

BÖHLER M789

The M789 – Precipitation Hardenable Stainless Steel – Böhler material combines the easy printability of Maraging Steel with the corrosion resistance of a 17-4PH (Stainless Steel AISI630).

The M789 reaches high tensile strength (up to 1800 MPa) and hardness values (up to 52HRC) after heat treatment, which makes usable for structural components that usually where made using high performance structural steels, such as AISI 4340 and Maraging M300. Furthermore, the M789 steel is a corrosion resistance steel rather than other high performance structural steels, hence it is possible to avoid to use galvanic coatings (e.g. cadmium and chromium, VI and III).

These properties allow to use the M789 steel for shafts, brackets, dies, gears and impellers operating in mild to heavy corrosive environments.

Mechanical Properties

	Test Method	As Built	Heat Treated
Yield Modulus	EN ISO 6892-1	175-185 GPa	185-195 GPa
Yield Strength	EN ISO 6892-1	700-800 MPa	1390-1710 MPa
Tensile strength	EN ISO 6892-1	1000-1040 MPa	1570-1800 MPa
Elongation at Break	EN ISO 6892-1	7-14 %	2-6 %
Charpy V-notch test	EN ISO 148-1	-	6-14 J
Hardness	EN ISO 6508-1	20-30 HRC	52-58 HRC

Chemical Composition

C	<0,02 %
Cr	12,2 %
Ni	10 %
Mo	1 %
Al	0,6 %
Ti	1 %

Physical Properties

Density	7,85 g/cm ³
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