

PRODUCT DESCRIPTION

INCONEL 625 is a nickel-chromium-molybdenum-niobium grade material offering outstanding corrosion resistance and superb weldability. The addition of niobium provides high strength without the need for heat treatment.

Inconel 625 demonstrates an excellent combination of corrosion resistance and high strength. Due to the high nickel content, it is immune to chloride-induced stress corrosion cracking. It also has good resistance to pitting and crevice corrosion. We offer Inconel 625 sheet certified to both UNS N06625, 625 LCF® and ATI 625 HP® (UNS N06626). The 625 sheet meets the low-cycle fatigue properties specified in UNS N06626 and is also produced and certified as DDQ (deep drawing quality). Resulting from the alloy's excellent thermal stability, it is the alloy of choice for weld overlay applications in the oil and gas/petrochemical and refineries markets. ATI 625 HP® is a registered trademark of ATI Allegheny. 625 LCF® is a registered trademark of Special Metals Corporation.



PRODUCT FORMS

| PRODUCT FORM | SIZE RANGE FROM | SIZE RANGE TO |
|---------------------------|-----------------|---------------|
| Inconel 625 pipe | 0.5 in | 8 in |
| Inconel 625 coil | 0.25 mm | 3.18 mm |
| Inconel 625 welding wire | 0.5 mm | 3.18 mm |
| Inconel 625 sheet & plate | 0.25 mm | 76.2 mm |
| Inconel 625 round bar | 12 mm | 260 mm |
| Inconel 625 pipe fittings | 0.5 in | 8 in |
| Inconel 625 flanges | 0.5 in | 8 in |

Can't find the size that you need? Please contact us at metalsales@dobsongasket.com.

CHEMICAL ANALYSIS

| % | CR | NI | MO | CO | NB & TA | AL | TI | C | FE | MN | SI | P | S |
|-----|----|---------|----|----|---------|-----|-----|-----|-----|-----|-----|-------|-------|
| Min | 20 | - | 8 | - | 3.15 | - | - | - | - | - | - | - | - |
| Max | 23 | Balance | 10 | 1 | 4.15 | 0.4 | 0.4 | 0.1 | 5.0 | 0.5 | 0.5 | 0.015 | 0.015 |

APPLICATIONS

- Aircraft ducting and exhaust systems
- Engine thrust-reverser systems
- Turbine shroud rings
- Bellows, expansion joints
- Gaskets and damper seals
- Motorsport exhaust and clamps
- Weld overlay and spacers for heat recovery systems
- Furnace muffles
- Valve seats and components

TYPICAL PROPERTIES

| PROPERTY | VALUE |
|---------------|-------------------------|
| Density | 8.442 g/cm ³ |
| Melting Point | 1287 - 1348°C |

MECHANICAL & PHYSICAL PROPERTIES

| MECHANICAL & PHYSICAL PROPERTIES | 21°C | 204 °C | 316 °C | 427 °C | 538 °C | 649 °C | 760 °C | 871 °C |
|---|-------|--------|--------|--------|--------|--------|--------|--------|
| Ultimate Tensile Strength /Mpa | 992.9 | 923.9 | 910.1 | 910.1 | 896.3 | 820.5 | 537.8 | 275.8 |
| 0.2% Yield Strength /MPa | 579.2 | 455.1 | 434.4 | 420.6 | 420.6 | 413.7 | 406.8 | 268.9 |
| Elongation /% | 44 | 45 | 42.5 | 45 | 48 | 34 | 59 | 117 |
| Coefficient of Thermal Expansion µm/m°C | - | 13.1 | 13.3 | 13.7 | 14 | 14.8 | 15.3 | 15.8 |
| Thermal Conductivity /kcal/(hr.m.°C) | 8.5 | 10.7 | 12.2 | 13.5 | 15 | 16.4 | 17.9 | 19.6 |
| Modulus of Elasticity/ MPa | 2.07 | 1.93 | 1.93 | 1.86 | 1.79 | 1.65 | 1.59 | - |

TYPICAL RUPTURE STRENGTH, BAR

| TEMPERATURE, °C | 649°C | 704°C | 760°C |
|------------------|-------|-------|-------|
| 100 Hours, ksi | 59 | 34 | 18 |
| 1,000 Hours, ksi | 43 | 23 | 12 |

SPECIFICATIONS

- UNS Number: N06625
- W.Nr.Number: 2.4856
- Standards: ASTM B443, B444, B446, B704, B705, B366, B751, B775, B829, AMS 5599, 5666, 5837, 5879, 5869, 5581

This Data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon.

The information provided in this datasheet has been drawn from various recognised sources, including EN Standards, recognised industry references (printed & online) and manufacturers' data. No guarantee is given that the information is from the latest issue of those sources or about the accuracy of those sources.

Material supplied by the Company may vary significantly from this data, but will conform to all relevant and applicable standards. As the products detailed may be used for a wide variety of purposes and as the Company has no control over their use; the Company specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and/or fitness for any particular purpose, whether expressed or implied.

Advice given by the Company to any third party is given for that party's assistance only and without liability on the part of the Company. All transactions are subject to the Company's current Conditions of Sale. The extent of the Company's liabilities to any customer is clearly set out in those Conditions; a copy of which is available on request.