PRODUCT RANGE

1. Hot-Rolled Strip and Sheet

Soft Grades

Hot-rolled strip / sheet produced using soft steels for cold forming **DIN EN 10111**

Name		Mechanical Properties					Chemical Properties			
EN 10111	EN 10027-2 Material-Nr.	R_e [N/mm²]		R_m [N/mm²]	A_{80} min. [%]		C [%]	Mn [%]	P [%]	S [%]
		1,0 < e < 2	2 < e < 11	max.	1,5 < e < 2	2 < e < 3	max.	max.	max.	max.
DD11	1.0332	170 to 360	170 to 340	440	23	24	0,12	0,60	0,045	0,045
DD12	1.0398	170 to 340	170 to 320	420	25	26	0,10	0,45	0,035	0,035
DD13	1.0335	170 to 330	170 to 310	400	28	29	0,08	0,40	0,030	0,030
DD14	1.0389	170 to 310	170 to 290	380	31	32	0,08	0,35	0,025	0,025

1 MPa = 1 N/mm²

Micro-alloyed Grades

Hot-rolled flat steel products with high yield strength for cold forming **DIN EN 10149 T1 - T3**

Name		Mechanical Properties				Chemical Properties								
EN 10149	EN 10027-2 Material-Nr.	R_e [N/mm²] Min.	R_m [N/mm²]	A min [%]		C [%] max.	Mn [%] max.	Si [%] max.	P [%] max.	S [%] max.	Al [%] min.	Nb [%] max.	V [%] max.	Ti [%] max.
				< 3	< 3									
				Lo=80 mm	Lo=5,65 So									
S 315 MC	1.0972	315	390 to 510	20	24	0,12	1,3	0,5	0,025	0,02	0,015	0,09	0,2	0,15
S 355 MC	1.0976	355	430 to 550	19	23	0,12	1,5	0,5	0,025	0,02	0,015	0,09	0,2	0,15
S 420 MC	1.0980	420	480 to 620	16	19	0,12	1,6	0,5	0,025	0,015	0,015	0,09	0,2	0,15
S 460 MC	1.0982	460	520 to 670	14	17	0,12	1,6	0,5	0,025	0,015	0,015	0,09	0,2	0,15
S 500 MC	1.0984	500	550 to 700	12	14	0,12	1,7	0,5	0,025	0,015	0,015	0,09	0,2	0,15

1 MPa = 1 N/mm²

Structural Steel

Hot-rolled products produced from non-alloy structural steels **DIN EN 10025**

Name		Mechanical Properties				Chemical Properties						
EN 10025	EN 10027-2 Material-Nr.	R_e [N/mm²] Min.	R_m [N/mm²]		A_{80} [%] min.	C [%] max.	Si [%] max.	Mn [%] max.	P [%] max.	S [%] max.	N [%] max.	Cu [%] max.
			< 3	≥ 3								
S235JR	1.0038	235	360 to 510	360 to 510	17 to 26	0,19	–	1,50	0,045	0,045	0,014	0,60
S235J0	1.0114	235	360 to 510	360 to 510	–	0,19	–	1,50	0,040	0,040	0,014	0,60
S235J2	1.0117	235	360 to 510	360 to 510	15 to 24	0,19	–	1,50	0,035	0,035	–	0,60
S275JR	1.0044	275	430 to 580	410 to 560	15 to 23	0,24	–	1,60	0,045	0,045	0,014	0,60
S275J0	1.0143	275	430 to 580	410 to 560	–	0,21	–	1,60	0,040	0,040	0,014	0,60
S275J2	1.0145	275	430 to 580	410 to 560	13 to 21	0,21	–	1,60	0,035	0,035	–	0,60
S355JR	1.0045	355	510 to 680	470 to 630	14 to 22	0,27	0,60	1,70	0,045	0,045	0,014	0,60
S355J0	1.0553	355	510 to 680	470 to 630	–	0,23	0,60	1,70	0,040	0,040	0,014	0,60
S355J2	1.0577	355	510 to 680	470 to 630	–	0,23	0,60	1,70	0,035	0,035	–	0,60
S355K2	1.0596	355	510 to 680	470 to 630	12 to 20	0,23	0,60	1,70	0,035	0,035	–	0,60
S450J0	1.0590	450	–	550 to 720	17	0,23	0,60	1,80	0,040	0,040	0,027	0,60

