

This page is mainly introduced the F 899 Type XM-16 chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of F 899 Type XM-16, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Data Table for Grades Stainless Steels F 899 Type XM-16

F 899 Type XM-16 Standard Number:

ITEM	Standard Number	Descriptions
1	F 899 (2012)	Standard Specification for Wrought Stainless Steels for Surgical Instruments

F 899 Type XM-16 Chemical composition (mass fraction) (wt.%)

Chemical	Min.(%)	Max.(%)
C		0.05
Mn		0.50
Si		0.50
P		0.04
S		0.03
Cr	11.00	12.50
Ni	7.50	9.50
Mo		0.50
Cu	1.50	2.50
Nb	0.10	0.50
Ti	0.80	1.40

F 899 Type XM-16 Physical Properties

Tensile strength	115-234	σ_b /MPa
Yield Strength	23	$\sigma_{0.2} \geq$ /MPa
Elongation	65	$\delta_5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	Akv $\geq$ /J
HBS	123-321	-
HRC	30	-

F 899 Type XM-16 Mechanical Properties

Tensile strength	231-231	σ_b /MPa
Yield Strength	154	$\sigma_{0.2} \geq$ /MPa
Elongation	56	$\delta 5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	Akv $\geq$ /J
HBS	235-268	-
HRC	30	-

F 899 Type XM-16 Heat Treatment Regime

Annealing	Quenching	Tempering	Normalizing	Q & T
✓	✓	✓	✓	✓

F 899 Type XM-16 Range of products

Product type	Products	Dimension	Processes	Deliver Status
Plates / Sheets	Plates / Sheets	0.08-200mm(T)*W*L	Forging, hot rolling and cold rolling	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Steel Bar	Round Bar, Flat Bar, Square Bar	Φ8-1200mm*L	Forging, hot rolling and cold rolling, Cast	Black, Rough Turning, Shot Blasting,
Coil / Strip	Steel Coil /Steel Strip	0.03-16.0x1200mm	Cold-Rolled & Hot-Rolled	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Pipes / Tubes	Seamless Pipes/Tubes, Welded Pipes/Tubes	OD:6-219mm x WT:0.5-20.0mm	Hot extrusion, Cold Drawn, Welded	Annealed, Solution and Aging, Q+T, ACID-WASHED

We can produce Stainless Steels the specifications follows: