

R569.60

EN: 1.4980

Type: 660

A286

R569.60 (A286) is an iron based super alloy, designed for applications requiring high strength and corrosion resistance up to 700°C (1290°F). This grade can be age hardened to a high strength level and can be used in high strength nonmagnetic applications because it remains essentially nonmagnetic even after severe cold working. The aqueous corrosion resistance for this grade is comparable to that of the austenitic stainless. Typical applications are wire for bolts, nuts, shafts, springs, and other hardware in jet engines, gas turbines and turbo superchargers. Fagersta Stainless can produce VAR, ESR and regular air melted variants of this grade depending on the requirements of the application.

CHEMICAL COMPOSITION (Nominal) %

C	Mn	Cr	Ni	Mo	Al	Ti	V	
0.050	1.20	14.6	24.7	1.2	0.15	2.1	0.25	

PRE: 18 (PRE = Cr + 3.1 x Mo + 25 x N)

Comments:

PHYSICAL PROPERTIES

Condition: Annealed

Density	8.0 g / cm ³
Modulus of elasticity, E	196 GPa
Specific heat 0-100°C	460 J / kg°C

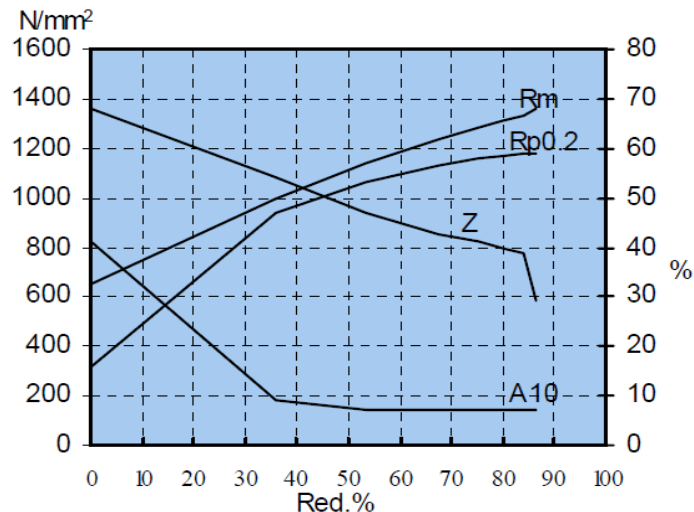
TYPICAL MECHANICAL PROPERTIES

Condition: Annealed

Proof strength	Rp0.2	min. 250 N / mm ²
Tensile strength	Rm	550-650 N / mm ²
Elongation	A10	min. 40 %
Stress rupture properties*		> 23h at 649 °C 483 MPa

* Annealed and Age hardened condition

DEFORMATION GRAPH



THERMAL TREATMENT

Annealing temperature	980-1020 °C 1800-1870 °F
Age hardening temperature	704-760 °C 1299-1400 °F

MAX. OPERATING TEMPERATURE

Operating temp. in air	700 °C 1290 °F
Scaling temp. in air	1000 °C 1830 °F

THERMAL CONDUCTIVITY

100 °C	14.0 W / m°C
200 °C	16.0 W / m°C
400 °C	20.0 W / m°C
600 °C	24.0 W / m°C

THERMAL EXPANSION

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

100 °C	17.0
200 °C	17.5
400 °C	18.0
600 °C	18.5
800 °C	19.0

RESISTIVITY

20 °C	90 μΩmm
100 °C	95 μΩmm
200 °C	100 μΩmm
400 °C	110 μΩmm
600 °C	115 μΩmm
800 °C	120 μΩmm