1 MPa = 1 N/mm²

PRODUCT RANGE

Multi-phase Steels

Hot-rolled strip and multi-phase steels for cold forming **DIN EN 10338**

Name						Mechanical Properties						Chemical Properties					
EN 10338	EN 10027-2 Material-Nr.	R_e [N/mm²] cross	BH_2 [N/mm²] cross min.	Rm [N/mm²] cross min.	A_{80} [N/mm²] cross min.	n cross min.	C [%] max	Si [%] max	Mn [%] max	P [%] max	S [%] max	Al [%] min.	Al [%] max	Cr+Mo [%] max	Nb+Ti [%] max	V [%] max	B [%] max
HDT450F	1.0961	320 to 420	30	450	23	–	0,180	0,500	1,200	0,030	0,010	0,015	-	0,30	0,05	0,15	0,005
HDT560F	1.0959	460 to 570	30	560	16	–	0,180	0,500	1,800	0,025	0,010	0,015	-	0,30	0,15	0,15	0,005
HDT580X	1.0936	330 to 460	30	580	19	0,13	0,170	0,800	2,200	0,080	0,015	-	2,00	1,00	0,15	0,20	0,005
HDT750C	1.0956	620 to 760	30	750	10	–	0,180	0,800	2,200	0,080	0,015	-	2,00	1,00	0,15	0,20	0,005
HDT780C	1.0957	680 to 830	30	780	10	–	0,180	0,800	2,200	0,080	0,015	-	2,00	1,00	0,15	0,20	0,005
HDT950C	1.0958	720 to 920	30	950	9	–	0,230	0,800	2,200	0,080	0,015	-	2,00	1,20	0,15	0,20	0,005
HDT1200M	1.0665	900 to 1150	30	1200	5	–	0,250	0,800	2,200	0,060	0,015	-	2,00	1,20	0,15	0,22	0,005

Sufaces & Curing

Surface Finish	Surface Treatment
pickled (descaled)	oiled, non-oiled
Non-pickled	oiled, non-oiled

Other grades and qualities available on request
Restrictions and specifications for the test direction and exceptions to the rule are taken from the applicable standard.

2. Cold-rolled Sheet

Soft Grades

Cold-rolled flat products produced using soft steels for cold forming **DIN EN 10130**

Name		Mechanical Properties					Chemical Properties				
EN 10130	EN 10027-2 Material-Nr.	R_e [N/mm²] Max.	R_m [N/mm²]	A_{80} [%] min.	r min.	n min.	C [%] max.	P [%] max.	S [%] max.	Mn [%] max.	Ti [%] max.
DC01	1.0330	280	270 to 410	28	–	–	0,12	0,045	0,045	0,60	–
DC03	1.0347	240	270 to 370	34	1,3	–	0,10	0,035	0,035	0,45	–
DC04	1.0338	210	270 to 350	38	1,6	0,180	0,08	0,030	0,030	0,40	–
DC05	1.0312	180	270 to 330	40	1,9	0,200	0,06	0,025	0,025	0,35	–
DC06	1.0873	170	270 to 330	41	2,1	0,220	0,02	0,020	0,020	0,25	0,3
DC07	1.0898	150	250 to 310	44	2,5	0,230	0,01	0,020	0,020	0,20	0,2

* 1 MPa = 1 N/mm²

Micro-alloyed Grades

Cold-rolled flat products with a high yield strength for cold forming produced from micro-alloyed steels **DIN EN 10268**

Name		Mechanical Properties			Chemical Properties							
EN 10268	EN 10027-2 Material-Nr.	$R_{p0,2}$ MPa* cross max.	R_m MPa* Cross min.	A_{80} [%] cross min.	C [%] max.	Si [%] max.	Mn [%] max.	P [%] max.	S [%] max.	Al [%] max.	Ti [%] max.	Nb [%] max.
HC260LA	1.0480	260 bis 330	350	26	0,10	0,50	1,0	0,030	0,025	0,015	0,15	0,09
HC300LA	1.0489	300 bis 380	380	23	0,12	0,50	1,4	0,030	0,025	0,015	0,15	0,09
HC340LA	1.0548	340 bis 420	410	21	0,12	0,50	1,5	0,030	0,025	0,015	0,15	0,09
HC380LA	1.0550	380 bis 480	440	19	0,12	0,50	1,6	0,030	0,025	0,015	0,15	0,09
HC420LA	1.0556	420 bis 520	470	17	0,14	0,50	1,6	0,030	0,025	0,015	0,15	0,09

