

Technical Data Sheet
Nickel-based Alloy

Inconel™ 686

Chemical Composition

Element	Nominal Analysis
Chromium	21.00 %
Molybdenum	16.00 %
Tungsten	3.70 %
Nickel	Balance

Coating Hardness (Laser-Sprayed): **18 – 25 HRC****Description:**

- A nickel-based alloy suitable for laser cladding, offering excellent corrosion resistance—particularly against chlorine-induced corrosion processes, such as those encountered in boiler systems.
- IN686 coatings applied via laser cladding exhibit outstanding resistance to pitting, stress corrosion cracking, and crevice corrosion. Additionally, the alloy resists both reducing and oxidizing acids, as well as mixed acid solutions. Notably, it demonstrates good resistance to chloride levels exceeding 100,000 ppm.

Suggested Applications:

- In power plants, this material is commonly used for heat exchange surfaces exposed to flue gas and susceptible to chlorine-induced corrosion, thanks to its material-specific high-temperature strength up to approximately 500°C.
- Due to its seawater resistance, the alloy is also suitable for offshore applications and seawater installations.

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