CO-BASE ALLOYS

Application Segments

Engineering

Available Product Variants

Long Products

Product Description

BÖHLER L035 is a 35-cobalt-35-nickel-20-chromium-10-molybdenum wrought alloy (UNS R30035) used for the production of surgical implants. This alloy composition has been successfully used in human implants. Long-term clinical experience has shown an acceptable biological response.
The exceptional properties of BÖHLER L035 result from its chemical composition, high-quality melting technology, cold forming and heat treatment. It is a vacuum induction melted (VIM) and vacuum arc remelted (VAR) superalloy.

BÖHLER L035 is a nickel-cobalt based multiphase alloy system with a unique combination of properties e.g. extremely high strength, toughness, ductility and excellent corrosion resistance. The alloy can be strengthened and aged in the factory to achieve strength values of max. 260 to 300 ksi (1793-2086 MPa) and stress corrosion cracking (SCC) resistance even in hydrogen sulphide. The BÖHLER L035 alloy resists pitting and crevice corrosion caused by seawater, chloride solutions and other corrosive environments, e.g. mineral acids (nitric, hydrochloric, sulphuric acid).

Process Melting

VIM + VAR

Applications

- Medical
- Mechanical Engineering
- Medical Instruments & Implants
- Watch Industry
- Medical Industry
- Luxury Watch Industry

Technical data

Material designation	
MP35N	Market grade
2.4999	SEL
R30035	UNS

Standards	
ISO 5832-6	EN ISO
F562	ASTM

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	Co	Ti	B	Fe
max. 0.025	max. 0.15	max. 0.15	max. 0.015	max. 0.010	19.0 to 21.0	9.0 to 10.5	33.0 to 37.0	REM	max. 1.0	max. 0.015	max. 1.0

Refers to ASTM F562.

Delivery condition

Solution Annealed + Quenched	
Tensile Strength (MPa)	793 to 1,069
Yield Strength (MPa)	241 to 586 | Wire hot rolled.

Solution annealed + cold worked	
Tensile Strength (MPa)	min. 1,000
Yield Strength (MPa)	min. 655 | medium hard - Round bars hot rolled and cold worked.

Solution annealed + cold worked	
Tensile Strength (MPa)	min. 1,207
Yield Strength (MPa)	min. 1,000 | hard - Round bars hot rolled and cold worked.

Round Bars and Wire Rod (if any)

Diameter* mm		
ROLLED		
5.00	-	13.50

* Diameter 5.00 - 13.50 mm available as Wire Rod.

More information regarding MOQ and tolerances upon request.
Round bars upon request. Availabilty depends on delivery condition.

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voestalpine
ONE STEP AHEAD.