

CREEP RESISTANT STEELS

Available Product Variants

Long Products*	Semi-Finished Products / Billet	Plates
----------------	---------------------------------	--------

*) Presented data refer exclusively to long products. Please observe the detailed explanations at the end of the data sheet (pdf).

Product Description

Components featuring elevated high-temperature strength for use in thermal engines and power plants, such as turbine blades, turbine discs, screws, bolts, pins and shafts.

Process Melting

VID

Properties

Creep resisting steel, hardened and tempered. Usual upper temperature limit for continuous operating at 580°C.

Applications

- > Aerospace
- > Comp. for Industrial Gas Compressors
- > Fasteners, Bolts, Nuts
- > Oth. Automotive components (Turbochargers, Piston Rings, Sensors, etc.)
- > Other Power Generation Components
- > Steam Valves
- > Water Power
- > Automotive Racing
- > Distributors for Component Applications
- > Forging Applications
- > Other Aerospace Comps.
- > Power Generation (Gas/Steam/Nuclear)
- > Tubular Products, Flanges, Fittings
- > Wind Power
- > Blades & Shafts for Turbines and Compressors
- > Distributors or producers of standard parts without knowledge of final applications
- > Mechanical Engineering
- > Other Components
- > Shafts
- > Turbine and Engine Parts (Aerosp)

Technical data

Material designation		Standards	
ST12T	Market grade	10088-1	EN ISO
ST12TE		10216-2	
X22		10222-2	
1.4922	SEL	10302	ASTM
1.4923		A370	
X20CrMoV11-1	EN		
X22CrMoV12-1			

Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	Ni	V
0.22	0.25	0.7	11.4	0.95	0.7	0.3

Thermal Expansions between 20°C | 68°F and ...

Temperature (°C °F)	100 212	200 392	300 572	400 752	500 932	600 1,112
Thermal expansion (10 ⁻⁶ m/(m.K) 10 ⁻⁶ inch/inch. °F)	10.5 5.8	11 6.1	11.5 6.4	12 6.7	12.3 6.8	12.5 6.9

Long Products: For additional specifications, technical requirements, and other dimensions, please contact our regional voestalpine BÖHLER sales companies.

Sheet & Plates: Product Variant may differ in terms of melting process, technical data, delivery, and surface condition as well as available product dimensions. Please contact voestalpine BÖHLER Bleche GmbH & Co KG.

Semi-Finished Products: Product Variant may differ in terms of melting process, technical data, delivery, and surface condition as well as available product dimensions. Please contact the business unit Semi Finished Products of voestalpine BÖHLER Edelstahl GmbH & Co KG.

The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.