

COLD ROLLED PRODUCTS



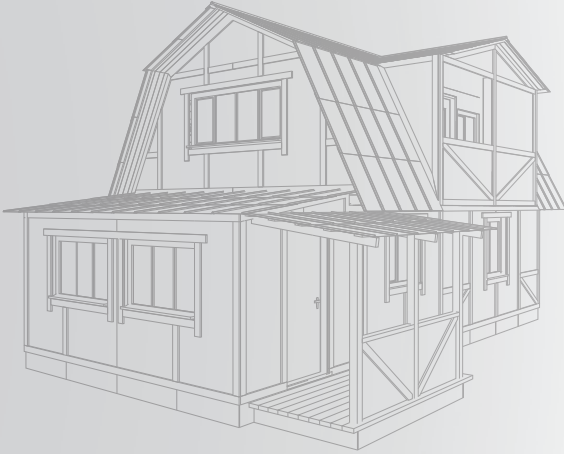
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ABOUT US

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.

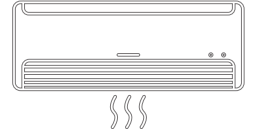
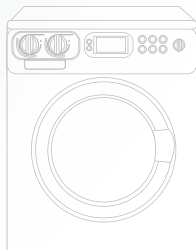
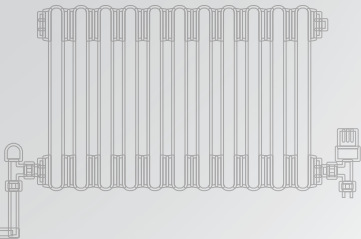
Established in 2018, Yıldız Demir Çelik is the first iron and steel facility in Türkiye that uses recycled Gray Water in production.



Our Mission

Why do we exist?

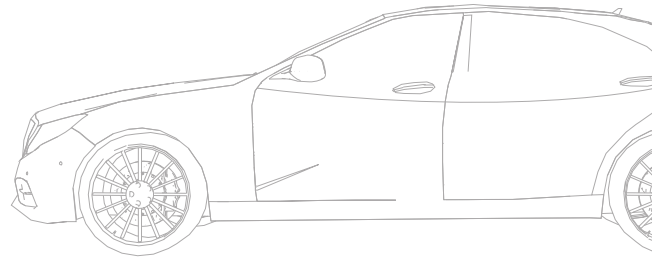
We exist to increase the **competitive advantage** of our business partners with our value- added products.



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

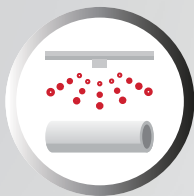
Where do we get our strength from?

