

Let your ideas fly!



Complex-phase steels

The classical steel with tensile strengths of up to 1200 MPa and superb bending properties

Complex-phase steels are part of the ahss classic product line of voestalpine in the field of ultralights. Complex-phase steels were specially developed for roll-profiling, bending and edging processes. These steels have proven themselves in large-scale serial production and are recommended in innovative light-weight automotive applications such as stiffeners, sills, door impact bars, seat mounting rails and auto chassis components. A fine microstructure consisting of high-strength constituents leads to high yield strength and high resistance to edge cracking while maintaining excellent bending properties. As a result of this balanced property profile, complex-phase steels are predestined for applications containing crash components with a high potential for light-weight design.

Convincing advantages

- » Available with minimum tensile strengths of 590, 780, 980 and 1180 MPa
- » High ratio of yield to tensile strength
- » High yield strength, even in non-formed zones
- » Best formability of punched edges based on high resistance to edge cracking
- » Achievement of very narrow bending radii
- » High crash energy absorption
- » Good weldability
- » Corrosion resistance based on ZE/EG, Z/GI or ZF/GA coatings



Premium quality
with reduced carbon footprint

ahss classic
greentec steel

Chemical composition

Heat analysis in % by mass

Steel grade	C max.	Si max.	Mn max.	P max.	S max.	Al _{total}	Cr + Mo max.	Ti + Nb max.	V max.	B max.
Pursuant to EN 10346 and/or EN 10338										
HCT600C	0.18	0.80	2.20	0.080	0.015	0.015 - 2.0	1.00	0.15	0.20	0.005
HCT780C	0.18	1.00	2.50	0.080	0.015	0.015 - 2.0	1.00	0.15	0.20	0.005
HCT980C	0.23	1.00	2.70	0.080	0.015	0.015 - 2.0	1.00	0.15	0.22	0.005
HDT750C	0.18	0.80	2.20	0.080	0.015	0.015 - 2.0	1.00	0.15	0.20	0.005
HDT760C	0.18	1.00	2.50	0.080	0.015	0.015 - 2.0	1.00	0.25	0.20	0.005

Steel grade	Standard	C max.	Si max.	Mn max.	P max.	S max.	Al	Cr + Mo max.	Ti + Nb max.	B max.	Cu max.
Pursuant to VDA 239-100 and voestalpine special grades											
CR400Y590T-CP	voestalpine	0.18	0.80	2.20	0.080	0.015	0.015 - 2.0	1.00	0.15	0.005	0.20
CR570Y780T-CP	VDA 239-100	0.18	1.00	2.50	0.050	0.010	0.015 - 1.0	1.00	0.15	0.005	0.20
CR660Y780T-CP	voestalpine	0.18	1.00	2.50	0.050	0.010	0.015 - 1.0	1.00	0.15	0.005	0.20
CR680Y780T-CP	voestalpine	0.18	1.00	2.50	0.050	0.010	0.015 - 1.0	1.00	0.15	0.005	0.20
CR780Y980T-CP	VDA 239-100	0.23	1.00	2.70	0.050	0.010	0.015 - 1.0	1.00	0.15	0.005	0.20
CR800Y1180T-CP	voestalpine	0.23	1.00	2.90	0.050	0.010	0.015 - 1.0	1.00	0.15	0.005	0.20
CR900Y1180T-CP	VDA 239-100	0.23	1.00	2.90	0.050	0.010	0.015 - 1.0	1.00	0.15	0.005	0.20
CR950Y1180T-CP	voestalpine	0.23	1.00	2.90	0.050	0.010	0.015 - 1.0	1.00	0.15	0.005	0.20
HR660Y760T-CP	VDA 239-100	0.18	1.00	2.20	0.050	0.010	0.015 - 1.2	1.00	0.25	0.005	0.20

