



Unalloyed special steels for cold forming

Hot-rolled special construction steels with excellent cold formability

These steels comply with the narrowest manufacturing requirements and meet high forming requirements as well as guaranteed minimum yield strength values.

Depending on their respective strength class, these steels are employed for deep drawing, profiling and edging, etc., in a wide variety of applications.

Convincing advantages

- » Very good suitability for cutting, punching and forming
- » Very good weldability because of low carbon equivalent
- » Improved properties with narrower limits than those of comparable standard steels



PREMIUM QUALITY
WITH REDUCED
CARBON FOOTPRINT

Chemical composition

Ladle analysis in weight percent and carbon equivalent

Steel grade	C max.	Si max.	Mn max.	P max.	S max.	Al min.	Cr max.	Ni max.	Cu max.	V max.	Nb max.	Ti max.	CEV max.
DD11mod.H	0.12	0.05	0.60	0.020	0.015	0.020	0.20	0.20	0.20	0.02	0.02	0.02	0.24
DD12mod.H	0.10	0.05	0.45	0.020	0.015	0.020	0.20	0.20	0.20	0.02	0.02	0.02	0.22
DD13mod.H	0.08	0.05	0.40	0.020	0.015	0.020	0.20	0.20	0.20	0.02	0.02	0.02	0.20
S235JRmod.H	0.14	0.05	0.70	0.020	0.015	0.020	0.20	0.20	0.20	0.02	0.02	0.02	0.32

When these steel grades are to be galvanized as Class 1, the following restrictions apply (corresponding to Class A in ISO 14713):
Si 0.03% max. and P 0.18% max.; CEV = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15

Mechanical properties

Tested transversely to rolling direction

Steel grade	Thickness [mm]	Yield strength $R_{p0.2}$ [MPa]	Tensile strength R_m [MPa]	Elongation [%] min.		Bending mandrel diameter BgD min. Sheet thickness = s
				A_{80}	A_5	
DD11mod.H	< 3mm	250 – 340	360 – 420	28		0 s
	≥ 3mm	235 – 325	350 – 410		32	0 s
DD12mod.H	< 3mm	250 – 340	360 – 420	30		0 s
	≥ 3mm	235 – 325	350 – 410		34	0 s
DD13mod.H	< 3mm	240 – 320	350 – 420	32		0 s
	≥ 3mm	230 – 310	350 – 410		36	0 s
S235JRmod.H ¹⁾	< 3mm	275 – 365	400 – 460	25		0 s
	≥ 3mm	260 – 350	390 – 450		28	0 s

¹⁾ Double certification of S235JR, J0, J2, +AR/+N possible pursuant to EN 10025-2

Dimensions

Examples of maximum width per thickness, minimum width 900 mm for hot-rolled steel strip.

Thickness [mm]						
2.00	2.50	3.00	3.50	4.00	6.00	
1600	1620	1620	1620	1620	1620	1620

Additional dimensions upon request.

Depending on the dimensions and strength, we also supply pickled/oiled/trimmed.

Steel strip	Slit steel strip	Cut sheets	Cut shapes
Width: 900 – 1620 (1750) mm	Thickness: up to 6 mm	Thickness: up to 6 mm	Upon request
Weight/Width: 18 – 20 kg/mm	Strip widths: beginning at 30 mm	Length: up to 12 m (18 m)	

Please find further information and downloadable files at
www.voestalpine.com/Produktinformationsportal

OUR PATH TO A GREENER FUTURE

Premium products in the greentec steel Edition

With greentec steel, voestalpine is pursuing an ambitious step-by-step plan in the long-term decarbonization of steel production. The declared objective is to achieve carbon-neutral production by 2050, and the initial steps have already been taken. Process-optimized production operations already prevent up to 10% of the direct CO₂ emissions at the Linz site. The material and processing properties of the steel are not affected in any way in this production route. Each voestalpine steel strip product is available in premium quality in the greentec steel Edition with a reduced carbon footprint and unique benefits.



Premium quality with reduced carbon footprint

Hot-rolled steel strip – greentec steel Edition

Max. carbon footprint 1.95 kg CO₂e per kg of steel ¹⁾

¹⁾ per EN 15804+A2 (EPD methodology) cradle to gate

All products, dimensions and steel grades listed in each voestalpine supply range are available as greentec steel Edition.

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