1 MPa = 1 N/mm²

Micro-alloyed Grades

Cold-rolled strip and sheet with higher yield strength for cold-forming from rephosphorized steels, as well as steels with additional hardening after bake-hardening **SEW 094**

Name		Mechanical Properties				Chemical Properties					
SEW 094	EN 10027-2 Material-Nr.	R_e [N/mm²]	BH [N/mm²] min.	R_m [N/mm²]	A_{80} [%] min.	C [%] max.	Si [%] max.	Mn [%] max.	P [%] max.	S [%] max.	Al [%] max.
Rephosphorized Steel Grades											
ZStE 220 P	1.0397	220 to 280	–	340 to 420	30	0,06	0,50	0,70	0,08	0,030	0,020
ZStE 260 P	1.0417	260 to 320	–	380 to 460	28	0,08	0,50	0,70	0,10	0,030	0,020
ZStE 300 P	1.0448	300 to 360	–	420 to 500	26	0,10	0,50	0,70	0,12	0,030	0,020
Steel grades with an increase in the yield strength due to bake hardening											
ZStE180BH	1.0395	180 to 240	40	300 to 380	32	0,04	0,50	0,70	0,06	0,030	0,020
ZStE220BH	1.0396	220 to 280	40	320 to 400	30	0,06	0,50	0,70	0,08	0,030	0,020
ZStE260BH	1.0400	260 to 320	40	360 to 440	28	0,08	0,50	0,70	0,10	0,030	0,020
ZStE300BH	1.0444	300 to 360	40	400 to 480	26	0,10	0,50	0,70	0,12	0,030	0,020

Structural Steel

General structural steels to **DIN EN 10326**

Name		Mechanical Properties			Chemical Properties			
DIN 10326	EN 10027-2 Material-Nr.	$R_{p0,2}$ MPa* min.	R_m MPa* min.	A_{80} [%] min.	C [%] max.	P [%] max.	S [%] max.	N [%] max.
S220GD	1.0241	220	300	20	0,17	0,040	0,035	0,009
S250GD	1.0242	250	330	19	0,17	0,040	0,035	0,007
S280GD	1.0244	280	360	18	0,17	0,040	0,035	–
S320GD	1.0250	320	390	17	0,20	0,040	0,035	–
S350GD	1.0529	350	420	16	–	–	–	–
S550GD	1.0531	550	560	–	–	–	–	–

PRODUCT RANGE

1 MPa = 1 N/mm²

Enamelled cold-rolled flat products produced using soft steels for enamelling **DIN EN 10209**

Name		Mechanical Properties				Chemical Properties	
EN 10209	**EN 10027-2 Material-Nr.**	**R_e [N/mm²] max.**	**R_m [N/mm²]**	**A_{80} [%] min.**	**r min.**	**C [%] max.**	**Ti [%] max.**
DC01EK	1.0390	270	270 to 390	30	–	0,08	–
DC04EK	1.0392	220	270 to 350	36	–	0,08	–
DC06EK	1.0869	190	270 to 350	38	1,6	0,02	0,30
DC03ED	1.0399	240	270 to 370	34	–	–	–
DC04ED	1.0394	210	270 to 350	38	–	–	–
DC06ED	1.0872	190	270 to 350	38	1,6	0,02	0,30

Sufaces & Curing

Surface Grade	Surface Finish	Surface Treatment
A (03)	Especially smooth b	oiled
B (05) (not to DIN EN 10268)	smooth g	non-oiled
–	matte m	–
–	rough r	–

Restrictions and specifications for the test direction and exceptions to the rule are taken from the applicable standard.

