



Hamilton Precision Metals
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TECHNICAL DATA SHEET

L-605

L-605 is a nonmagnetic cobalt-based chromium-tungsten-nickel alloy that has excellent corrosion and oxidation resistance, and high strength at both room and elevated temperatures. Through work hardening, high strength levels can be obtained. L-605 has a minimal heat treatment response, but can be used in the cold worked and aged condition. Applications include medical implant devices, springs, valves, and engine components for the aerospace industry. As a result of its high tungsten content, L-605 is radiopaque, which is beneficial for implant devices.

NOMINAL COMPOSITION:

Nickel	10%	Manganese	1.5%
Tungsten	15%	Carbon	0.10%
Chromium	20%	Silicon	1.00% Max
Iron	3.00% Max	Cobalt	Balance

TYPICAL MECHANICAL PROPERTIES:¹

	<u>Annealed</u>
Ultimate Tensile Strength	165,000 PSI
Yield Strength (.2% Offset)	85,000 PSI
Elongation in 2"+	30%
Hardness	91 HRb
Modulus of Elasticity	35.3 X 10 ⁶ PSI

+The measured elongation will be less as thickness decreases to .003" and less

¹ These values may be adjusted by control of process variables – consult HPM for desired values.

PHYSICAL PROPERTIES²

Density	0.330 lb/cu in
Melting Point (Approx.)	2500 deg F
Electrical Resistivity @RT.....	88.7 Microhm-cm
Thermal Expansion Coefficient (RT to 200 C).....	12.9 ppm/C
Thermal Conductivity @RT.	12.7 W/m-K

GENERAL INFORMATION:

Because of the alloy's high work hardening rate, only minimal reductions can be taken before solution annealing will be required. L-605 is very resistant to oxidation and scaling at elevated temperatures, and is nonmagnetic in all conditions. L-605 is produced by vacuum induction melting followed by electroslog remelting (VIM-ESR), and as such, has a low nonmetallic inclusion level.

AVAILABILITY:

L-605 is available from Hamilton Precision Metals as strip product. Contact HPM Sales Department for size capability information. The material corresponds to UNS R30605.

² Typical values to guide alloy selection but are not a guarantee of minimum or maximum.