



Grade	Code	AISI	Martensitic Stainless Steel
1.4057	X17CrNi16-2	431	

Steel Properties

The martensitic material 1.4057 is characterized by increased corrosion resistance due to the addition of nickel, as well as comparatively high strength values. Therefore, applications with higher stresses such as valves, pumps and shafts can also be implemented.

Chemical Composition (1.4057)

C %	P %	Si %	Mn %	S %	Cr %	Mo %	Ni %	Al %	Cu %
0,12 – 0,22	0,04 max.	1,00 max.	1,50 max.	0,03 max.	15,00 – 17,00	-	1,50 – 2,50	-	-

Mechanical Properties (QT 800)

Product Form	Rp0.2, Mpa	Rm, Mpa	Elongation [%]	Hardness [HRC]
Bar & Rod	≥ 600	800 - 950	> 12	-

Suitable For

1.4057 is used, among other martensitic stainless steel, in the aerospace, marine, food, nitrogen, paper and food industries for particularly loaded parts of pumps, the production of screws, nuts, parts of valves of installations, shafts, sleeves or spindles. AISI 431 steel is a special grade used for the manufacture of aircraft parts.

1.4057 steel shows resistance to nitric acid, phosphoric acid, low concentrations of formic and acetic acids, sea water, and most nitrates.

Remarks

Steel is most often supplied in the form of peeled bars, forged bars, hexagonal bars and even in the form of sheets. Depending on the type of substitute, the hardness that can be obtained on a thermally improved material can sometimes amount to 45 HRC. Some grades, e.g. X17CrNi16-2 / 1.4057, are delivered in heat treated condition +QT800 or +QT900.

Speciification

1.4057, AISI 431, X17CrNi16-2