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



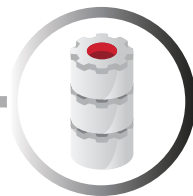
Production Lines



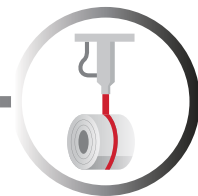
**Pickling and Tandem
Line**



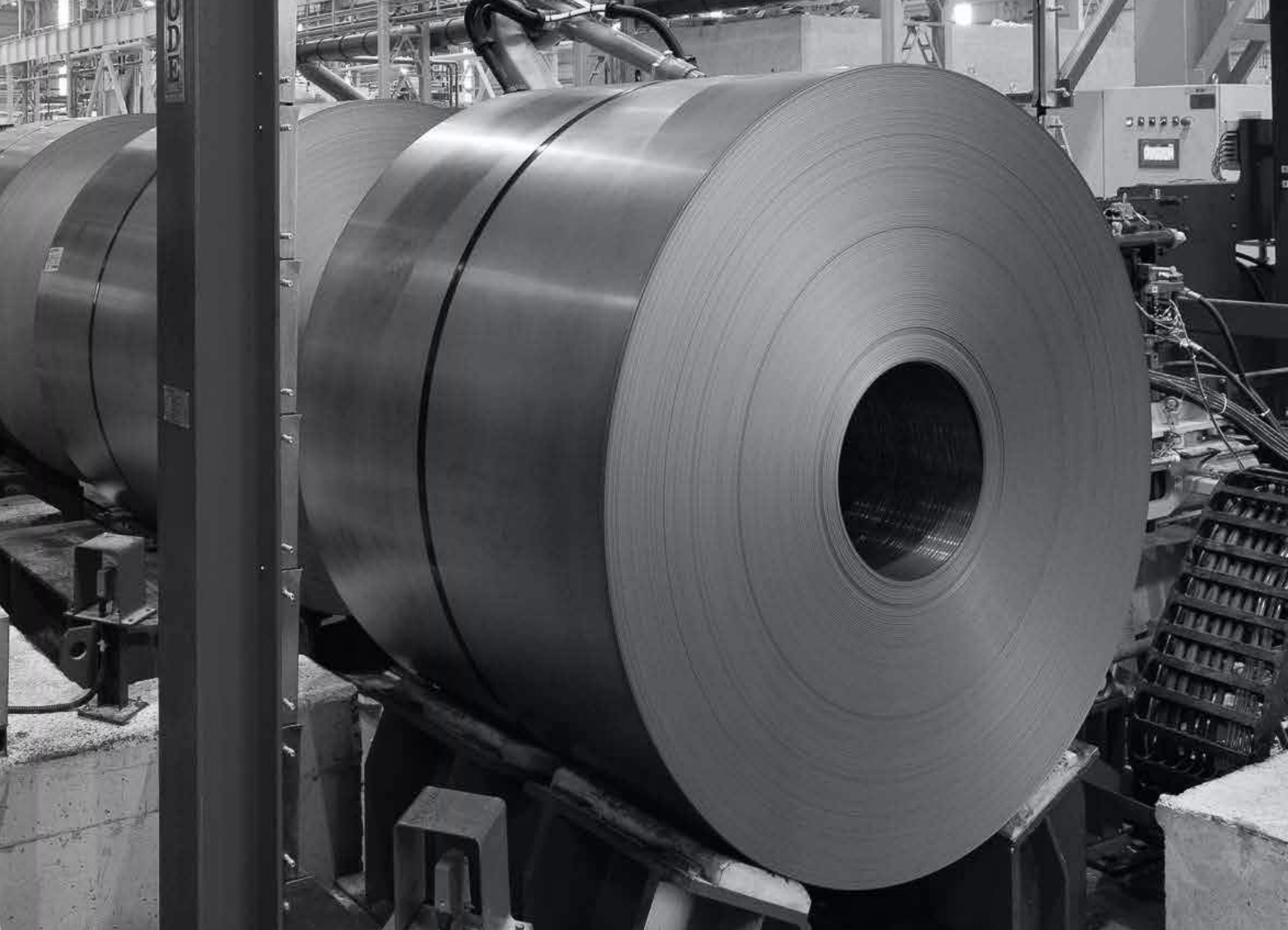
**Electrolytic
Cleaning Line**



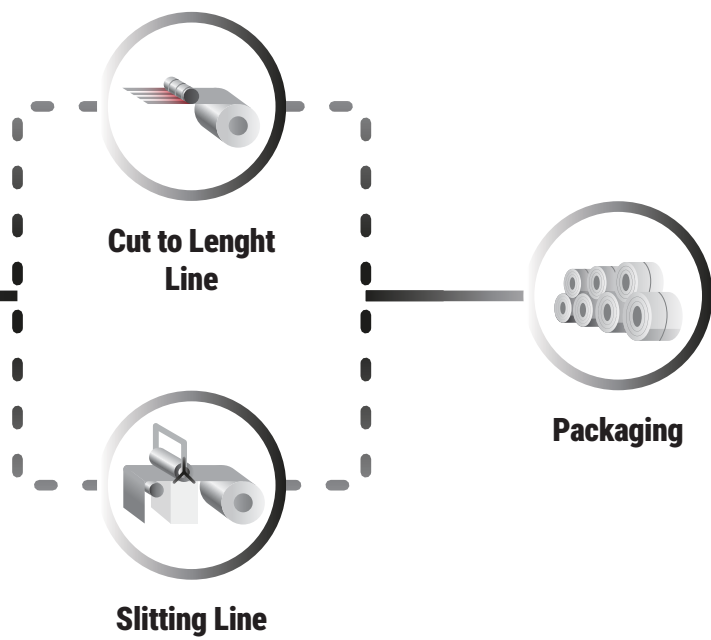
**Batch Annealing
Line**



Skinpass Mill



Steel Service Center



*Steel Service Center service is provided upon customer request.

COLD ROLLED PRODUCTS LINE

Production Limits

Thickness	0,20-2,50 mm
Width	700-1300 mm
Inner Diameter	508-610 mm
Max.Coil Weight	30 ton





COLD ROLLED PRODUCTS





Cold Rolled Products

Product Description

These are products produced by cold rolling, annealing and tempering of hot rolled sheet metal whose surface has been cleaned by pickling process. If no batch annealing and tempering process is applied after the cold rolling process, the product is called "Full Hard".

