mm, the actual length of the product is taken as the gauge length and a tolerance of 0.25% of the actual length is applied.
- For roll products, the gauge length is 2000 mm with a tolerance of 5 mm.



OUT OF SQUARENESS TOLERANCE

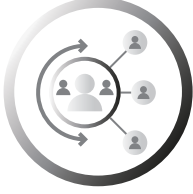
- Out of Squareness is the amount of deviation determined by orthogonal projection of the transverse edge onto the longitudinal edge.
- Out of Squareness tolerance can be a maximum of 1 % of the actual width of the sheet.



q: Edge camber

u: Out of Squareness

Our Laboratories (Accreditation)



Multiservice

YILDIZ DEMİR ÇELİK A.Ş. Laboratories provide services to both internal and external customers with their Chemistry, Mechanics, Paint, and Color Laboratories.



Registered

YILDIZ DEMİR ÇELİK A.Ş. Laboratuvarları çekme testi, galvaniz kaplama ağırlığı ve boyalı saclara uygulanan testlerde TÜRKAK tarafından TS EN ISO/IEC 17025 standardına göre akreditedir.



State of The Art Technology

Since 2018, our laboratories, with a focus on high customer satisfaction and providing accurate and reliable services, have been conducting control tests on all raw materials that directly affect product quality, as well as trials of alternative new raw materials and research activities. These tests are performed in accordance with standards using state-of-the-art equipment and experienced personnel.



Galvanized Sheet Tests



Tensile Test *



Determination of Zinc Coating Mass *



Surface Roughness Test



Coating Adhesion Test



Determination of Zinc Coating Mass



Determination of Oil Amount on the Surface

* Akredite olduğumuz testlerdir.



Long-Lasting Usage Guide



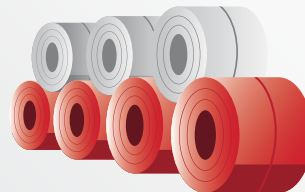
Guidelines

Transportation and Handling

Material transfers must be carried out using appropriate equipment (forklifts, C-hooks, electromagnets, etc.).

Lifting/transport equipment should have rubber, rubber, felt, or other suitable materials on the surfaces that contact the material to increase resistance to impacts.

Steel ropes that could potentially cause damage through internal wrapping should not be used.



Product Selection and Storage

Materials should be stored in closed and temperature-controlled environments to prevent moisture and condensation.

To avoid condensation, the temperature change in the environment should not be too high (maximum 5-10°C), and the relative humidity should not exceed 70%.

Materials should be stored on clean and smooth surfaces that will not cause defects like dents or impact marks.

Materials should not make direct contact with the ground; they should always be placed on saddles, pallets, or wedges.

There must be continuous air circulation in the storage area. To support air circulation, a space should be left between stacks or rolls.

FIFO (First In, First Out) method is recommended for storage practices.

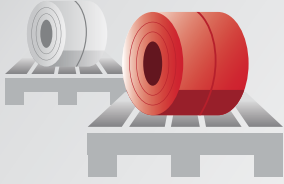
When determining the mechanical warranty periods of materials, the warranty periods specified in the relevant standard for the steel grade should be taken into account.

Cutting and Shaping

Use of Correct Equipment:

When cutting and shaping products, use special cutting tools that will not damage the coating.

Long-Lasting Usage Guide

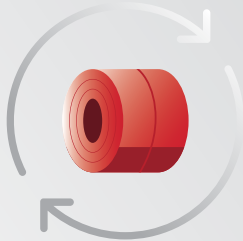


Packaging

During packaging, pallets, corner protectors, and wedges suitable for the product type should be used to protect materials from damage.

Maintenance and Cleaning

It is recommended that the packaging not be opened and the materials not be put into use until they reach room temperature.



Environmental Factors

Products with protective film coatings should be stored away from sunlight and should be used without prolonged waiting to prevent adhesive residues on the surface.

Products should not be stored outdoors.



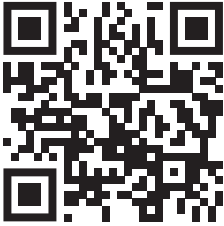
CONCLUSION

To ensure the longevity and efficient use of your galvanized products, it is advised to follow the above recommendations. Proper storage and usage will enhance the performance and durability of your products, helping you achieve maximum efficiency in your projects. For any questions or further information, please contact ydc.mt@yildizdemircelik.com.tr





STEEL IN EVERY STEP



<https://www.yildizdemircelik.com.tr/en/>

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