

Technical datasheet

Alloy L-605 / W-Nr. 2.4964

A cobalt-based alloy with high strength at elevated temperatures and outstanding oxidation resistance. A highly formable grade which finds application in the hot section of gas turbines and industrial furnace equipment.

Available products

Product form	Size	Size range to
Sheet/plate	0.4 mm thickness	6.8 mm thickness
Bar	6.0 mm diameter	76.1 mm diameter

Chemical composition (%)

Co	Cr	W	Ni	Fe	Mn	Si	S	C
Balance	19.0-21.0	14.0-16.0	9.0-11.0	3.0 max	1.0-2.0	0.40 max	0.03 max	0.05-0.15

Major specifications

AMS 5537, 5759	UNS R30605
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Physical properties

Density	9.27 g/cm ³
Melting range	1330-1410°C

Mechanical properties – typical room temperature properties

Yield strength	460 MPa
Tensile strength	990 MPa
Elongation	50 %

Key attributes

Alloy L-605 (equivalent to Alloy 25) is a cobalt-based superalloy with outstanding high temperature strength combined with excellent oxidation resistance at service temperatures up to 1093°C. The alloy also has good resistance to sulphidation and carburization in atmospheres up to 870°C and to wear and galling. The high chromium content gives Alloy L-605 resistance to corrosive environments such as hydrochloric and nitric acids and wet chlorine.

Alloy L-605 is highly fabricable and is readily formed by either hot or cold working processes. It is machinable and can be welded by conventional processes and procedures. Please contact us for further details on forming, fabrication and welding consumables.

Applications

Aerospace and land-based gas turbine hot section components
Industrial furnace equipment