

EL  STRON

STEEL SERVICE CENTERS

CLADDING STEEL PROFILES

For the formation of coverings in metal structures, corrugated steel sheet profiles are preferably used especially those of trapezoidal form.

The choice of suitable profile is based on the right combination of two main factors: the mechanical properties of the used sheet which determine its resistance in various loads, as well as its geometrical form which lends the desirable aesthetic but also functional characteristics (e.g. draining rain water).

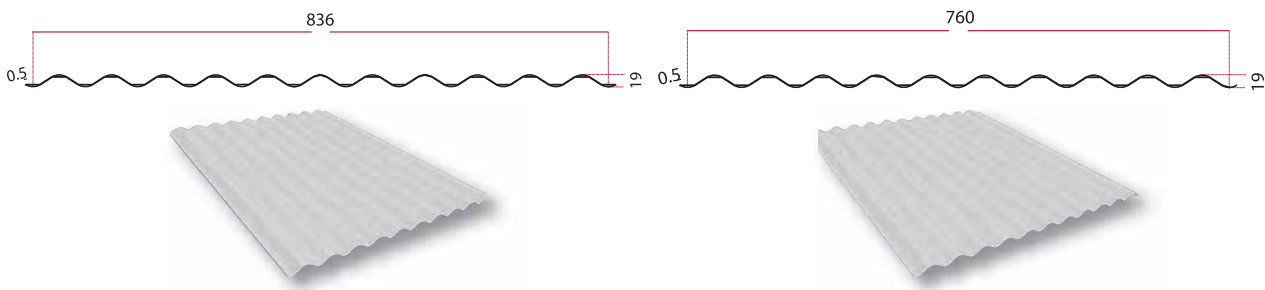
The industrialized manner of production of cladding steel profiles, provides high qualitative attributes. High quality galvanized steel sheet goes through production lines of continuous process, so that biggest resistance is provided, as well as anticorrosive protection.

The state-of-the-art production lines satisfy even the highest quality criteria, using coils of galvanized sheet of various thickness (from 0.3 to 1.25 mm) and exceptionally high quality.

- Corrugated sheet:
 - EL S19/836
 - EL S19/760
- Steel trapezoidal profiles:
 - EL T35/1100 - EL T40/1000 - EL T50/1000
 - EL T39/896 - EL T45/1000
- Ecotile:
 - Ecotile Attika - Ecotile Roman - Ecotile Classic
- Flashings - ridges - translucent pvc
- Joint elements - profile fillers - sealant strips

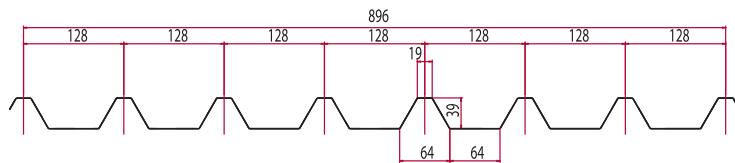
TRAPEZOIDAL - CORRUGATED METAL SHEET

CORRUGATED SHEET EL S19/836 & EL S19/760



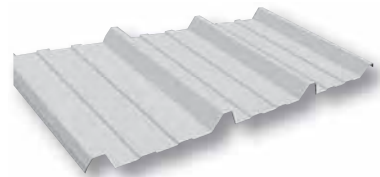
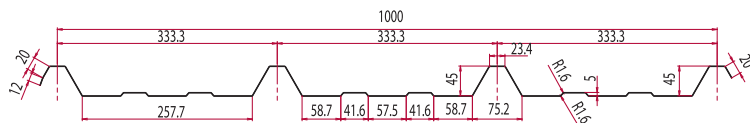
Thickness S (mm)	Weight (kg/m)		Moment W_x (cm ³)	Permissible load (kg/m ²) Supports distance (m)						
	Width 836 mm	Width 760 mm		1.0	1.25	1.5	1.75	2.0	2.25	2.50
0.30	2.36	2.15	1.43	137	88	61	45	34	27	22
0.35	2.75	2.51	1.67	160	108	71	52	40	32	26
0.40	3.14	2.87	1.91	183	124	81	60	46	36	29
0.45	3.53	3.23	2.15	206	140	92	67	52	41	33
0.50	3.93	3.59	2.39	229	155	102	75	57	45	37
0.56	4.40	4.02	2.68	257	174	114	84	64	51	41
0.63	4.95	4.52	2.99	287	195	128	94	72	57	46
0.75	5.89	5.38	3.57	343	232	152	112	86	68	55
0.88	6.91	6.31	4.14	397	270	177	130	99	79	64
1.00	7.85	7.17	4.71	452	306	201	148	113	89	72

