



Alloy 825 / 2.4858

Alloy 825 is a titanium-stabilized, fully austenitic nickel-iron-chromium alloy with additions of copper and molybdenum. Alloy 825 is characterized by:

- Approval for pressure vessels with operating temperatures up to 425 °C
- good resistance to stress corrosion cracking
- good resistance to oxidizing and non-oxidizing hot acids
- good mechanical properties at both room and elevated temperatures up to 550 °C
- satisfactory resistance to pitting and crevice corrosion

Gehe zu



Material Data Sheet

| | |
|----------------------|---------------|
| Material Designation | 2.4858 |
| Alloy | Alloy 825 |
| EN Material Symbol | NiCr21Mo |
| UNS | N 08825 |
| VdTUV Datasheet | 432/1 |
| ISO | NiFe30Cr21Mo3 |

Main fields of application of alloy 825

Typical examples for the use of 825 are as follows:

- chemical plants
- Air-cooled heat exchangers in LNG process (LPG)
- Heat exchangers, evaporators, scrubbers, fork tubes, in the phosphoric acid production
- Components in sulfuric acid pickling lines, such as heating coils, tanks, boilers, baskets and chains
- Fuel element for a variety of media, such as dissolver sulfuric and nitric acid, sodium hydroxide, etc., which are used in the recycling process
- Food preparation
- seawater-cooled heat exchangers, offshore pipelines, pipes and parts in natural gas operation

Chemical composition of alloy 825

| C | Si | Mn | P | S | Cr | Mo |
|-------|-----|-----|------|-------|-----------|---------|
| % | ≤ % | ≤ % | ≤ % | ≤ % | % | % |
| 0.025 | 0.5 | 1.0 | 0.02 | 0.015 | 19.5-23.5 | 2.5-3.5 |

| Ni | Al | Co | Cu | Fe | Ti | B |
|-----------|-----|-----|---------|------|---------|---------|
| % | % | ≤ % | ≤ % | % | % | ≤ % |
| 38.0-46.0 | 0.2 | 1.0 | 1.5-3.0 | rest | 0.6-1.2 | 0-0.006 |

Characteristics of alloy 825

| | |
|----------------------------------|--|
| Temperature Range | up to 550°C |
| Density | 8.1 g/cm ³ |
| Melting Range | 1370°C – 1400°C |
| Elongation at break of Alloy 825 | 30 % |
| ISO-V notch impact toughness | ≥ 150 J/cm ² at room temperature, lengthwise (only bars and forgings) |
| | ≥ 100 J/cm ² at room temperature, across |

Filler metal (for welding with alloy 825)

Alloy 825 can be welded by all conventional methods.

The following welding is recommended:

WIG/MIG2.4831
SG- NiCr21Mo9NbFilter Rod2.4621
EL- NiCr20Mo9Nb

Delivery program

Sheets / Plates mm

2 - 15

Precision strip mm

0.2

With short delivery time:

plates or sheets, tubes, flanges, forged or die-cut rings and round blanks, elbows, T-fittings, reductions, screws, nuts or washers according to your request. According to your individual wishes, we are able to cut our material with our plasma- or water jet cutter. Our material is stocked in superformats of 2000x6000mm. Cut to size on request.

Material Outlet by Hempel

ECONOXX.com offers buyers a new and uncomplicated procurement channel, which also includes small quantities and materials in special alloys at favourable conditions.

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Weight Calculator