Mechanical properties: Tensile test

Steel grade	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-UE} min.	BH ₂ min. [MPa]
Pursuant to EN 10346 and/or EN 10338						
HCT600C	Longitudinal	350 - 500	600	16	-	30
HCT780C	Longitudinal	570 - 720	780	10	-	30
HCT980C	Longitudinal	780 - 950	980	6	-	30
HDT750C	Longitudinal	620 - 760	750	10	-	-
HDT760C	Longitudinal	660 - 830	760	10	-	-

Steel grade	Standard	Test direction	0.2 % yield strength R _{p0.2} [MPa]	Tensile strength R _m [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							
CR400Y590T-CP	voestalpine	Longitudinal	400 - 550	590 - 700	16	-	30
CR570Y780T-CP	VDA 239-100	Longitudinal	570 - 720	780 - 920	10	-	30
CR660Y780T-CP	voestalpine	Longitudinal	660 - 820	780 - 960	10	-	30
CR680Y780T-CP	voestalpine	Transverse	680 - 830	780 - 980	10	-	30
CR780Y980T-CP	VDA 239-100	Longitudinal	780 - 950	980 - 1140	6	-	30
CR800Y1180T-CP	voestalpine	Longitudinal	800 - 1050	1180 - 1350	6	-	30
CR900Y1180T-CP	VDA 239-100	Longitudinal	900 - 1100	1180 - 1350	5	-	30
CR950Y1180T-CP	voestalpine	Longitudinal	950 - 1150	1180 - 1350	5	-	30
HR660Y760T-CP	VDA 239-100	Longitudinal	660 - 820	760 - 960	10	-	30

¹⁾ Restrictions based on thicknesses and coatings pursuant to EN 10346, EN 10338, VDA 239-100 and special voestalpine grades.

Coatings and available dimensions

Available thicknesses [mm] per coating

Steel grade	Uncoated	ZE	Z	ZF
Pursuant to EN 10346 and/or EN 10338				
HCT600C	Not available	Not available	Under development	Not available
HCT780C	0.8 – 1.7	0.8 – 1.7	0.8 – 2.0	Under development
HCT980C	0.8 – 1.7	0.8 – 1.7	0.9 – 2.1	Under development
HDT750C	Not available	Not available	2.0 – 3.0	Not available
HDT760C	2.0 – 6.0	Not available	2.0 – 3.0	Not available

Steel grade	Standard	UC	EG	GI	GA
Pursuant to VDA 239-100 and voestalpine special grades					
CR400Y590T-CP	voestalpine	Upon request	Upon request	Under development	Not available
CR570Y780T-CP	VDA 239-100	0.8 – 1.7	0.8 – 1.7	0.8 – 2.0	Under development
CR660Y780T-CP	voestalpine	0.8 – 1.7	0.8 – 1.7	0.8 – 2.0	Under development
CR680Y780T-CP	voestalpine	0.8 – 1.7	0.8 – 1.7	0.8 – 2.0	Under development
CR780Y980T-CP	VDA 239-100	0.8 – 1.7	0.8 – 1.7	0.9 – 2.1	Under development
CR900Y1180T-CP	VDA 239-100	1.0 – 1.6	1.0 – 1.6	Upon request	Not available
CR950Y1180T-CP	voestalpine	1.0 – 1.6	1.0 – 1.6	Not available	Not available
HR660Y760T-CP	VDA 239-100	Upon request	Not available	2.0 – 3.0	Not available

The above named ahss steel grades are not available with MA, NA or RA surface finishes.

Please find available dimensions at www.voestalpine.com/Produktinformationsportal or contact us directly.



Premium quality with reduced carbon footprint

ahss classic
greentec steel

Cold-rolled steel strip – greentec steel Edition

Max. carbon footprint 2.15 kg CO₂e per kg of steel ¹⁾

Hot-dip galvanized steel strip – greentec steel Edition

Max. carbon footprint 2.30 kg CO₂e per kg of steel ¹⁾

Electrogalvanized steel strip – greentec steel Edition

Max. carbon footprint 2.30 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.

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
productmanagement@voestalpine.com
www.voestalpine.com/steel

voestalpine
ONE STEP AHEAD.