

X40MNCrN19, 1.3813 WASHER

[X40MnCrN19](#), [1.3813](#) Non-magnetic steels, rust and acid resistant. [1.3813](#) is often supplied in a hot-cold-formed version. In this treatment state, [1.3813](#) has a tensile strength of 830 – 1030 N/mm² and a yield point of at least 390 N/mm² at room temperature. Area of application connecting parts, mechanical engineering, mechanically and thermally highly stressed components in shipbuilding, mechanical engineering and vehicle construction as well as in electrical engineering. These rolled round bars intended for the manufacture of shafts, arbors, pins and similar parts, acc. to TLV 9384 01, SEW 390, DIN Spec.

Chemical Composition

Grade	Chemical composition WT %						
	C	Si	Mn	P	S	Cr	N
1.3813, X40MnCrN19	0.03-0.50	Max 0.87	17-19	Max 0.10	Max 0.03	3.0-5.0	0.08-0.12

Mechanical Properties

1.3813 is a grade number for a stainless steel material. It is also known by the designation X8CrMnN18-18. Here are the general mechanical properties for this grade:

Tensile Strength: 750-950 MPa (110-138 ksi)

Yield Strength: 350-550 MPa (51-80 ksi)

Elongation: 18-30%

Hardness: 200-250 HB

Young's Modulus: 190-210 GPa (27.5-30.4 x 10⁶ psi)

Physical Properties

1.3813 is a grade number for a stainless steel material. The physical properties of this stainless steel grade are as follows:

Density: 7.7 g/cm³

Melting Point: 1400-1450°C (2552-2642°F)

Electrical Resistivity: 0.75 μΩ·m

Thermal Conductivity: 15 W/m·K (at 20°C)

Coefficient of Thermal Expansion: 14.2 μm/m·K (at 20-100°C)