TRAPEZOIDAL SHEET EL T_{39/896}



Thickness S (mm)	Weight (kg/m)	Moment Wx (cm ³)	Permissible load (kg/m ²) Supports distance (m)						
			1.0	1.25	1.5	1.75	2.0	2.25	2.50
0.30	2.94	3.69	350	220	155	110	85	67	54
0.35	3.43	4.29	405	260	180	130	99	77	62
0.40	3.93	4.89	465	296	204	150	113	88	71
0.45	4.42	5.50	524	332	230	170	130	100	80
0.50	4.91	6.11	580	370	255	186	140	110	90
0.60	5.89	7.33	695	445	306	223	170	132	107
0.70	6.87	8.58	817	520	360	262	198	156	126
0.80	7.85	9.80	1010	644	447	325	246	193	155
0.90	8.83	11.02	1137	724	500	365	277	217	174
1.00	9.81	12.23	1262	804	555	405	307	241	193
1.25	12.27	15.75	1620	1030	710	520	395	310	250

TRAPEZOIDAL SHEET EL T_{45/1000}



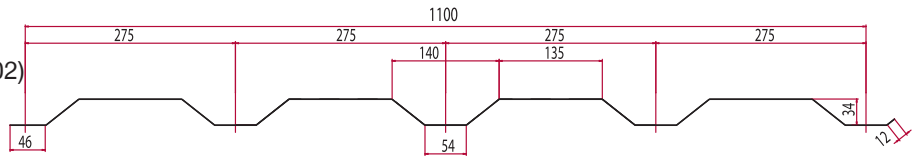
Thickness (mm)	0.63	0.75	1.00
Weight (kg/m ²)	6.03	7.18	9.58

Load	daN/m ²	0.63 mm		0.75 mm		1.00 mm	
		▲▲	▲▲▲	▲▲	▲▲▲	▲▲	▲▲▲
	50	2.45	2.45	3.45	3.45	4.05	4.45
	75	2.45	2.45	3.30	3.45	3.60	4.10
	100	2.45	2.45	3.05	3.40	3.30	3.80
	125	2.45	2.45	2.85	3.10	3.10	3.55
	150	2.35	2.45	2.65	2.80	2.90	3.25
	175	2.20	2.30	2.45	2.60	2.80	3.00
	200	2.05	2.05	2.30	2.35	2.65	2.80

Suction	daN/m ²	0.63 mm		0.75 mm		1.00 mm	
		▲▲	▲▲▲	▲▲	▲▲▲	▲▲	▲▲▲
	50	2.45	2.45	3.45	3.45	4.20	4.45
	75	2.45	2.45	3.45	3.45	4.20	4.45
	100	2.45	2.45	3.30	3.30	4.15	4.20
	125	2.45	2.45	2.90	2.95	3.70	3.70
	150	2.30	2.30	2.65	2.65	3.35	3.35
	175	1.95	1.95	2.35	2.35	3.10	3.10
	200	1.70	1.70	2.05	2.05	2.90	2.90

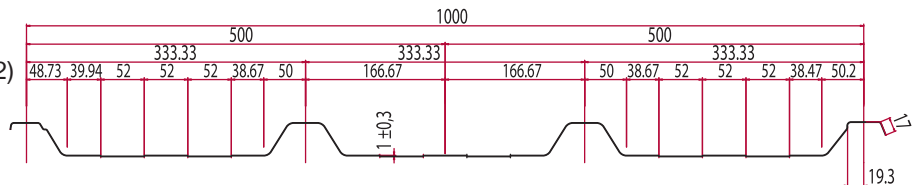
TRAPEZOIDAL SHEET EL T₃₅/1100

Coil Width: 1250mm
Coil Thickness: 0.5mm ~ 1.25mm (± 0.02)
Covering Width: 1100 ± 5.0 mm
Depth of Wave: 34 ± 1.0 mm
Pitch: 275 ± 2 mm