3. Hot-dip Galvanized Sheet

Soft Grades

Continuously melted strip and sheet of soft steels for cold forming **DIN EN 10327 (Z/ZF/ZA/AZ)**

Name			Mechanical Properties					Chemical Properties					
EN10327	EN 10027-2 Material-Nr.	Symbol for the type of melt dip coating	R_e [N/mm²]	R_m [N/mm²]	A80 [%] min.	r min.	n min.	C [%] max.	Si [%] max.	Mn [%] max.	P [%] max.	S [%] max.	Ti [%] max.
DX51D	1.0226	+Z, +ZF,+ZA, +AZ	–	270 to 500	22	–	–	0,12	0,50	0,60	0,1	0,045	0,30
DX52D	1.0350	+Z, +ZF,+ZA, +AZ	140 to 300	270 to 420	26	–	–						
DX53D	1.0355	+Z, +ZF,+ZA, +AZ	140 to 260	270 to 380	30	–	–						
DX54D	1.0306	+Z, +ZA,	120 to 220	260 to 350	36	1,6	0,18						
DX54D	1.0306	+ZF	120 to 220	260 to 350	34	1,4	0,18						
DX54D	1.0306	+AZ	120 to 220	260 to 350	36	–	–						
DX56D	1.0322	+Z, +ZA	120 to 180	260 to 350	39	1,9	0,21						
DX56D	1.0322	+ZF	120 to 180	260 to 350	37	1,7	0,20						

1 MPa = 1 N/mm²

Micro-alloyed Grades

Continuously melted strip and sheet produced from soft steels with a high-tensile strength for cold forming **DIN EN 10292**

Name			Mechanical Properties						Chemical Properties							
EN 10346	EN 10027-2 Material - Nr.	Symbol for the type of melt dip coating	R_e [N/mm²] quer	BH_2 [N/mm²] min.	R_m [N/mm²] quer	A_{80} [%] min.	r min.	n min.	C [%] max.	Si [%] max.	Mn [%] max.	P [%] max.	S [%] max.	Al [%] max.	Ti [%] max.	Nb [%] max.
HX180YD	1.0921	+Z, +ZF, +ZA, +AZ	180 to 240	–	340 to 400	34	1,7	0,18	0,01	0,15	0,70	0,06	0,025	–	0,12	0,09
HX180BD	1.0914	+Z, +ZF, +ZA, +AZ	180 to 240	35	290 to 360	34	1,5	0,16	0,01	0,50	0,70	0,06	0,025	0,015	0,12	0,09
HX220YD	1.0923	+Z, +ZF, +ZA, +AZ	220 to 280	–	340 to 420	32	1,5	0,17	0,01	0,20	0,90	0,08	0,025	–	0,12	–
HX220BD	1.0919	+Z, +ZF, +ZA, +AZ	220 to 280	35	320 to 400	32	1,2	0,15	0,1	0,50	0,70	0,08	0,025	0,015	0,12	0,09
HX260YD	1.0926	+Z, +ZF, +ZA, +AZ	260 to 320	–	380 to 440	30	1,4	0,16	0,01	0,25	1,60	0,10	0,025	–	0,12	0,09
HX260BD	1.0924	+Z, +ZF, +ZA, +AZ	260 to 320	35	360 to 440	28	–	–	0,1	0,50	0,80	0,10	0,025	0,015	0,12	0,09
HX260LAD	1.0929	+Z, +ZF, +ZA, +AZ	260 to 330	–	350 to 430	26	–	–	0,12	0,50	0,60	0,030	0,025	0,015	0,12	0,09
HX300YD	1.0927	+Z, +ZF, +ZA, +AZ	300 to 360	–	390 to 470	27	1,3	0,15	0,01	0,30	1,30	0,10	0,025	–	0,12	0,09
HX300BD	1.0930	+Z, +ZF, +ZA, +AZ	300 to 360	35	400 to 480	26	–	–	0,11	0,50	0,80	0,12	0,025	0,015	0,12	0,09
HX300LAD	1.0932	+Z, +ZF, +ZA, +AZ	300 to 380	–	380 to 480	23	–	–	0,11	0,50	1,00	0,030	0,025	0,015	0,15	0,09
HX340LAD	1.0933	+Z, +ZF, +ZA, +AZ	340 to 420	–	410 to 510	21	–	–	0,11	0,50	1,00	0,030	0,025	0,015	0,15	0,09
HX380LAD	1.0934	+Z, +ZF, +ZA, +AZ	380 to 480	–	440 to 560	19	–	–	0,11	0,50	1,40	0,030	0,025	0,015	0,15	0,09
HX420LAD	1.0935	+Z, +ZF, +ZA, +AZ	420 to 520	–	470 to 590	17	–	–	0,11	0,50	1,40	0,030	0,025	0,015	0,15	0,09