Product Name and Descriptions

BCR: Batch annealed and tempered coil

BCRM: Batch annealed and tempered coil without trimmed edge

CRF: Cold rolled non-annealed (Full Hard) coil

CRFM: Cold rolled non-annealed coil without trimmed edge

Cold Rolled Products

Cold Rolled and Tempered Low Carbon Steels

Standart: EN 10130:2008

CHEMICAL COMPOSITION (%)

Standard	Grade	C max.	P max.	S max.	Mn max.	Ti max.
EN 10130	DC01	0,12	0,045	0,045	0,60	-
	DC03	0,10	0,035	0,035	0,45	-
	DC04	0,08	0,030	0,030	0,40	-
	DC05	0,06	0,025	0,025	0,35	-
	DC06	0,02	0,020	0,025	0,25	0,30

MECHANICAL PROPERTIES

Standard	Grade	$R_e^{(2)}$ N/mm ²	$R_m^{(1)}$ N/mm ²	A_{80} (%) min. ⁽³⁾	r_{90} min. ⁽⁴⁾	n_{90} min. ⁽⁴⁾
EN 10130	DC01	140-280	270-410	28	-	-
	DC03	140-240	270-370	34	1,3	-
	DC04	140-210	270-350	38	1,6	0,18
	DC05	140-180	270-330	40	1,9	0,20
	DC06	120-170	270-330	41	2,1	0,22

Remarks:

1. Tensile test values are applied to "transverse" test specimens. A_{80} (%) min. (3) 28 34 38 40 41 r_{90} min. (4) 1,3 1,6 1,9 2,1— 0,30 n_{90} min. (4) — 0,18 0,20 0,22
2. Yield strength values are increased by
3. 20 N/mm² for thicknesses 0.5 mm < t ≤ 0.7 mm and by 40 N/mm² for thicknesses t ≤ 0.5 mm.
4. % Elongation values are reduced by 2 units for thicknesses 0.5 mm < t ≤ 0.7 mm and by 4 units for thicknesses t ≤ 0.5 mm.
5. The values r_{90} and n_{90} only apply to products with a thickness of 0.5 mm or more.
6. Please contact with Customer Technical Services Department for quality and dimensions not specified in the table.

Cold Rolled Products

Cold Rolled and Tempered Low Carbon Steels

Standart: ASTM A1008

CHEMICAL COMPOSITION (%)													
Standard	Grade	C	Mn max.	P max.	S max.	Al min.	Cu max.	Ni max.	Cr max.	Mo max.	V max.	Nb max.	Ti max.
ASTM A1008	CS Type A	0,10	0,60	0,025	0,035	-	0,20	0,20	0,15	0,06	0,008	0,008	0,025
	CS Type B	0,02-0,15	0,60	0,025	0,035	-	0,20	0,20	0,15	0,06	0,008	0,008	0,025
	CS Type C	0,08	0,60	0,10	0,035	-	0,20	0,20	0,15	0,06	0,008	0,008	0,025
	DS Type A	0,08	0,50	0,02	0,02	0,01	0,20	0,20	0,15	0,06	0,008	0,008	0,025
	DS Type B	0,02-0,08	0,50	0,02	0,02	0,02	0,20	0,20	0,15	0,06	0,008	0,008	0,025
	DDS	0,06	0,50	0,02	0,02	-	0,20	0,20	0,15	0,06	0,008	0,008	0,025
	EDDS	0,02	0,40	0,02	0,02	-	0,10	0,10	0,15	0,03	0,10	0,10	0,15

MECHANICAL PROPERTIES					
Standard	Grade	R _e N/mm ²	A ₅₀ (%) min.	r _m	n
EN 10130	CS Type A	140,275	30	-	-
	CS Type B				
	CS Type C				
	DS Type A	150-240	36	1,3-1,7	0,17-0,22
	DS Type B				
	DDS	115-200	38	1,4-1,8	0,20-0,25
	EDDS	105-170	40	1,7-2,1	0,23-0,27

Remarks

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

Cold Rolled Products

Cold Rolled Steels Suitable for Enameling

Standard: EN 10209:2023

CHEMICAL COMPOSITION (%)					
Standard	Grade	C max.	Mn max.	P max.	S max.
EN 10209	DC01 EK	0,08	0,60	0,045	0,050
EN 10209	DC04 EK	0,08	0,50	0,030	0,050

MECHANICAL PROPERTIES					
Standard	Grade	$R_e^{(2)}$ (max) N/mm ²	$R_m^{(1)}$ N/mm ²	$A_{80}^{(3)}$ (%) min.	Warranty Periods
					No Yield Marks and Mechanical Values
EN 10209	DC01 EK	270	270-390	30	6 Month
EN 10209	DC04 EK	220	270-350	36	6 Month

Remarks:

1. Tensile test values are applied to "transverse" test specimens.
2. Yield strength values are increased by 20 N/mm² for thicknesses 0.5 mm < t ≤ 0.7 mm and by 40 N/mm² for thicknesses t < 0.5 mm.
3. % Elongation values are reduced by 2 units for thickness range 0.5 mm < t ≤ 0.7 mm and by 4 units for thicknesses t ≤ 0.5 mm.

