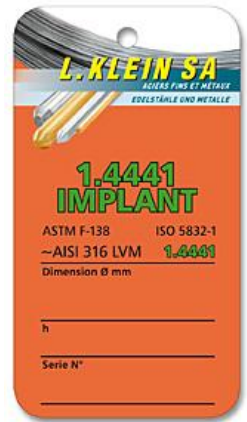


L. KLEIN SA

ACIERS FINS ET MÉTAUX

EDELSTÄHLE UND METALLE

FINE STEEL AND METALS



1.4441 Implant austenitic Stainless Steel

Material No.	DIN Abbreviation	AFNOR	AISI/SAE/ASTM	ISO	Euro Standard EN	Others
1.4441	X2CrNiMo18-15-3	Z 2 CN 18.14.3	AISI ~ 316LVM ASTM F138	5832-1	X2CrNiMo18-15-3	

Distinctive feature & main attribute: a rust- and acid-proof chromium-nickel-molybdenum-steel alloy, precedingly refined by an electroslag remelting process (ESR), designed for components with increased chemical stability due to the qualities ISO 5832-1 and ASTM F-138, however, it has a limited machinability and high wear of tools.

Use & application range: this quality particularly meets the requirement of implants and surgical instruments.

CHEMICAL COMPOSITION IN VOLUME PERCENTAGE	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	N	Fe
	max. 0.03	max. 1.00	max. 2.00	max. 0.025	max. 0.01	17.00 19.00	2.50 3.20	13.00 15.50	max. 0.50	max. 0.10	balance

EXECUTION DELIVERY FORM STANDARD SIZES AVAILABILITY	<ul style="list-style-type: none">• Execution in 3 m (2 m) round bars as well as in coils for Escomatic• Standard size in stock: see Product range• Other sizes on request
TOLERANCES	<ul style="list-style-type: none">• High precision cold drawn, ground, polished; ISO h8 (h7); surface finish Ra 0.4 (N5)• Ø 1.00 – 6.00 mm, extra hard• Ø 3.00 – 22.00 mm, hard K860• Tighter tolerances on request
MECHANICAL PROPERTIES	At delivery status: <ul style="list-style-type: none">• Tensile strength (R_m)<ul style="list-style-type: none">a) hard K860 (for screws): 900 – 1150 MPab) extra hard: min. 1400 MPa/mm²
HEAT TREATMENT	<ul style="list-style-type: none">• Soft annealing: 1050 °C, cooling in water• Hardening and tempering by heat treatment is impossible
CUTTING RATES	<p>$v_c \sim 20 - 30 \text{ m/min}$, long-chipping, value depending on the lubrication oil, cutting tools and shape of parts.</p> <ul style="list-style-type: none">• Cutting oil: e.g. INOX or ORTHO NFX of Motorex

Modifications will not be adjusted automatically

Last update 06/2010
Volume no. 8

L. KLEIN SA
Längfeldweg 110
P.O. Box 973
CH-2501 Biel/Bienne

telephone 0041 (0) 32 341 73 73
telefax 0041 (0) 32 341 97 20

www.kleinmetals.ch
info@kleinmetals.ch