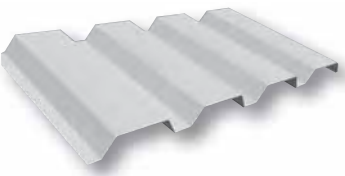
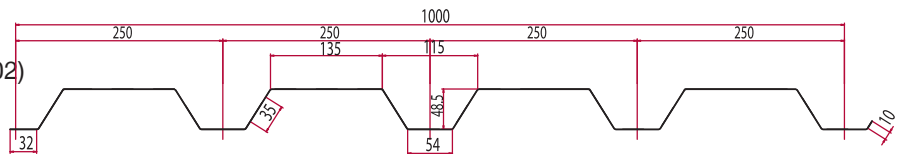
TRAPEZOIDAL SHEET EL T₄₀/1000

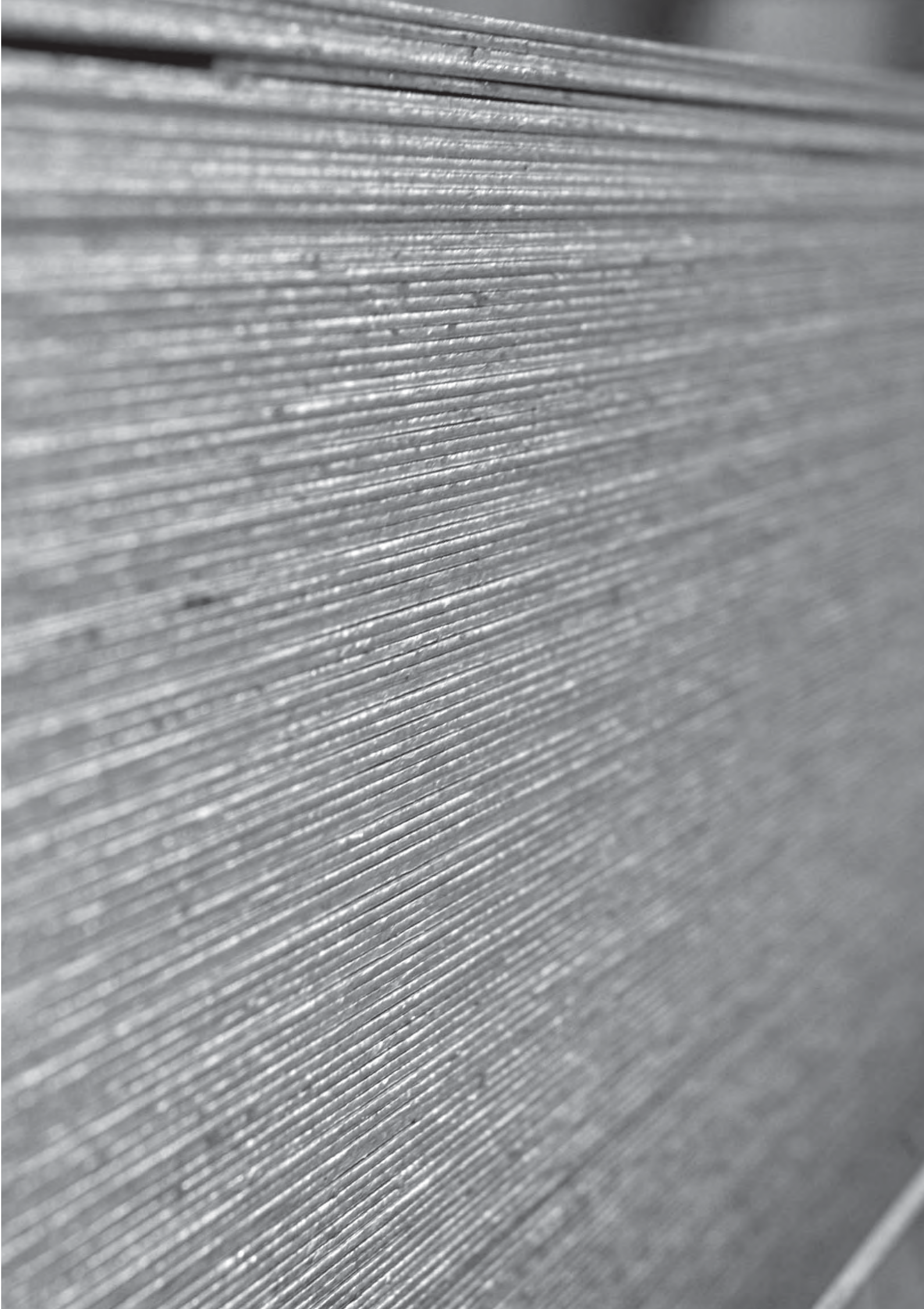
Coil Width: 1175mm
Coil Thickness: 0.4mm ~ 0.8mm (± 0.02)
Covering Width: 1000 ± 5.0 mm
Depth of Wave: 39 ± 1.0 mm
Pitch: 333.33 ± 2 mm