1 MPa = 1 N/mm²

B = Bake-hardening
P = Phosphorus-alloyed steels
Y = Interstitial free (IF-Steel)
LA = Low-alloy (micro-alloy)

PRODUCT RANGE

Structural Steel

Structural Steel DIN EN 10326

Name			Mechanical Properties			Chemical Properties				
DIN 10346	EN 10027-2 Material -Nr.	Symbol for the type of melt dip coating	R_e [N/mm²] Min.	R_m [N/mm²] min.	A_{80} [%] min.	C [%] max.	Si [%] max.	Mn [%] max.	P [%] max.	S [%] max.
S220GD	1.0241	+Z, +ZF, +ZA, +AZ	220	300	20	0,20	0,60	1,70	0,10	0,045
S250GD	1.0242	+Z, +ZF, +ZA, +AZ	250	330	19					
S280GD	1.0244	+Z, +ZF, +ZA, +AZ	280	360	18					
S320GD	1.0250	+Z, +ZF, +ZA, +AZ	320	390	17					
S350GD	1.0529	+Z, +ZF, +ZA, +AZ	350	420	16					
S550GD	1.0531	+Z, +ZF, +ZA, +AZ	550	560	–					

* 1 MPa = 1 N/mm²

Sufaces & Curing

Type of melt dip coating		
Z	Hot dip galvanized	Zinc coating to DIN EN 10142
ZA	Galfan	Zinc layer with 5% Al to DIN EN 10214
AZ	Galvalume	Zinc layer with 55% Al, 1,6% Si rest zinc to DIN EN 10215
ZF	Zinc-iron alloy-coated	Diffusion annealed zinc-iron coating to DIN EN 10142
Surface type		
NA:	Uninfluenced solidification with different zinc flower size, usual surface	
MA:	Targeted influence on solidification with reduced zinc flower size, usual surface	
MB:	Targeted influence on solidification with reduced zinc flower size, cold-rolled surface improved	
MC:	Targeted influence on solidification, cold-rolled, best surface	
RA:	Usual Surface	
RB:	Improved Surface	
RC:	Best Surface	
Curing (Surface protection)		
C	Chemically passivated	
O	Oiled	
CO	Chemically passivated and oiled	
S	Sealed	
U	Untreated	

Restrictions and specifications for the test direction and exceptions to the rule are taken from the applicable standard.

4. Electroplated Zinc Plate

Soft Grades

Galvanized cold-rolled flat products made of steel DIN EN 10152 (ZE)/ DIN EN 10271 (ZN)

Name		Mechanical Properties					Chemical Properties				
EN 10152	EN 10027-2 Material-Nr	R_e [N/mm²] max.	R_m [N/mm²]	A_{80} [%] min.	r min.	n [%] min.	C [%] max.	P [%] max.	S [%] max.	Mn [%] max.	Ti [%] max.
DC01+ZE	1.0330	140 to 280	270 to 410	28	–	–	0,12	0,045	0,045	0,60	–
DC03+ZE	1.0347	140 to 240	270 to 370	34	1,3	–	0,10	0,035	0,035	0,45	–
DC04+ZE	1.0338	140 to 220	270 to 350	37	1,6	0,160	0,08	0,030	0,030	0,40	–
DC05+ZE	1.0312	140 to 190	270 to 330	39	1,9	0,190	0,06	0,025	0,025	0,35	–
DC06+ZE	1.0873	120 to 190	270 to 350	37	1,8	0,200	0,02	0,020	0,020	0,25	0,3

1 MPa = 1 N/mm²

Micro-alloyed grades, cold-rolled flat products with high yield strength for cold forming of micro-alloyed steels **DIN EN 10268**

This standard also applies to electrolytically galvanized flat products with an additional designation e.g. HC260LA + ZE 75/75