Cold Rolled Products

Low Carbon Non-annealed (Full Hard) Steels

CHEMICAL COMPOSITION (%)					
Standard	Grade	C max.	Mn max.	P max.	S max.
EN 10130	DF01	0,12	0,6	0,045	0,045

Non-annealed (Full Hard) Strapping Steels

CHEMICAL COMPOSITION (%)					
Standard	Grade	C max.	Mn max.	P max.	S max.
EN 1623	S215GF	0,18	1,5	0,03	0,02

Remarks:

1. For grades not listed in the table, please contact the Customer Technical Services Department.

Cold Rolled Products

Cold Rolled Structural Steels

Standart: ASTM A1008

CHEMICAL COMPOSITION (%)															
Standard	Grade	C max.	Mn max.	P max.	S max.	Al max.	Si min.	Cu max.	Ni max.	Cr max.	Mo max.	V max.	Nb max.	Ti max.	N max.
ASTM A1008	SS Grade 33 Type 1	0,20	0,60	0,035	0,035	-	-	0,20	0,20	0,15	0,06	0,008	0,008	0,025	-
	SS Grade 33 Type 2	0,15	0,60	0,200	0,035	-	-	0,20	0,20	0,15	0,06	0,008	0,008	0,025	-
	SS Grade 40 Type 1	0,20	1,35	0,035	0,035	-	-	0,20	0,20	0,15	0,06	0,008	0,008	0,025	-
	SS Grade 40 Type 2	0,15	0,60	0,200	0,035	-	-	0,20	0,20	0,15	0,06	0,008	0,008	0,025	-
	SS Grade 45	0,20	1,35	0,070	0,025	0,080	0,06	0,20	0,20	0,15	0,06	0,008	0,008	0,008	0,03
	SS Grade 50	0,20	1,35	0,035	0,035	-	-	0,20	0,20	0,15	0,06	0,008	0,008	0,025	-

MECHANICAL PROPERTIES			
Standard	Grade	R_e N/mm ²	$R_m^{(1)}$ N/mm ²
ASTM A1008	SS Grade 33 Type 1	230	330
	SS Grade 33 Type 2		
	SS Grade 40 Type 1	275	360
	SS Grade 40 Type 2		
	SS Grade 45	310	410
	SS Grade 50	340	450

Remarks:

1. Tensile test values are applied to "longitudinal" test specimens.

Cold Rolled Products

Cold Rolled Structural Steels

Standart: DIN 1623

CHEMICAL COMPOSITION (%)

Standard	Grade	C max.	Mn max.	P max.	S max.
DIN 1623	S215G	0,18	1,5	0,03	0,025

MECHANICAL PROPERTIES

Standard	Grade	R_e N/mm ²	$R_m^{(1)}$ N/mm ²	$A_{80}(\%)$ min.
DIN 1623	S215G	215	360-510	20

Remarks:

1. Tensile test values are applied to "transverse" test specimens.

Cold Rolled Products

Cold Rolled High Yield Strength Low Alloy Steels

Standart: EN 10268:2014

CHEMICAL COMPOSITION (%)									
Standard	Grade	C max.	Si max.	Mn max.	P max.	S max.	Al min.	Ti ⁽¹⁾ max.	Nb ⁽¹⁾ max.
EN 10268	HC260LA	0,50	1,2	0,025	0,020	0,02	0,09	0,2	0,15
	HC300LA	0,50	1,4	0,025	0,020	0,02	0,09	0,2	0,15
	HC340LA	0,50	1,6	0,025	0,015	0,02	0,09	0,2	0,15
	HC380LA	0,50	1,6	0,025	0,015	0,02	0,09	0,2	0,15
	HC420LA	0,50	1,7	0,025	0,015	0,02	0,09	0,2	0,15

Remarks:

1. $Nb + Ti + V + B \leq \% 0.22$

MECHANICAL PROPERTIES				
Standard	Grade	R _e N/mm ²	R _m ⁽¹⁾ N/mm ²	A ₈₀ ⁽²⁾ (%) min.
	HC260LA	260-330	350-430	26
	HC300LA	300-380	380-480	23
EN 10268	HC340LA	340-420	410-510	21
	HC380LA	380-480	440-580	19
	HC420LA	420-520	470-600	17

Remarks:

1. Tensile test values are applied to "transverse" test specimens. 350-430 380-480 410-510 440-580 470-600 min. 26 23 21 19 17
2. % Elongation values are reduced by 2 units in the thickness range 0,5 mm < t ≤ 0,70 mm and by 4 units in thicknesses t ≤ 0,5 mm.

