

PRODUCT DATASHEET

F6NM

Grade

ASTM A182 Grade F6NM Stainless Steel (UNS S 41500, ASTM A182/A276 – chemistry only)

Type

Typically supplied in the solution annealed and double tempered condition (23 HRC maximum)

Composition	
Element	Weight%
Carbon	0.05 max
Silicon	0.6 max
Manganese	0.5 - 1
Phosphorus	0.3 max
Sulphur	0.3 max
Molybdenum	0.5 - 1
Chromium	11.5 - 14
Nickel	3.5 - 5.5
Manganese	0.5 - 1

Notes: F6NM is a martensitic grade of stainless steel. The nickel and molybdenum content give the material high strength and excellent sub-zero impact properties.

The grade has improved weldability (may need post weld heat treatment for sour service) compared to other martensitic grades and has enhanced corrosion resistance. It has basic pitting and crevice corrosion resistance.

The material has good cracking resistance due to it's air hardening nature.

Other non-NACE strength levels are available.

Application

The grade is typically used for pressure containing applications such as valve bodies or pipework, also used for valve gates and stems.

Mechanical Properties

Solution annealed followed by quenching and double tempering

Property	Values
0.2% Yield Strength	75 KSI min (517 MPA min)
Ultimate Tensile Strength	95 KSI min (655 MPA min)
Elongation	17
Reduction of area	35% min
Charpy Impact Toughness	34 min J at -60°C
Hardness	23 HRC