

Udimet® alloy L605 (Haynes® alloy 25)

UNS R30605
W.Nr 2.4964/2.4967

Udimet® alloy L605 (Haynes® alloy 25) is a Cobalt-Chromium-Tungsten solid-solution strengthened alloy with excellent mechanical strength and oxidation resistance at high temperatures. This alloy also has good fatigue resistance and galling resistance.

Applications include bearings, shafts, springs and surgical fixation wire.

Industries supplied include: Medical and Aerospace.

Nominal Composition

	Cr	W	Ni	Fe	Mn	Co	Si	C	P	S
min	19	14	9		1			0.05		
max	21	16	11	3	2	balance	0.40	0.15	0.04	0.03

Physical Properties

	At 70°F	At 20°C
Density	0.335 lb/in ³	9.27 g/cm ³
Modulus of Elasticity (E)	32.6 x 10 ³ ksi	225 GPa
Coefficient of Expansion	7.6 microinches/in.-°F (70-600°F)	13.6 x μm/m-°C (20-300°C)
Electrical Resistivity	34.9 μ ohm.in	88.6 μ ohm.cm
Thermal Conductivity	65 Btu-in./ft. ² hr.-°F	9.4 W/m-K

Applicable Specifications

Wire & Bar | AMS 5759, AMS 5796, ASTM F90, ISO 5832-5, NACE MR0175 (ISO 15156-3).

Typical Mechanical Properties – Spring Applications

Condition	Heat Treatment	Tensile Strength	Suggested Operating Conditions
Annealed	2155°F (1180°C)	130 – 180 ksi (896 – 1240 MPa)	-330°F to 1200°F (-200°C to 650°C)
Spring Temper		220 – 280 ksi (1517 – 1930 MPa)	-300°F to 1200°F (-200°C to 650°C)

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