Advantages of Cold Rolled Products



Cost Advantage



Strength



Formability



Weldability



Corrosion Resistance



Paintability



Recycling Possibility

Cold Rolled Products Usage Areas

- Pipe/Profile
- Steel Strip
- CRC (Cold Rolled Coil)
- Industrial Pipe Profile
- General Manufacturing
- Consumer Products
- Drum
- White Goods Industry
- Prepainted Steel Manufacturers
- Energy
- HVAC
- Brown Goods
- Automotive
- Agriculture and Livestock
- Consumer Goods
- Construction



Production Limits

COLD ROLLED PRODUCTS

Product Type	Low Carbon Steels for Drawing and Deep Drawing						Low Carbon Enameled Steels	
Grade	DC01		DC03 - DC04		DC05 - DC06		DC01EK - DC04EK	
Thickness t (mm)	Width (w) mm		Width (w) mm		Width (w) mm		Width (w) mm	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
0,20-0,24	700	1000	-	-	-	-	-	-
0,25-0,27	700	1100	-	-	-	-	-	-
0,28-0,39	700	1250	-	-	-	-	-	-
0,40-0,49	700	1300	700	1200	700	1100	700	1300
0,50-2,50	700	1300	700	1300	700	1300	700	1300

Product Type	Low Carbon Steels for Drawing and Deep Drawing						Structural Steels			
Grade	CS Type B		DS Type A		DDS-EDDS		S215G		SS Grade 33-SS Grade 40 SS Grade 45-SS Grade 50	
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.
0,20-0,24	700	1000	-	-	-	-	-	-	-	-
0,25-0,27	700	1100	-	-	-	-	-	-	-	-
0,28-0,39	700	1250	-	-	-	-	-	-	-	-
0,40-0,49	700	1300	700	1200	700	1100	-	-	-	-
0,50-2,50	700	1300	700	1300	700	1300	700	1300	700	1300

Production Limits

Remarks:

1. The minimum order width is 700 mm.
2. Orders over 2 mm thickness are subject to negotiation.
3. Coil inner diameter is 508 mm. 610 mm is subject to negotiation. Coil outside diameter is minimum 900 mm and maximum 2100 mm.
4. Coil weight is minimum 5,000 kg and maximum 30,000 kg.
5. Specific surface roughness (Ra) values are subject to negotiation.
6. Requests for surface quality B are subject to negotiation.
7. Surface flatness tolerance is applied for sheets cut to length from coil and not for coils.
8. If no special oil quantity is specified, normal lubrication is applied for domestic orders (Total 1500 mg/m²) and export orders (Total 2000 mg/m²).
9. Orders with a maximum surface roughness (Ra) of 0.40 µm (glossy) are only accepted in surface quality A.
10. Yıldız Demir Çelik is not responsible for any corrosion that may occur on the surface if the lubrication level is "low oil" or lubrication is not desired.
11. The yield strength maximum value for grade DC01 is valid for 8 days from the date the product is ready. It is recommended to use the product within 6 weeks.
12. For grades not listed in the table, please contact the Customer Technical Services Department.

Production Limits

COLD ROLLED PRODUCTS

Product Type	Cold Rolled High Yield Strength Steels			
Grade	HC260LA - HC300LA - HC340LA		HC380LA - HC420LA	
Thickness t (mm)	Width (w) mm		Width (w) mm	
	Min	Max	Min	Max
0.60-0.79	700	1300	-	-
0.80-2,50	700	1300	700	1300

Production Limits

Remarks:

1. The minimum order width is 700 mm.
2. Orders over 2 mm thickness are subject to negotiation.
3. Coil inner diameter is 508 mm. 610 mm is subject to negotiation. Coil outside diameter is minimum 900 mm and maximum 2100 mm.
4. Rulo ağırlığı minimum 5.000 kg, maksimum 30.000 kg'dır.
5. Specific surface roughness (Ra) values are subject to negotiation.
6. Requests for surface quality B are subject to negotiation.
7. Surface flatness tolerance is applied for sheets not for coils.
8. If no special oil quantity is specified, normal lubrication is applied for domestic orders (Total 1500 mg/m²) and export orders (Total 2000 mg/m²).
9. Orders with a maximum surface roughness (Ra) of 0.40 µm (glossy) are only accepted in Surface quality A.
10. Yıldız Demir Çelik is not responsible for any corrosion that may occur on the surface if the lubrication level is "low oil" or lubrication is not desired.
11. You can contact the Customer Technical Services Department for quality and dimensions not specified in the table.

