# Hastelloy G-35

Hastelloy G-35 is a nickel-chromium- molybdenum alloy with tungsten and molybdenum. It is characterized by:

- highly resistant to "wet process" phosphoric acid
- moderately resistant to chloride-induced localized attack
- less susceptible to chloride-induced stress corrosion cracking

**Chemical Composition, %**

| element | Ni | Cr | Mo | Fe | Co | W | Cu | V | C | Mn | Si | P | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| min. | 余 | 32.25 | 7.60 | | | | | | | | | | |
| max. | | 34.25 | 9.00 | 2.0 | 1.00 | 0.60 | 0.3 | 0.20 | 0.05 | 0.5 | 0.6 | 0.030 | 0.015 |

*Chemical Composition according to ASTM. Some compositional limits of other specifications may vary slightly.*

**Designation and standards**

| National Standards | Material designation | Chemical composition | Forgings | Rod and bar | Plate and sheet | Strip | Seamless tube |
|---|---|---|---|---|---|---|---|
| ASTM<br>ASME | UNS N06035 | | B564<br>SB564<br>B462<br>SB462<br>B366<br>SB366 | B574<br>SB574<br>B472<br>SB472 | B575<br>SB575 | | B622<br>SB622 |
| DIN | 2.4643<br>NiCr33Mo8 | | | | | | |

**Density** 8.22g/cm$^3$

**Corrosion resistance**

- highly resistant to "wet process" phosphoric acid, far superior to Hastelloy G-30
- extremely resistant to other oxidizing acids, such as nitric, and mixtures containing nitric acid
- moderate resistance to reducing acids, such as hydrochloric and sulfuric
- good resistant to "caustic dealloying" in hot sodium hydroxide

**Applications**

Hastelloy G-35 finds wide application in chemical and petrochemical industry, due to its corrosion resistance in phosphoric acid.

Typical applications are:

- Wet-process phosphoric acid evaporators
- Pickling in nitric and hydrofluoric acids
- Chemical process industry systems involving nitric and chlorides
- Caustic neutralizing systems
- Systems requiring resistance to high temperature corrosion at 425-650℃

**You could send email to sales@huishih.com for more information.**