

Let your ideas fly!



Martensitic steels

Clearly classic among high-strength grades with tensile strengths up to 1300 MPa

Martensitic steels made by voestalpine are part of the ultralights field of expertise. The property profile of martensitic steels is characterized by highest strengths without any compromise of excellent formability during bending and roll forming. The very high resistance to edge cracking during the forming of stamped edges is a result of the single-phase martensitic microstructure. The special annealing and cooling technologies of voestalpine result in excellent strip flatness in martensitic steels. The unique property profile of martensitic steels makes them highly suitable for applications in light-weight automotive design and the manufacture of safety parts and crash-relevant components. Depending on the specific corrosion resistance requirements, martensitic steels are available as bright-finished (UC) and electrolytically galvanized (EG).

Convincing advantages

- » Available with minimum tensile strengths from 1100 to 1300 MPa
- » High ratio of yield to tensile strength
- » Excellent cold formability in bending and roll-forming operations
- » Best forming properties of punched edges based on high resistance to edge cracking
- » Best strip flatness
- » Good weldability
- » High crash energy absorption
- » Corrosion-resistant based on electrogalvanizing

Chemical composition

Heat analysis in mass %

Steel grade	Standard	C max.	Si max.	Mn max.	P max.	S max.	Al min.	Cr + Mo max.	Ti + Nb max.	B max.	Cu max.
Pursuant to VDA 239-100 and voestalpine special grades											
CR860Y1100T-MS	voestalpine	0.20	0.50	2.20	0.020	0.025	0.010	1.00	0.15	0.010	0.20
CR1030Y1300T-MS	VDA 239-100	0.28	1.00	2.00	0.020	0.025	0.010	1.00	0.15	0.010	0.20

Mechanical properties: Tensile test

Steel grade	Standard	Test direction	0.2 % yield strength R _{p0.2} [MPa]	Tensile strength R _m min. [MPa]	Total elongation A ₈₀ min. ¹⁾ [%]	n value n _{10-20/Ag} min.	BH ₂ min. [MPa]
Pursuant to VDA 239-100 and voestalpine special grades							
CR860Y1100T-MS	voestalpine	longitudinal	860 - 1120	1100 - 1320	3	-	30
CR1030Y1300T-MS	VDA 239-100	longitudinal	1030 - 1330	1300 - 1550	3	-	30

¹⁾ Thickness and coating limitations pursuant to VDA 239-100 and voestalpine special grades.

Coatings and available dimensions

Available thicknesses [mm] per coating

Steel grade	Standard	UC	EG
Pursuant to VDA 239-100 and voestalpine special grades			
CR860Y1100T-MS	voestalpine	1.0 - 1.6	1.0 - 1.6
CR1030Y1300T-MS	VDA 239-100	1.2 - 1.6	1.2 - 1.6

Further dimensions upon request.

The information and product properties contained in this printed material are non-binding and serve the sole purpose of technical orientation. They do not replace individual advisory services provided by our sales and customer service teams. The product information and characteristics set forth herein shall not be considered as guaranteed properties unless explicitly stipulated in a separate contractual agreement. For this reason, voestalpine shall not grant any warranty nor be held liable for properties and/or specifications other than those subject to explicit agreement. This also applies to the suitability and applicability of products for certain applications as well as to the further processing of materials into final products. All application risks and suitability risks shall be borne by the customer. The General Terms of Sale for Goods and Services of the voestalpine Steel Division shall apply to all materials supplied by the voestalpine Steel Division and can be accessed using the following link: www.voestalpine.com/stahl/en/The-Steel-Division/General-Terms-of-Sale

Technical changes are reserved. Errors and misprints are excepted. No part of this publication may be reprinted without explicit written permission by voestalpine Stahl GmbH.

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



voestalpine Stahl GmbH

voestalpine-Strasse 3

4020 Linz, Austria

T. +43/50304/15-8018

produktmanagement@voestalpine.com

www.voestalpine.com/steel

voestalpine

ONE STEP AHEAD.