

Electrodeposited Nickel Foil- Datasheet

Table 1
Typical chemical composition %

| | | |
|----------|-------|-----|
| Nickel | 99.97 | min |
| Carbon | 0.005 | max |
| Chromium | 0.005 | max |
| Cobalt | 0.005 | max |
| Copper | 0.005 | max |
| Iron | 0.005 | max |
| Sulphur | 0.002 | max |
| Zinc | 0.001 | max |

Table 2
Physical properties

| | |
|--|---------------------------|
| Density | 8.908 g/cm ³ |
| Electrical resistivity (at 20°C) | 8 μΩ•cm |
| Thermal conductivity | 70 W/m•°K |
| Specific heat capacity | 456 J/kg•°K |
| Melting Range | 1435-1446°C |
| Thermal expansion coefficient (20-100°C) | 13.3x10 ⁻⁶ /°K |
| Magnetic permeability (Initial) | 110 H/m |
| (Maximum) | 600 H/m |

Table 3 – Typical Mechanical Properties

| | As electro-deposited | | | |
|--------------------------|----------------------|-----|-----|-----|
| Foil Thickness, | micron | 6 | 20 | 50 |
| Tensile Strength, | Mpa | 790 | 720 | 640 |
| Elongation on 50mm, | % | 0.5 | 1 | 6 |
| Hardness, HV (200g load) | | - | - | 185 |
| | Fully annealed | | | |
| Foil Thickness, | micron | 6 | 20 | 50 |
| Tensile Strength, | MPa (ksi) | 300 | 290 | 320 |
| Elongation on 50mm, | % | 5 | 9 | 20 |
| Hardness, HV (200g load) | | - | - | 75 |

Table 4 – Typical Surface Roughness

| | | |
|--------------------|-------------|----|
| Standard foil | 0.1-0.4μm | Ra |
| Mirror finish foil | 0.01-0.02μm | Ra |