TECHNICAL DATASHEET

Alloy L605/25

A cobalt-chromium-nickel-tungsten superalloy, L605/25 is one of the strongest cobalt alloys.

L605/25 is highly resistant to scaling and oxidation at temperatures up to 982°C and exhibits excellent qualities under harsh oxidising conditions.

PRODUCT FORMS

PRODUCT FORM	SIZE RANGE FROM	SIZE RANGE TO
Alloy L605/25 round bar	5.2 mm	168.3 mm
Alloy L605/25 sheet & plate	0.25 mm	38.1 mm
Alloy L605/25 welding wire	0.8 mm	2.36 mm

Can't find the size you need? ***Please contact us at*** ***onlinesales@neonickel.com***

CHEMICAL ANALYSIS

%	CR	NI	CO	W	C	FE	MN	SI	P	S
Min	19	9	-	14	0.05	-	1	-	-	
Max	21	11	Balance	16	0.15	3	2	0.4	0.04	0.03

APPLICATIONS

- Hot-section of gas turbine engines
- Combustion chambers, liners and afterburners
- High temperature ball bearings and bearing races
- Springs
- High temperature furnace components

TECHNICAL DATASHEET

ABOUT ALLOY L605/25

Alloy L605/25 is most commonly used in the aerospace industry due to its strength and durability in high temperature environments. This alloy is also highly resistant to scaling and oxidation at temperatures up to 982°C, whilst exhibiting excellent qualities under harsh oxidising conditions. Alloy L605/25 can be used in high temperature oxidising environment up to 1093°C. Alloy L605/25 has good suphidation resistance and resistance to wear and galling. Alloy L605 can be welded using gas tungsten arc, gas metal arc, shielded metal arc, electron beam and resistance welding. It's important to use good joint fit-up, minimum restraint, low interpass temperature and cool rapidly when welding. For maximum ductility, fabricated components should be annealed 1176-1232°C and rapidly cooled. For more information on Alloy L605 contact us, or fill in our online enquiry form and we'll get right back to you!

PROPERTIES

Density:	9.1344 g/cm³
Melting range:	1329-1410°C

MECHANICAL & PHYSICAL PROPERTIES

MECHANICAL & PHYSICAL PROPERTIES	21°C	427°C	538°C	649°C	760°C	816°C	871°C	927°C	982°C
Coefficient of Thermal Expansion µm/m°C	-	14	14.4	14.8	15.5	-	16.4	-	16.9
Thermal Conductivity /kcal/(hr.m.°C)	-	14.9	16.7	18.6	20.4	-	22.6	-	24.8
Modulus of Elasticity/ $x10^5$ MPa	2.28	1.93	1.86	1.79	1.65	-	1.59	-	1.45
Ultimate Tensile Strength /Mpa	1006.6	-	-	744.6	641.2	-	413.7	-	234.4
0.2% Yield Strength /MPa	475.7	-	-	331	282.7	-	248.2	-	124.1
Elongation/ %	51	-	-	60	42	-	45	-	32
100 hr Rupture Strength/ Mpa	-	-	-	475.7	248.2	172.4	124.1	82.7	48.3
1000 hr Rupture Strength/ Mpa	-	-	-	393	179.3	124.1	82.7	48.3	27.6

TECHNICAL DATASHEET

SPECIFICATIONS

UNS Number:	UNS R30605
Werkstoff Number:	2.4964
Standards:	AMS 5537, 5796