



R270.70

EN:

Type: 446

R270.70 is a heat resistant high chromium nonhardenable ferritic stainless steel well suited for service in temp up to 1095°C (2000°F) for applications requiring excellent resistance to oxidation but where strength and toughness are not prime factors. The risk of 475°C (880°F) embrittlement and precipitation of sigma phase that appear in high Cr-steel must always be taken into consideration. Typical applications are muffer packings, oil burner components, furnace parts and wire for glass sealing.

CHEMICAL COMPOSITION (Nominal) %

C	Si	Mn	Cr	Ni	Mo	N	Al	
0.050	0.50	1.00	23.9	<0.50	<0.50	0.085	0.020	

PRE: 26 (PRE = Cr + 3.1 x Mo + 25 x N)

Comments:

PHYSICAL PROPERTIES

Condition: Annealed

Density	7.7 g / cm ³
Modulus of elasticity, E	225 000 GPa
Specific heat 0-100°C	500 J / kg°C

TYPICAL MECHANICAL PROPERTIES

Condition: D-cooled

Proof strength	Rp0.2	min.300 N / mm ²
Tensile strength	Rm	500-580 N / mm ²
Elongation	A10	min.25 %

THERMAL TREATMENT

Annealing temperature	800-850 °C 1470-1560 °F
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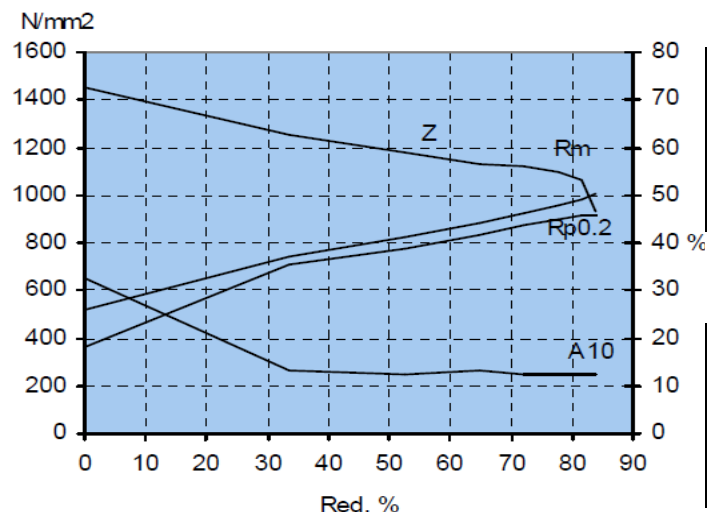
MAX. OPERATING TEMPERATURE

Operating temp. in air	1095 °C 2000 °F
Scaling temp. in air	1095 °C 2000 °F

THERMAL CONDUCTIVITY

20 °C	21.0 W / mK
100 °C	21.5 W / mK
200 °C	22.0 W / mK
400 °C	23.5 W / mK

DEFORMATION GRAPH



THERMAL EXPANSION

Thermal expansion per °C x 10-6 from 20°C to:

100 °C	10.0
200 °C	10.5
400 °C	11.5
600 °C	12.0
800 °C	12.0
1000 °C	13.5

RESISTIVITY

20 °C	750 μΩmm
100 °C	800 μΩmm
200 °C	900 μΩmm
400 °C	1150 μΩmm
600 °C	1200 μΩmm
800 °C	1250 μΩmm