

GASKETS AND SEALING SYSTEMS

NICKEL ALLOYS FOR CRITICAL APPLICATIONS



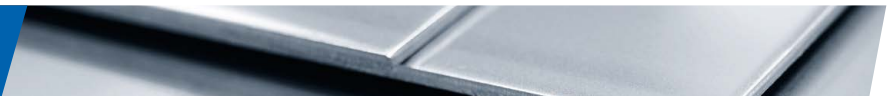
Corrosion damage to flanges and gaskets causes problems in many industries. For critical applications and severe environments high performance gaskets are essential. Materials with high corrosion resistance are required where temperatures, aggressive species, pressure and flow rates are beyond the capability of traditional gasket materials.

Nickel alloys also find application in metal-to-glass sealing systems. KOVAR/NILO K alloys have a thermal expansion coefficient that matches that of borosilicate glasses and alumina ceramics making them ideally suited for this application.

In addition we offer electrodeposited nickel foil in thicknesses from 6 - 150 microns for a range of applications including gaskets. The foil is made from high purity nickel (99.97%) and is electrodeposited as opposed to rolled by conventional techniques meaning that a thinner foil can be produced and in greater widths.

Gaskets are commonly produced by cutting from sheet materials and BIBUS METALS stocks a wide range of sheet product to support the gasket manufacturing industry. Below we review just a few of the key grades. For more information please contact us via info@bibusmetals.com

ALLOY PROPERTIES



	Composition (%)	Key attributes
Alloy 400 N04400 2.4360	65Ni – 32Cu – 1.6Fe – 1.1Mn	Excellent resistance to corrosion in a range of media. The alloy also exhibits very low corrosion rates in flowing sea water and resists localised corrosion in most fresh and industrial waters.
Alloy 600 N06600 2.4816	76Ni – 15Cr – 8Fe	The high nickel content imparts good resistance under reducing conditions and to alkalis such as caustic solutions. It resists chloride ion stress corrosion cracking and corrosion by high purity water.
Alloy 625 N06625 2.4856	61Ni – 21.5Cr – 9Mo – 3.6Nb – 2.5Fe	The combination of nickel, chromium and molybdenum gives resistance to a wide range of severely corrosive environments and is especially resistant to pitting and crevice corrosion.
Alloy 718 N07718 2.4668	54Ni – 18Cr – 18.5Co – 3Mo – 5Nb	Excellent corrosion resistance in a wide range of conditions. Good resistance in many inorganic and organic compounds (except strongly oxidising) and the addition of molybdenum contributes to pitting resistance in many media.
Alloy 825 N08825 2.4858	42Ni – 28Fe – 21Cr – 3Mo – 2Cu – 1Ti	A Ni-Fe-Cr alloy with additions of molybdenum and copper developed for use in aggressively corrosive environments. Resists chloride ion SCC, pitting and intergranular corrosion.
Alloy C-276 N10276 2.4819	57Ni – 16Mo – 16Cr – 5Fe – 4W	Ni-Cr-Mo alloy with the addition of tungsten for enhanced corrosion resistance in a range of very corrosive environments and excellent localised corrosion resistance.
KOVAR K94610 1.3981	29Ni – 53Fe – 17Co	Controlled expansion alloy containing 29% nickel. Its coefficient of expansion matches that of borosilicate glass and is used for glass-to-metal sealing systems.
Nickel foil	99.97 Ni	Electrodeposited high purity nickel foil with excellent corrosion resistance to various reducing chemicals and caustic alkalis.

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