Production Limits

FULL HARD PRODUCTS WITHOUT BATCH ANNEALING

Product Type	Low Carbon Steels for Continuous and Batch Annealing		Strapping Steels	
Grade	DF01		S215GF	
Thickness (t)	Width (w) mm		Width (w) mm	
	Min	Max	Min	Max
0,20-0,23	700	1100	-	-
0,24-0,26	700	1200	-	-
0,27-0,35	700	1250	-	-
0,36-0,49	700	1300	-	-
0,50-0,79	700	1500	700	1500
0,80-2,00	700	1600	700	1600
2,01-2,50	700	1300	-	-

Production Limits

Remarks:

1. The minimum order width is 700 mm.
2. CRF products are only available in 508 mm inner diameter. 610 mm is subject to negotiation.
3. CRF products are produced for subsequent continuous annealing (CA) unless otherwise specified. The suitability for different annealing methods should be specified at the order stage.
4. Minimum coil outer diameter is subject to negotiation. The maximum is 2100 mm.
5. Coil weight is subject to minimum negotiation. The maximum is 30,000 kg.
6. Depending on the thickness, surface roughness in the range Ra 0.30-1.50 μ is guaranteed. Low values can be seen for thin thicknesses. Orders requesting special surface roughness values are subject to negotiation.
7. Mechanical properties are not guaranteed.
8. Orders requesting special thickness tolerances are subject to negotiation.
9. The coils can have a maximum of 10 m off gauge at the beginning and 10 m off gauge at the end, for a total of 20 m. Thickness tolerance and surface quality of off gauge parts are not guaranteed.
10. A maximum telescopicity of 5 mm between the two windings is guaranteed. Telescopicity is not guaranteed for the first 5 and last 5 windings.
11. Rolling oil and iron dust may be present on each surface of the product up to approx. 400 mg/m². No protective oil is applied.
12. Surface smoothness tolerance does not apply.
13. For Full Hard products, a welding point can be found at the beginning and end of the coil (5 meters).
14. For thicknesses below 0.35 mm, metal sleeves are used.
15. You can contact the Customer Technical Services Department for quality and dimensions not specified in the table.

Cold Rolled Product Dimension Tolerances

Standart: EN 10131:2006

THICKNESS TOLERANCE

Thickness is measured at any point at a minimum distance of 40 mm from the edges. For products that are ≤ 80 mm wide or cut to length, the thickness is measured from the center of the axis.

Thickness (t) mm	Nominal Tolerances		Special Tolerances	
	Width (w) mm		Width (w) mm	
	w $\leq$ 1200	1200 < w $\leq$ 1300	w $\leq$ 1200	1200 < w $\leq$ 1300
0,20 $\leq$ t $\leq$ 0,40	$\pm 0,030$	$\pm 0,040$	$\pm 0,020$	$\pm 0,025$
0,40 < t $\leq$ 0,60	$\pm 0,030$	$\pm 0,040$	$\pm 0,025$	$\pm 0,030$
0,60 < t $\leq$ 0,80	$\pm 0,040$	$\pm 0,050$	$\pm 0,030$	$\pm 0,035$
0,80 < t $\leq$ 1,00	$\pm 0,050$	$\pm 0,060$	$\pm 0,035$	$\pm 0,040$
1,00 < t $\leq$ 1,20	$\pm 0,060$	$\pm 0,070$	$\pm 0,040$	$\pm 0,050$
1,20 < t $\leq$ 1,60	$\pm 0,080$	$\pm 0,090$	$\pm 0,050$	$\pm 0,060$
1,60 < t $\leq$ 2,00	$\pm 0,100$	$\pm 0,110$	$\pm 0,060$	$\pm 0,070$
2,00 < t $\leq$ 2,50	$\pm 0,120$	$\pm 0,130$	$\pm 0,080$	$\pm 0,090$

Thickness tolerances for grades with minimum yield strength $R_e < 260$ N/mm².

Thickness (t) mm	Nominal Tolerances		Special Tolerances	
	Width (w) mm		Width (w) mm	
	w $\leq$ 1200	1200 < w $\leq$ 1300	w $\leq$ 1200	1200 < w $\leq$ 1300
0,20 $\leq$ t $\leq$ 0,40	$\pm 0,040$	$\pm 0,050$	$\pm 0,025$	$\pm 0,030$
0,40 < t $\leq$ 0,60	$\pm 0,040$	$\pm 0,050$	$\pm 0,030$	$\pm 0,035$
0,60 < t $\leq$ 0,80	$\pm 0,050$	$\pm 0,060$	$\pm 0,035$	$\pm 0,040$
0,80 < t $\leq$ 1,00	$\pm 0,060$	$\pm 0,070$	$\pm 0,040$	$\pm 0,050$
1,00 < t $\leq$ 1,20	$\pm 0,070$	$\pm 0,080$	$\pm 0,050$	$\pm 0,060$
1,20 < t $\leq$ 1,60	$\pm 0,090$	$\pm 0,110$	$\pm 0,060$	$\pm 0,070$
1,60 < t $\leq$ 2,00	$\pm 0,120$	$\pm 0,130$	$\pm 0,070$	$\pm 0,080$
2,00 < t $\leq$ 2,50	$\pm 0,140$	$\pm 0,150$	$\pm 0,100$	$\pm 0,110$

Thickness tolerances for grades with minimum yield strength $260 \leq R_e < 340$ N/mm².

