RIGHTON BLACKBURNS
METALS AND PLASTICS

EXPERTISE COLLABORATION INTEGRITY

Nickel Alloys | Alloy 825

Datasheet Updated
05 August 2021

SPECIFICATIONS

Commercial	Alloy 825

High performance nickel-iron-chromium alloy with excellent corrosion resistance.

CHEMICAL COMPOSITION

Alloy 800

Element	% Present
Carbon (C)	0.00 - 0.05
Chromium (Cr)	19.00 - 23.00
Manganese (Mn)	0.00 - 1.00
Silicon (Si)	0.00 - 0.50
Sulphur (S)	0.00 - 0.03
Nickel (Ni)	38.00 - 46.00
Copper (Cu)	1.50 - 3.00
Hydrogen (H)	0.00 - 22.00
Molybdenum (Mo)	2.50 - 3.50
Iron (Fe)	Balance

ALLOY DESIGNATIONS

- BS 3076 NA16
- 2.4858
- ASTM B425
- UNS N08825

SUPPLIED FORMS

- Bar
- Forgings
- Pipe
- Tube
- Sheet
- Rod
- Plate

APPLICATIONS

- Chemical processing: Phosphoric acid evaporators, pickling-tank heaters, pickling hooks and equipment, and chemical process equipment
- Power generation: Components for spent nuclear fuel element recovery
- Tank trucks
- Propeller shafts

CHARACTERISTICS

- Excellent corrosion resistance in a range of media
- High resistance to oxidation
- Good ductility and workability
- Resistant to chloride-ion stress corrosion cracking
- Good mechanical properties from cryogenic to moderatley high temperatures
- Approval for pressure vessels with operating temperatures up to 425 ° C

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MECHANICAL PROPERTIES

Typical

Property	Value
Elongation A50 mm	30 %
Tensile Strength	517 N/mm^2
0.2% Proof Stress	207 N/mm^2
Proof Stress	241 MPa
Tensile Strength	586 MPa