

Alloy L605 is a cobalt-chromium-tungsten-nickel alloy. It has good formability, high strength to 1500°F (816°C), and good oxidation resistance up to 1800°F (980°C). This material also has good sulfidation resistance and is well known for resistance to wear and galling. Alloy L605 is used in applications requiring moderate strength and good oxidation resistance at high temperatures. L605 is non-magnetic, and the high chromium content provides resistance to corrosion in a wide range of environments such as marine, hydrochloric and nitric acids, and wet chlorine.

### L605 Chemical Composition

<b>Co</b>	Cobalt – Balance
<b>Cr</b>	Chromium – 20.00%
<b>W</b>	Tungsten – 15.00%
<b>Ni</b>	Nickel – 10%
<b>Fe</b>	Iron – 3.00% max
<b>Mn</b>	Manganese – 1.50%
<b>Si</b>	Silicon – 0.40% max
<b>C</b>	Carbon – 0.1%
<b>S</b>	Sulfur – 0.030% max
<b>P</b>	Phosphorous – 0.040% max

Maximum unless range is specified

### Other Inventory Specifications

- PWA-LCS
- GE Aviation S-SPEC-35 AeDMS S-400
- GE Aircraft Engine (GT193)
- RR SABRe Edition 2
- DFARS Compliant
- EN 1.4550

### Standard Inventory Specifications

- UNS R30605
- AMS 5537
- AMS 5759
- B50TF26

### Forms Stocked

- Bar - 0.250" – 4.000" thick
- Coil - 0.032" - 0.065" thick
- Sheet - 0.032" - 0.065" thick
- Thin Strip - 0.0008" - 0.015"

### Applications

- Aircraft engine combustor lines
- Jet engine and Aerospace components
- Land based gas turbine combustor lines
- Industrial furnace lines
- Mufflers and liners
- High temp ball bearings
- Marine turbines



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### Features

- Excellent resistance to corrosive atmospheres such as found in jet engine applications
- Resistance to carburizing and sulfidizing atmospheres up to 1600 degrees F make it ideal for gas turbine applications, liners, combustion chambers and more.

The technical data provided is for information only and not for design purposes. It is not warranted or guaranteed.

## Physical Properties

- Density: 0.288 lb/in<sup>3</sup> (7.96 g/cm<sup>3</sup>)
- Melting Range: 2550-2635°F (1398-1446°C)
- Specific Heat: 0.097 at 70 °F, Bru/lb °F 405 at 21 °C, J/kg °C
- Permeability: 1.0007 at 200 oersted
- Coefficient of Expansion 6.6 0-200 °F, 10<sup>-6</sup>in/in °F
- Thermal Conductivity: 84 Btu in/ft<sup>2</sup> h °F W/wm °C
- Electrical Resistivity: 613 ohm circ mil/ft102.0 microhm-cm

## Mechanical Properties

Grade	Ultimate Tensile		Yield Strength (0.2% OS)		Elong. In 4D
	Ksi	MPa	Ksi	MPa	%
L605	125	862	45	310	30

Temperature		Rupture Strength	
°F	°C	Ksi	MPa
1200	649	39	270
1300	704	32	220
1400	760	24	165
1500	816	17	120
1600	871	10	72
1700	927	6	44
1800	982	4	25