

Max %								
-------	--	--	--	--	--	--	--	--

PHYSICAL PROPERTIES

Property		Value			
Density: kg/dm ³		7,90			
Hardness: HB30		<=223			
magnetizable		non			
Temperature T °C/F (°C/F)	Specific heat J / kgK (Btu / lb °F)	Thermal conductivity W/mK (Btu·in / ft ² ·h·°F)	Electric resistance μΩ · cm (Ω circ mill / ft)	Modulus of elasticity kN/mm ² (10 ³ ksi)	Expansion rate from 70°F bis T 10 ⁻⁶ / K (10 ⁻⁶ / °F)
20 / 68	0,5 (--)	11,9 (--)			16,1 (--)
200 / 392		15,1 (--)			17,2 (--)
400 / 752		18,3 (--)			18,1 (--)
500 / 932		19,8 (--)			18,4 (--)
600 / 1112		21,3 (--)			18,8 (--)
800 / 1472		24,3 (--)			19,4 (--)
900 / 1652		25,7 (--)			19,7 (--)
1000 / 1832		27,1 (--)			20 (--)
Temp.	Creep strain limit	Creep strain limit	Creep rupture strength	Creep rupture strength	Creep rupture strength
°C / °F	1% / 1000h	1% 10 000h	1000 h	10 000 h	100 000 h
°C / °F	N/mm ² / ksi	N/mm ² / ksi	N/mm ² / ksi	N/mm ² / ksi	N/mm ² / ksi
600 / 1112	105 / 15,2	95 / 13,7	170 / 24,6	130 / 18,8	80 / 11,6
700 / 1292	50 / 7,2	75 / 10,8	90 / 13,0	40 / 5,8	18 / 2,6
800 / 1472	23 / 3,3	10 / 1,4	40 / 5,8	20 / 2,9	7 / 1,0
900 / 1652	10 / 1,4		20 / 2,9	10 71,4	3 / 0,4
1000 / 1832					

ksi value calculated

MECHANICAL PROPERTIES (20°C / 68°F)

Elongation Rp0,2 (MPA)	>=230	solution annealing
------------------------	-------	--------------------

tensile strength Rm (MPa)	550-750	solution annealing
Elongation A5 (%)	>=30	solution annealing
Yield strength (Ro,2) (MPa)	>=230	

TEMPERATURE INFORMATION

Application area		
Operation temperature	1652 °F to 2048 °F	air: up to 1922°F
Explanation report	scaling resistance (air) up to 1922°F	
Solution heat treatment		
Working temperature	1922 °F to 2102 °F	
Explanation report	fast cooldown in air or water	
quenching		
Working temperature	1922 °F to 2012 °F	
Explanation report	Cooldown: water/air	
Solution heat treatment		
Working temperature	1472 °F to 2102 °F	

STANDARDS / INFORMATION

Standards	Description
ASTM A 276	Rods and cross-sections made of stainless and heat-resistant steel
DIN EN 10088-1 (09/2005)	Stainless steels Part 1: List of stainless steels
DIN EN 10095 (05/1999)	heat resistant steel and nickel alloy
SEW 310 (08/1992)	physical properties of steel
SEW 470 (02/1976)	heat-resisting rolled and forged steels

PROCESS INFORMATION

Cold forming	good
Welding	
- Type	Laser welding manual arc welding (E) MAG solid wire WIG
- Add. material	1.4842
- Hints	no heat treatment necessary before or after welding process

MAIN FIELDS OF APPLICATION

Details of application	-scaling resistance (air) up to 1922°F
-------------------------------	--

	<p>durable under oxidizing conditions (in sulfuric gases only up to 1202°F) average corrosion resistance in carbonizing (up to 1652°F) and nitrogenous gases</p>
Certifications	
Environmental technology	waste-to-energy plants
industrial furnace engineering	
petrochemical industry	
Chemical Industry	

RANGE OF PRODUCTS

Product type	Product
Processing / Construction	from pipes, fittings, flanges (welded)
Plates / Sheets	plates/sheets plate/sheet cuts
Fittings	welded reductions Welded T-pieces seamless elbows seamless reductions seamless T-pieces Other Fittings a.o. Weldolets, Nipples
Flanges / Collars / Flared tube ends	various flanges (weld neck flange, blind flange etc.)
Bumped boiler ends / caps / round blanks	from sheets
Pipes / Tubes	welded pipes/tubes seamless pipes/tubes
Bar steel	flat steel section steel round bar steel

Pipe/Tube/Fitting/Flange/Valve/Plate

Stainless Steel/Nickel Alloy/Duplex

