



R630.21

EN: 1.4362
SAF2304®

R630.21 ("SAF2304" is a trademark owned by Sandvik) is a duplex steel with corrosion resistance properties similar to T316L. This grade has twice as high yield strength compared to those of T304L/T316L respectively. Due to its duplex microstructure and high chromium and low nickel contents, the alloy has better stress corrosion resistance properties compared to austenitic grades like T304L and T316L. R630.21 has good weldability and the duplex microstructure renders the alloy less sensitive for hot cracking. It is particularly suitable for applications within temp. range -40/+280°C. Due to its high mechanical properties, higher stress is required for cold forming. Typical applications for this grade are rod and wire for reinforcement bars and other products for building and construction where T304L, 316L and 316Ti are normally used.

CHEMICAL COMPOSITION (Nominal) %

C	Si	Mn	Cr	Ni	Mo	N		
0.015	0.455	0.95	22.5	4.7	0.2	0.110		

PRE: 25 (PRE = Cr + 3.3 x Mo + 16 x N)

Comments:

THERMAL TREATMENT

Annealing temperature	930-1050 °C
	1710-1920 °F

PHYSICAL PROPERTIES

Condition: Annealed

Density	7.8 g / cm ³
Modulus of elasticity, E	200 GPa
Specific heat 0-100°C	505 J / kg°C

MAX. OPERATING TEMPERATURE

Operating temp. in air	280 °C
	535 °F
Scaling temp. in air	Approx. 850 °C
	Approx. 1560 °F

TYPICAL MECHANICAL PROPERTIES

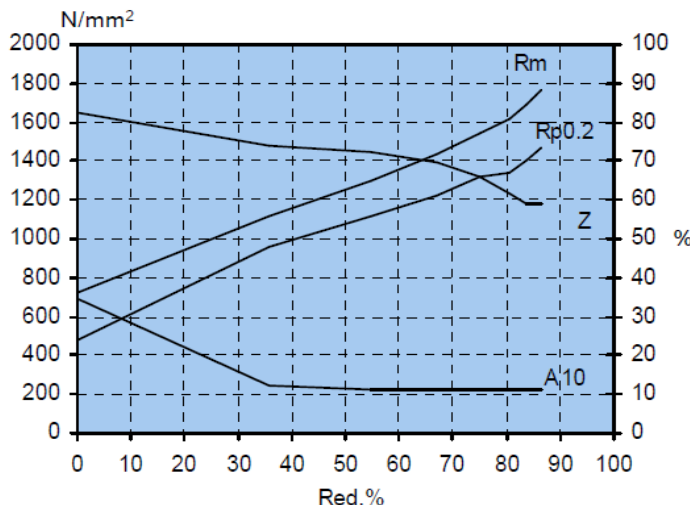
Condition: D-cooled or DST-annealed (Direct Solution Treatm.)

Proof strength	Rp0.2	min. 420 N / mm ²
Tensile strength	Rm	670-770 N / mm ²
Elongation	A10	min. 30 %

THERMAL CONDUCTIVITY

20 °C	16 W / m°C
100 °C	17 W / m°C
200 °C	18 W / m°C
300 °C	19 W / m°C

DEFORMATION GRAPH



THERMAL EXPANSION

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

100 °C	13.5
200 °C	14.0
300 °C	14.5

RESISTIVITY

20 °C	800 μΩmm
100 °C	920 μΩmm
200 °C	1000 μΩmm
300 °C	1050 μΩmm