

CREEP RESISTANT STEELS

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	
1.4922	SEL	10088-1	EN ISO
1.4923		10216-2	
X20CrMoV11-1	EN	10222-2	
X20CrMoV12-1		10302	
X22CrMoV12-1		A370	ASTM
ST12TE	Market grade		
X22			
ST12T			

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 1112
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

For more information see <https://www.voestalpine.com/boehler-edelstahl/de/>

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