TRAPEZOIDAL SHEET EL T₅₀/1000

Coil Width: 1250mm
Coil Thickness: 0.5mm ~ 1.25mm (± 0.02)
Covering Width: 1000 ± 5.0 mm
Depth of Wave: 48.5 ± 1.0 mm
Pitch: 250 ± 2 mm





TÜV HELLAS
Member of TÜV NORD Group

CERTIFICATE

**Management system as per
EN ISO 9001 : 2008
Quality Management Systems - Requirements**

In accordance with TÜV HELLAS (TÜV NORD) S.A procedures, it is hereby certified that

**ELASTRON S.A.
Head Offices and Aspropyrgos Manufacturing Plant:
Diylistirion Ave. Ag. Ioannis
19 300 Aspropyrgos**

**Skaramaga Manufacturing Plant:
1, Palaska Str.
124 62 Skaramagas
Greece**

applies a Management System in line with the above standard for the following scope

Trade and Processing of Steel Products

Certificate Registration No.041050100
Audit Report No. E-0405/2011

Initial certification 2005

TÜV HELLAS (TÜV NORD) S.A. Certification Body

Athens, 2011-06-05

This certification was conducted in accordance with the TÜV HELLAS S.A. auditing and certification procedures and is subject to regular surveillance audits.



INTERNATIONAL COMPARISON OF STANDARDS

EN		EN 10025:1990 +A1:1993	EN 10025:1990	GERMANY	FRANCE	U.K.	SPAIN	ITALY	BELGIUM	SWEDEN	PORTUGAL	AUSTRIA	NORWAY
EN 1005-2:2004	EN 10035												
S185	1.0035	S185	Fe 310-0	St 33	NF A 35-501	BS 4360	UNE 36-080	UNI 7070	NBN A 21-101	SS 14	NP 1729	N 3116	
		S235JR	Fe 360 B	St 37 - 2	E24-2			Fe 360 B	AE 235-B	13 11-00	Fe 360-B		NS 12 120
		S235JRG1	Fe 360 BFN	Ust 37-2			AE 235 B-FU					Ust 360 B	NS 12 122
S235JR	1.0038	S235JRG2	Fe 360 BFN	RSt 37-2	E 28-2	40B	AE 235 B- FN	Fe 430 B	AE 255-B	14 12-00	Fe 430-B	St 430 B	NS 12 142
S235JO	1.0114	S235JO	Fe 360 C	St 37-3 U	E 28-3	40C	AE 275 C	Fe 430 C	AE 255-C		Fe 430-C	St 430 C	NS 12 143
												St 430 CE	
		S235J2G3	Fe 360 D1	St 37-3 N	E 28-4	40D	AE 235 D	Fe 360 D	AE 235-D	14 14-00	Fe 360-D	St 360 D	NS 12 124
S235J2	1.0117	S235J2G4	Fe 360 D2										
S275JR	1.0044	S275JR	Fe 430 B	St 44-2	E 28-2	43B	AE 275 B	Fe 430 B	AE 355-B		Fe 510-B		
S275JO	1.0043	S275JO	Fe 430 C	St 44-3 U	E 28-3	43C	AE 275 C	Fe 430 C	AE 355-C		Fe 510-C	St 51C	NS 12 153
											Fe 510-D	St 51 D	NS 12 153
S355J2	1.0577	S355J2G3	Fe 510 D1	St 52-3N		50D	AE 355D	Fe 510 D	AE 355-D				
		S355J2G4	Fe 510 D2										
		S355K2G3	Fe 510 DD1		E 36-4	50DD			AE 355-DD		Fe 510-DD		
S355K2	1.0596	S355K2G4	Fe 510 DD2										
S450JO	1.0590					55C							
E295	1.0050	E295	Fe 490 - 2	St 50-2	A 50-2		A 490	Fe 490	A 490-2	15 50-00	Fe 490-2	St 490	
										15 50-01			
E335	1.0060	E335	Fe 590 - 2	St 60-2	A 60-2		A 590	Fe 590	A 590-2	16 50 00	Fe 590-2	St 590	
										16 50 01			
E360	1.0070	E360	Fe 690 - 2	St 70-2	A 70-2		A 690	Fe 690	A 690-2	16 55 00	Fe 690-2	St 690	
										16 55 01			