Name		Mechanical Properties			Chemical Properties							
EN 10268	EN 10027-2 Material-Nr.	$R_{p0,2}$ MPa* cross max.	R_m MPa* cross min.	A_{80} [%] cross min.	C [%] max.	Si [%] max.	Mn [%] max.	P [%] max.	S [%] max.	Al [%] max.	Ti [%] max.	Nb [%] max.
HC260LA	1.0480	260 to 330	350	26	0,10	0,50	0,6	0,025	0,025	0,015	0,15	–
HC300LA	1.0489	300 to 380	380	23	0,10	0,50	1,0	0,025	0,025	0,015	0,15	0,09
HC340LA	1.0548	340 to 420	410	21	0,10	0,50	1,1	0,025	0,025	0,015	0,15	0,09
HC380LA	1.0550	380 to 560	440	19	0,10	0,50	1,6	0,025	0,025	0,015	0,15	0,09
HC420LA	1.0556	470 to 520	470	17	0,10	0,50	1,6	0,025	0,025	0,015	0,15	0,09

1 MPa = 1 N/mm²

Micro-alloyed grades, cold-rolled strip and sheet with higher yield strength for cold forming from phosphorus-alloyed steels and steels with additional solidification after heat (bake hardening) **SEW 094.**

With an additional designation, this SEW also applies to electrolytically galvanized flat products e.g. ZStE220P + ZE 75/75

Name		Mechanical Properties				Chemical Properties					
SEW 094	EN 10027-2 Material-Nr.	R_e [N/mm²]	BH [N/mm²] min.	R_m [N/mm²]	A_{80} [%] min.	C [%] max.	Si [%] max.	Mn [%] max.	P [%] max.	S [%] max.	Al [%] max.
Steel grades with phosphorus alloy											
ZStE 220 P	1.0397	220 to 280	–	340 to 420	30	0,06	0,50	0,70	0,08	0,030	0,020
ZStE 260 P	1.0417	260 to 320	–	380 to 460	28	0,08	0,50	0,70	0,10	0,030	0,020
ZStE 300 P	1.0448	300 to 360	–	420 to 500	26	0,10	0,50	0,70	0,12	0,030	0,020
Steel grades with an increase in the yield strength due to heat											
ZStE180BH	1.0395	180 to 240	40	300 to 380	32	0,04	0,50	0,70	0,06	0,030	0,020
ZStE220BH	1.0396	220 to 280	40	320 to 400	30	0,06	0,50	0,70	0,08	0,030	0,020
ZStE260BH	1.0400	260 to 320	40	360 to 440	28	0,08	0,50	0,70	0,10	0,030	0,020
ZStE300BH	1.0444	300 to 360	40	400 to 480	26	0,10	0,50	0,70	0,12	0,030	0,020

Cold-rolled flat products with high yield strength for cold forming of micro-alloyed steels DIN EN 10268; with an additional designation. This standard also applies to electrolytically galvanized flat products e.g. HC260LA + ZE 75/75

Sufaces & Curing

Type of coating	
ZE:	Electrolytically applied pure zinc layer to DIN EN 10152
ZN:	Electrolytically applied zinc nickel layer with a nickel content of 10-13% to DIN EN 10271 (Neuralyt)
Variants	
Galvanized - one-sided	
Galvanized - both-sides	
Differently galvanized	
After Treatment (Surface Protection)	
P	Phosphated
PC	Phosphatized and chemically passivated
C	Chemically passivated
PCO	Phosphated, chemically passivated and oiled
CO	Chemically passivated and oiled
PO	Phosphated and oiled
O	Oiled
U	Without surface protection

Restrictions and specifications for the test direction and exceptions to the rule are taken from the applicable standard.

Hot Dip Aluminized Sheet

Soft Grades

Continuously hot-rolled strip and steel sheet with aluminium-silicon coating (AS) DIN EN 10327. Soft steel for cold forming

Name			Mechanical Properties					Chemical Properties					
EN10327	**EN 10027-2 Material - Nr.**	**Symbol for the type of melt dip coating**	**$R_{p0,2}$ MPa***	**R_m MPa***	**A_{80} [%] min.**	**r min.**	**n min.**	**C [%] max.**	**Si [%] max.**	**Mn [%] max.**	**P [%] max.**	**S [%] max.**	**Ti [%] max.**
DX51D	1.0226	+AS	–	270 to 500	22	–	–	0,12	0,50	0,60	0,1	0,045	0,30
DX52D	1.0350	+AS	140 to 300	270 to 420	26	–	–						
DX53D	1.0355	+AS	140 to 260	270 to 380	30	–	–						
DX54D	1.0306	+AS	120 to 220	260 to 350	34	1,4	0,18						
DX56D	1.0322	+AS	120 to 180	260 to 350	39	1,7	0,20						

