TECHNICAL DATASHEET

316LVM – Implantable Stainless Steel
FT 003 – Version 0

316LVM is an austenitic stainless steel whose basic composition is similar to the 316L, except with a much stricter tolerance of impurities. This gives the steel much better resistance to corrosion than ordinary 316L, making it more suitable for medical applications (and especially implants).

➢ NAMES

Europe		USA	Other
number	symbol		
1.4441	X2CrNiMo18-15-3	UNS S31673	M25NW

APPLICATIONS	ADVANTAGES
Implants and ancillaries	Biocompatibility Excellent corrosion resistance
STANDARDS	**SHAPES**
ISO 5832-1 ASTM F138 ASTM F139	**BAR** Diameter 1-80 mm Length 3000-3500 mm (other lengths possible on request) Tolerance Ø≤20 mm: h8-h9 – Ø>20 mm: h9-h11 --- **SHEET/ STRIP/ PLATE** Thickness 1-6 mm Usual width 300-320 mm (strip) 1000 mm (sheets and plates)

➢ CHEMICAL COMPOSITION

%	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	N	Fe
min						17	2.25	13			residue
max	0.03	0.75	2	0.025	0.01	19	3	15	0.5	0.1	

%Cr + 3.3 x %Mo ≥ 26.0

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➢ MECHANICAL PROPERTIES

This grade is typically supplied in rapid quenched condition for diameters greater than 20 mm, and work-hardened to super work-hardened for smaller diameters.

Product	Diameter	Tensile strength (Rm) MPa	Proof stress (Rp0.2) MPa	Elongation after fracture (%)
Bar				
Rapid quenched (annealed)	All	490 ≤ Rm ≤ 690	190	40
Cold-worked (half-hard)	≤ 22	860 ≤ Rm ≤ 1100	690	12
Super cold-worked (hard)	≤ 8	≥ 1400	-	-
Sheet/strip				
Annealed	-	490 ≤ Rm ≤ 690	190	40
Cold-worked	-	860 ≤ Rm ≤1100	690	10

➢ PHYSICAL PROPERTIES

Density (g/cm³)	7.9
Modulus of elasticity at 20°C (N/mm²) at 400°C (N/mm²)	 200 x10³ 172 x10³
Thermal conductivity at 20°C (W/m °C)	15
Specific heat (J/Kg °C)	500
Mean coefficient of thermal expansion at 20-200°C (mm °C) 20-400°C (mm °C)	 16.5 x10-6 17.5 x10-6
Electrical resistivity (µΩ/mm)	0.75

The information and technical data contained in this sheet are for information purposes only. Only the information written on our material analysis certificates will be official.