Cold Rolled Product Dimension Tolerances

Standart: EN 10131:2006

THICKNESS TOLERANCE

Thickness (t) mm	Nominal Tolerances		Special Tolerances	
	Width (w) mm		Width (w) mm	
	w ≤ 1200	1200 < w ≤ 1300	w ≤ 1200	1200 < w ≤ 1300
0,20 ≤ t ≤ 0,40	± 0,040	± 0,050	± 0,030	± 0,035
0,40 < t ≤ 0,60	± 0,050	± 0,060	± 0,035	± 0,040
0,60 < t ≤ 0,80	± 0,060	± 0,070	± 0,040	± 0,050
0,80 < t ≤ 1,00	± 0,070	± 0,080	± 0,050	± 0,060
1,00 < t ≤ 1,20	± 0,090	± 0,100	± 0,060	± 0,070
1,20 < t ≤ 1,60	± 0,110	± 0,090	± 0,070	± 0,080
1,60 < t ≤ 2,00	± 0,140	± 0,120	± 0,080	± 0,100
2,00 < t ≤ 2,50	± 0,160	± 0,180	± 0,110	± 0,120

Thickness tolerances for grades with minimum yield strength $340 \leq R_e \leq 420$ N/mm².

Thickness (t) mm	Nominal Tolerances		Special Tolerances	
	Width (w) mm		Width (w) mm	
	w ≤ 1200	1200 < w ≤ 1300	w ≤ 1200	1200 < w ≤ 1300
0,20 ≤ t ≤ 0,40	± 0,050	± 0,060	± 0,035	± 0,040
0,40 < t ≤ 0,60	± 0,050	± 0,070	± 0,040	± 0,050
0,60 < t ≤ 0,80	± 0,060	± 0,080	± 0,050	± 0,060
0,80 < t ≤ 1,00	± 0,080	± 0,100	± 0,060	± 0,070
1,00 < t ≤ 1,20	± 0,100	± 0,110	± 0,070	± 0,080
1,20 < t ≤ 1,60	± 0,130	± 0,140	± 0,080	± 0,100
1,60 < t ≤ 2,00	± 0,160	± 0,170	± 0,100	± 0,110
2,00 < t ≤ 2,50	± 0,190	± 0,200	± 0,130	± 0,140

Thickness tolerances for grades with minimum yield strength $420 > R_e$ N/mm².

Cold Rolled Product Dimension Tolerances

Standart: EN 10131:2006

WIDTH TOLERANCE

Nominal Width (w) mm	Tolerance mm	
	Lower	Upper
$w \leq 1200$	0	+ 4
$2000 < w \leq 1300$	0	+ 5

a) For products with a width of equal and greater than 600 mm.

Nominal Thickness (t) mm	Width Tolerance (mm)							
	$w < 125$		$125 < w < 250$		$250 \leq w \leq 400$		$400 \leq w \leq 600$	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
$t < 0,60$	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
$1 \leq t < 2,0$	0	0,6	0	0,8	0	1,1	0	1,4

b) For sliced products width of less than 600 mm.

LENGTH TOLERANCE

Nominal Length (L) mm	Tolerance mm	
	Lower	Upper
$L < 2000$	0	6
$2000 \leq L$	0	$\% 0.3 \times L$

Cold Rolled Product Dimension Tolerances

Standart: EN 10131:2006

SURFACE FLATNESS TOLERANCE

Deviation from flatness is determined by measuring the deviation in distance between product and a flat horizontal surface on which is placed flatness tolerances is only applied to sheet products.