CHEMICAL COMPOSITION OF THE PRODUCT ANALYSIS

Designation		Method of deoxidation ^b	C in % max. for nominal product thickness in mm			Si % max.	Mn % max.	P % max. ^d	S % max. ^{d,e}	N % max. ^f	Cu % max. ^g	Other % max. ^h
According EN 10027-01 and CR 10260	According EN 10027-2		≤ 16	> 16 ≤ 40	> 40 ^c							
S235JR	1.0038	FN	0,19	0,19	0,23	-	1,50	0,045	0,045	0,014	0,60	-
S235J0	1.0114	FN	0,19	0,19	0,19	-	1,50	0,040	0,040	0,014	0,60	-
S235J2	1.0117	FF	0,19	0,19	0,19	-	1,50	0,035	0,035	-	0,60	-
S275JR	1.0044	FN	0,24	0,24	0,25	-	1,60	0,045	0,045	0,014	0,60	-
S275J0	1.0143	FN	0,21	0,21	0,23 ⁱ	-	1,60	0,040	0,040	0,014	0,60	-
S275J2	1.0145	FF	0,21	0,21	0,23 ⁱ	-	1,60	0,035	0,035	-	0,60	-
S355JR	1.0045	FN	0,27	0,27	0,27	0,60	1,70	0,045	0,045	0,014	0,60	-
S355J0	1.0553	FN	0,23 ^j	0,23 ^k	0,24	0,60	1,70	0,040	0,040	0,014	0,60	-
S355J2	1.0577	FF	0,23 ^j	0,23 ^k	0,24	0,60	1,70	0,035	0,035	-	0,60	-
S355K2	1.0596	FF	0,23 ^j	0,23 ^k	0,24	0,60	1,70	0,035	0,035	-	0,60	-
S450J0 ^l	1.0590	FF	0,23	0,23 ^k	0,24	0,60	1,80	0,040	0,040	0,027	0,60	^m

^b FN = rimming steels not permitted; FF = fully killed steel

^c For sections with nominal thickness > 100 mm the C content by agreement.

^d For long products the P and S content can be 0,005% higher.

^e For long products the max. S content can be increased for improved machinability by 0,015% by agreement if the steel is treated to modify the sulphide morphology and the chemical composition shows min. 0,0020% Ca.

^f The max. value for nitrogen does not apply if the chemical composition shows a minimum total Al content of 0,015% or alternatively min. 0,013% acid soluble Al or if sufficient other N binding elements are present. In this case the N binding elements shall be mentioned in the inspection document.

^g Cu content above 0,45% may cause hot shortness during hot forming.

^h If other elements are added, they shall be mentioned on the inspection document.

ⁱ For nominal thickness > 150 mm: C = 0,22% max.

^j For grades suitable for cold roll forming C = 0,24% max.

^k For nominal thickness > 30 mm: C = 0,24% max.

^l Applicable for long products only.

^m The steel may show a Nb content of max. 0,06%, a V content of max. 0,15% and a Ti content of max. 0,06%.

