HONGCHEN METAL
INDUSTRIAL METAL MATERIALS

PRODUCT DATA SHEET
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PRODUCT SPECIFICATIONS · COIL

# Monel 404 Coil

Chemical composition, mechanical properties and material characteristics

### Features

- Monel 404 is a copper-nickel alloy supplied in corrosion-resistant product forms for marine, chemical-processing, and oil-and-gas equipment.
- The alloy is noted for resistance to seawater and selected reducing acids, with availability as plate, coil, pipe, and bar.

### Typical Applications

- Used for chemical process equipment, coastal and marine atmospheres, food / pharmaceutical contact surfaces, heat exchangers, tanks and piping. Grade choice should follow the actual medium, chloride level, temperature and whether welded components remain in corrosive service.

## Product Parameters

| | |
|---|---|
| Product Name | 404 Coil |
| Type | Corrosion-Resistant Alloy / Stainless Steel |
| Standard | UNS N04404 |
| Surface | BA, 2B, No.1, No.4, HL, 8K / polished, pickled or passivated as required. |
| Delivery Condition | Annealed / solution annealed; other tempers available by agreement. |
| Scope of Application | Used for chemical process equipment, coastal and marine atmospheres, food / pharmaceutical contact surfaces, heat exchangers, tanks and piping. Grade choice should follow the actual medium, chloride level, temperature and whether welded components remain in corrosive service. |
| Certificate | ISO / SGS / BV and EN 10204 3.1 MTC available; third-party inspection and PMI can be arranged per purchase order. |
| Production Technology | Hot rolling or cold rolling / drawing according to product form; solution treatment and pickling / passivation applied where corrosion performance or surface quality require it. Slitting, cut-to-length and recoiling available to ordered width and length. |
| Edge Processing | Mill or slit edge; trimmed edge available. Coil ID / OD and packing method confirmed with the order. |
| Thickness | 0.3-6.0 mm |
| Width | 600-1500 mm |

## Chemical Composition

| Ni | Cu | Fe | Mn | C | Si |
|---|---|---|---|---|---|
| 52-57 | Bal | ≤0.50 | ≤0.10 | ≤0.15 | ≤0.10 |

## Mechanical Properties

| Tensile (MPa) | Yield (MPa) | Elongation (%) |
|---|---|---|
| ≥400 | ≥110 | ≥30 |

## Physical Performance

| Density | Permeability | Modulus |
|---|---|---|
| 8.84 g/cm³ | low | ~170 GPa |

*Reference: Monel 404 / UNS N04404 datasheet*

## Related Properties

| | |
|---|---|
| **Corrosion Resistance** | Provides practical corrosion resistance in atmospheric exposure, fresh water, food-contact environments and many mild chemical media. Resistance drops when chlorides, reducing acids or high-temperature concentrated solutions become dominant—match the grade to the real medium, temperature and oxygen level. |
| **Formability** | Most austenitic corrosion grades form well by bending, rolling, deep drawing and stamping when tooling radii, lubrication and springback are set for the thickness and temper. Work hardening raises strength during cold work; intermediate anneal may be needed for severe multi-stage forming. |
| **Weldability** | Generally weldable with common fusion processes. For as-welded corrosive service, prefer low-carbon (L) or stabilized grades, control heat input, and specify filler that preserves corrosion resistance in the weld metal and HAZ. Post-weld cleaning and passivation improve finished performance. |
| **Surface & Cleanliness** | Final corrosion behavior is strongly affected by surface finish, free iron contamination and weld discoloration. Pickling, passivation or electropolishing after fabrication is often as important as grade selection for sanitary, marine and chemical equipment. |
| **Selection Notes** | Use molybdenum-bearing or higher-alloy variants when pitting, crevice attack or stronger chemical media are expected. Confirm product form (plate, tube, bar, wire) and heat-treatment condition against the project specification before ordering. |

**Material guidance for your next project**

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