



unimed

www.unimed.ch

INFORMATION SHEET

Avenue du Tir Fédéral 56
1024 Ecublens
Switzerland
Tel: ++41 21 624 21 51
info@unimed.ch

MATERIAL	AISI 316Ti	FAMILY	Austenitic stainless steel	SHEET #	AISI316TI.FIE
EQUIVALENCY					
EN		ASTM		JIS	ISO
1.4571 - X6CrNiMoTi17-12-2		S31635		SUS316Ti	4571-316-35-1

USE		
This material is commonly used for the manufacture of the following product elements:		
<input checked="" type="checkbox"/> Cannula (tube)	<input type="checkbox"/> Stylet (wire)	<input type="checkbox"/> Hub
<input type="checkbox"/> Adaptor	<input type="checkbox"/> Stopcock	<input type="checkbox"/> Handle
GENERAL CHARACTERISTICS		
Straightness	Circularity	Concentricity (only tube)
2 mm difference for 1'000 mm length	- Tube : Circularity \cong ID tolerance - Wire: Circularity \cong OD tolerance	\leq 10% tube thickness
Outer surface finish	Inner surface finish (only tube)	-
N5 ($R_{a\max} = 0.4$)	N7 ($R_{a\max} = 1.6$)	-

MANUFACTURING			
Turing, drilling, milling	Grinding	Laser cutting	Electro erosion machining
Not suggested	Good	Good	Good
Sharpening	Polishing	Laser marking	-
Good	Good	Excellent	-
ASSEMBLING			
Bonding	Press fit	Soldering	Laser welding / Plasma
Good	Not suggested	Good	Good

CHEMICAL COMPOSITION [%]									
C	Si	Mn	P	S	Cr	Ni	Mo	Ti	N
≤ 0.08	≤ 1	≤ 2	≤ 0.045	≤ 0.03	16 - 18	10 - 14	2 - 3	5×(C+N) Max 0.7	0.1

The reference to the chemical composition is the one from the standard ASTM A959

The chemical composition from other equivalent standards may be slightly different from that provided in this information sheet.

MECHANICAL PROPERTIES	
Material state	Tensile strength Rm [MPa]
Hard - Cannula	800 - 1'300
Hard - Stylet	800 - 1'300

PHYSICAL PROPERTIES		
Density ρ [kg/m ³]	Electrical resistivity ρ [$\mu\Omega \times m$]	Thermal conductivity λ [W/(m × K)] at 20°C
7'990	0.75	15
Modulus of elasticity E [GPa] at 20°C	Coefficient of linear thermal expansion α [$10^{-6} / ^\circ C$] between 20°C and 100°C	Specific heat capacity C_p [J/(kg × K)] at 20°C
200	8.9	500

Corrosion resistance
Excellent corrosion resistance

BIOCOMPATIBILITY (ISO 10993-1)	
The austenitic stainless steel AISI 316Ti is a metallic material derived from AISI 316 stainless steel, material referenced in the American standard of surgical instruments ASTM F899, considered as clinically established and recognized material (state-of-the-art) for devices medical. It may require justifications and/or specific biocompatibility tests. Their needs can be determined in a biological safety analysis of specific medical device. The customer is responsible to verify the compatibility of the material selected from its intended use.	

STANDARDS	
EN 10088-1	Stainless steels - Part 1 : list of stainless steels
ISO 15510	Stainless steels -Chemical composition
ASTM A959	Standard Guide for Specifying Harmonized Standard Grade Compositions for Wrought Stainless Steels
JIS G 4303	Stainless steel bars
JIS G 4305	Cold-rolled stainless steel plate, sheet and strip

All this information are for reference only. They have no legal or contractual commitment Unimed SA.

01.05.2026	Page 1/1
FST	