1 MPa = 1 N/mm²

PRODUCT RANGE

Micro-Alloyed Grades

Continuously hot-rolled strip and sheet of steels with high yield strength for cold forming **DIN EN 10292**

Name			Mechanical Properties						Chemical Properties							
EN 10292	EN 10027-2 Material - Nr.	Symbol for the type of melt dip coating	Rp0,2 MPa*	BH_2 [N/mm²] min.	R_m MPa*	A_{80} [%] min.	r min.	n min.	C [%] max.	Si [%] max.	Mn [%] max.	P [%] max.	S [%] max.	Al [%] max.	Ti [%] max.	Nb [%] max.
HX180YD	1.0921	+ AS	180 to 240	–	340 to 400	34	1,7	0,18	0,01	0,15	0,70	0,06	0,025	–	0,12	0,09
HX180BD	1.0914	+ AS	180 to 240	35	290 to 360	34	1,5	0,16	0,01	0,50	0,70	0,06	0,025	0,015	0,12	0,09
HX220YD	1.0923	+ AS	220 to 280	–	340 to 420	32	1,5	0,17	0,01	0,20	0,90	0,08	0,025	–	0,12	–
HX220BD	1.0919	+ AS	220 to 280	35	320 to 400	32	1,2	0,15	0,1	0,50	0,70	0,08	0,025	0,015	0,12	0,09
HX260YD	1.0926	+ AS	260 to 320	–	380 to 440	30	1,4	0,16	0,01	0,25	1,60	0,10	0,025	–	0,12	0,09
HX260BD	1.0924	+ AS	260 to 320	35	360 to 440	28	–	–	0,1	0,50	0,80	0,10	0,025	0,015	0,12	0,09
HX260LAD	1.0929	+ AS	260 to 330	–	350 to 430	26	–	–	0,12	0,50	0,60	0,030	0,025	0,015	0,12	0,09
HX300YD	1.0927	+ AS	300 to 360	–	390 to 470	27	1,3	0,15	0,01	0,30	1,30	0,10	0,025	–	0,12	0,09
HX300BD	1.0930	+ AS	300 to 360	35	400 to 480	26	–	–	0,11	0,50	0,80	0,12	0,025	0,015	0,12	0,09
HX300LAD	1.0932	+ AS	300 to 380	–	380 to 480	23	–	–	0,11	0,50	1,00	0,030	0,025	0,015	0,15	0,09
HX340LAD	1.0933	+ AS	340 to 420	–	410 to 510	21	–	–	0,11	0,50	1,00	0,030	0,025	0,015	0,15	0,09
HX380LAD	1.0934	+ AS	380 to 480	–	440 to 560	19	–	–	0,11	0,50	1,40	0,030	0,025	0,015	0,15	0,09
HX420LAD	1.0935	+ AS	420 to 520	–	470 to 590	17	–	–	0,11	0,50	1,40	0,030	0,025	0,015	0,15	0,09

1 MPa = 1 N/mm²

Structural Steel

Continuously hot-rolled strip and steel sheet with aluminium-silicon coating (AS) DIN EN 10326

Name		Mechanical Properties				Chemical Properties				
DIN 10326	EN 10027-2 Material-Nr.	Symbol for the type of melt dip coating	$R_{p0,2}$ MPa* min.	R_m MPa* min.	A_{80} [%] min.	C [%] max.	Si [%] max.	Mn [%] max.	P [%] max.	S [%] max.
S250GD	1.0242	+ AS	250	330	19	0,20	0,60	1,70	0,10	0,045
S280GD	1.0244	+ AS	280	360	18					
S320GD	1.0250	+ AS	320	390	17					
S350GD	1.0529	+ AS	350	420	16					

1 MPa = 1 N/mm²

Sufaces & Curing

Type of melt dip coating	
AS	Aluminum-silicon alloy with a silicon content of 8-11% to DIN EN 10154
Surfaces	
A	Imperfections and minor surface defects may be present
B	Cold-rolled, improved surface, minor imperfections may be present
C	Cold-rolled, best surface
After Treatment (Surface Protection)	
C	Chemically passivated
O	Oiled
CO	Chemically passivated and oiled
U	Without surface protection

Einschränkungen, Vorgaben zur Prüfrichtung und Ausnahmeregelungen sind der gültigen Norm zu entnehmen.