Tolerance Class	Nominal Width w (mm)	Max. Wave Height (mm)		
		$t < 0,7$	$0,7 \leq w < 1,2$	$t \geq 1,2$
Normal	$w < 600$	7	6	5
	$600 \leq w < 1200$	10	8	7
	$1200 \leq w < 1300$	12	10	8
Special	$w < 600$	4	3	2
	$600 \leq w < 1200$	5	4	3
	$1200 \leq w < 1300$	6	5	4

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

Tolerance Class	Nominal Width w (mm)	Max. Wave Height (mm)		
		$t < 0,7$	$0,7 \leq w < 1,2$	$t \geq 1,2$
Normal	$600 \leq w < 1200$	13	10	8
	$1200 \leq w < 1300$	15	13	11
Special	$600 \leq w < 1200$	8	6	5
	$1200 \leq w < 1300$	9	8	6

Surface flatness tolerances for grades with minimum yield strength $260 \leq R_e < 340 \text{ N/mm}^2$.

Remarks:

1. For width less than 600 mm, surface flatness tolerances are subject to agreement at the time of order.
2. Surface flatness tolerances for grades with minimum yield strength $\geq 340 \text{ N/mm}^2$ are subject to agreement at the time of order.

Cold Rolled Product Dimension Tolerances

EDGE CAMBER TOLERANCE

- Edge camber is the maximum length between a straight line connecting both ends of the long edges and this 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.
- No special tolerances apply for edge camber.

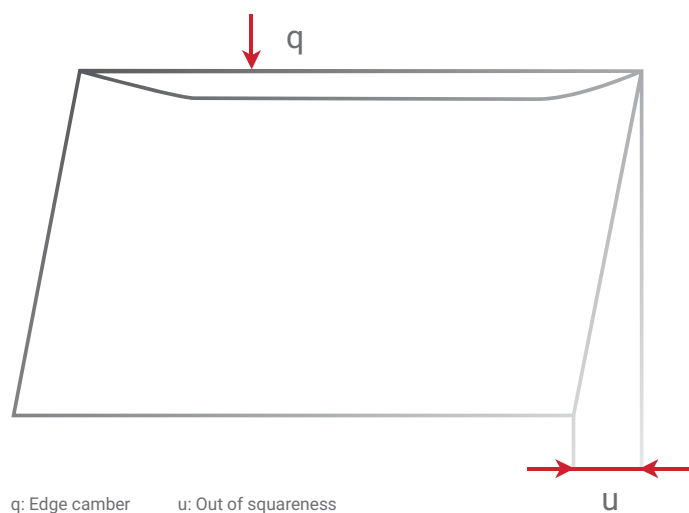


Nominal Thickness (t) mm	Product Dimensions (mm)		Measure Length (L) mm	Tolerance (mm)
	Width	Length		
Sheet-Plate	≥ 600	≥ 2000	2000	5
		< 2000	Real Length (L)	+0,0025 x L
Coil	< 600	-	2000	5
Slitted Coil	1200 ≤ w < 1300	-	2000	5



OUT OF SQUARENESS TOLERANCE

The tolerance for out of squareness is a maximum of 1% of the actual width of the product. Corner perpendicularity is the amount of deviation determined by the orthogonal projection of the transverse edge on the longitudinal edge.



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. Laboratories are accredited by TÜRKAK according to the TS EN ISO/IEC 17025 standard for tensile testing, zinc coating weight, and tests applied to painted sheets.



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.



Cold Rolled Steel Tests



Tensile Test



Hardness Test



Determination of Oil Amount on the Surface



Surface Roughness Test



Long-Lasting Usage Guide



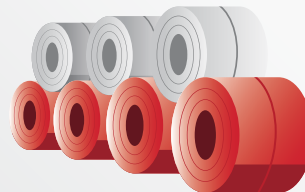
Guidelines

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.

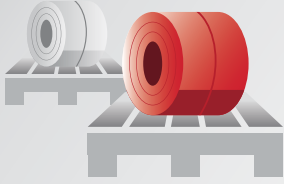
When determining the mechanical warranty periods of materials, the warranty periods specified in the relevant standard for the steel grade should be taken into account.

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

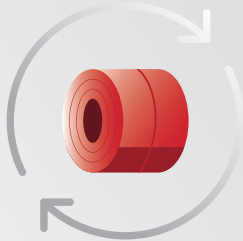


Packaging

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 material should not be unpacked and not 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 cold rolled products, it is advised to follow the above recommendations.

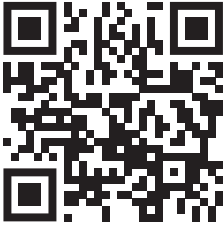
Proper storage and usage will enhance the performance and durability of your products, helping you achieve maximum efficiency in your projects.

For any questions or further information, please contact
ydc.mth@yildizdemircelik.com.tr





STEEL IN EVERY STEP



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

İstanbul Office

Küçükbakkalköy Mah. Tevfik Fikret Cad.
No:34 34750 Ataşehir İstanbul/Türkiye

Production Facilities

Alikahya O.S.B. 2. Cadde No:2
İzmit/Kocaeli



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