(according to EN10025)

MECHANICAL PROPERTIES AT AMBIENT TEMPERATURE FOR FLAT AND LONG PRODUCTS OF STEEL GRADES AND QUALITIES WITH VALUES FOR THE IMPACT STRENGTH

Designation		Minimum yield strength R _{eh} ^a MPa ^b Nominal thickness mm										Tensile strength R _m ^a MPa ^b Nominal thickness mm				
According EN 10027-1 and CR 10260	According EN 10027-2	≤ 16	> 16 ≤ 40	> 40 ≤ 63	> 63 ≤ 80	> 80 ≤ 100	> 100 ≤ 150	> 150 ≤ 200	> 200 ≤ 250	> 250 ≤ 400 ^c	> 3	≥ 3 ≤ 100	> 100 ≤ 150	> 150 ≤ 250	> 250 ≤ 400 ^c	
S235JR	1.0038	235	225	215	215	215	195	185	175	-	360 to 510	360 to 510	350 to 500	340 to 490	-	
S235J0	1.0114	235	225	215	215	215	195	185	175	-	360 to 510	360 to 510	350 to 500	340 to 490	-	
S235J2	1.0117	235	225	215	215	215	195	185	175	165	360 to 510	360 to 510	350 to 500	340 to 490	330 to 480	
S275JR	1.0044	275	265	255	245	235	225	215	205	-	430 to 580	410 to 560	400 to 540	380 to 540	-	
S275J0	1.0143	275	265	255	245	235	225	215	205	-	430 to 580	410 to 560	400 to 540	380 to 540	-	
S275J2	1.0145	275	265	255	245	235	225	215	205	195	430 to 580	410 to 560	400 to 540	380 to 540	380 to 540	
S355JR	1.0045	355	345	355	325	315	295	285	275	-	510 to 680	470 to 630	450 to 600	450 to 600	-	
S355J0	1.0553	355	345	355	325	315	295	285	275	-	510 to 680	470 to 630	450 to 600	450 to 600	-	
S355J2	1.0577	355	345	355	325	315	295	285	275	265	510 to 680	470 to 630	450 to 600	450 to 600	450 to 600	
S355K2	1.0596	355	345	355	325	315	295	285	275	265	510 to 680	470 to 630	450 to 600	450 to 600	450 to 600	
S450J0 ^d	1.0590	450	430	410	390	380	380	-	-	-	-	550 to 720	530 to 700	-	-	

^a For plate and wide flats with widths ≥ 600 mm the direction transverse (t) to the rolling applies. For all other products the values apply for the direction parallel (l) to the rolling direction.

^b 1 MPa = 1 N/mm².

^c The values apply to flat products.

^d Applicable for long products only.

(according to EN10025)

MECHANICAL PROPERTIES AT AMBIENT TEMPERATURE FOR FLAT AND LONG PRODUCT OF STEEL GRADES AND QUALITIES WITH VALUES FOR THE IMPACT STRENGTH (CONCLUDED)

Designation		Position of test pieces ^a	Minimum percentage elongation after fracture ^a %										
			$L_0 = 80$ mm Nominal thickness mm					$L_0 = 5,65 \sqrt{S_0}$ Nominal thickness mm					
According EN 10027-1 and CR 10260	According EN 10027-2		≤ 1	> 1 ≤ 1,5	> 1,5 ≤ 2	> 2 ≤ 2,5	> 2,5 < 3	≥ 3 ≤ 40	> 40 ≤ 63	> 63 ≤ 100	> 100 ≤ 150	> 150 ≤ 250	> 250° ≤ 400 only for J2 and K2
S235JR	1.0038	l	17	18	19	20	21	26	25	24	22	21	-
S235J0	1.0114												-
S235J2	1.0117	t	15	16	17	18	19	24	23	22	22	21	21 (l and t)
S275JR	1.0044	l	15	16	17	18	19	23	22	21	19	18	-
S275J0	1.0143												-
S275J2	1.0145	t	13	14	15	16	17	21	20	19	19	18	18 (l and t)
S355JR	1.0045	l	14	15	16	17	18	22	21	20	18	17	-
S355J0	1.0553												-
S355J2	1.0577												17 (l and t)
S355K2	1.0596	t	12	13	14	15	16	20	19	18	18	17	17 (l and t)
S450J0 ^d	1.0590	l	-	-	-	-	-	17	17	17	17	-	-

^a For plate, strip and wide flats with widths ≥ 600 mm the direction transverse (t) to the rolling direction applies. For all other products the values apply for the direction parallel (l) to the rolling direction.

^c The values apply to flat products.

^d Applicable for long product only.

(according to EN10025)

