

Titanium Grade 11

UNS R52250

W.Nr 3.7225

Titanium Grade 11 has physical and mechanical properties similar to Grade 1. Due to the addition of palladium, it has enhanced corrosion resistance in crevices and reducing acid chloride environments. It has good ductility and cold formability, along with high impact toughness and excellent weldability.

Industries supplied include: chemical processing, chlorate manufacturing, desalination, and marine applications.

Nominal Composition

| | Fe | O | C | N | H | Pd | Ti |
|-----|------|------|------|------|--------|------|---------|
| max | 0.20 | 0.18 | 0.08 | 0.03 | 0.0150 | 0.25 | Balance |

Physical Properties

| | At 70°F | At 20°C |
|---------------------------|---------------------------------------|------------------------|
| Density | 0.163 lb/in ³ | 4.51 g/cm ³ |
| Modulus of Elasticity (E) | 16.3 x 10 ³ ksi | 112 GPa |
| Modulus of Rigidity (G) | 5.9 x 10 ³ ksi | 41 GPa |
| Coefficient of Expansion | 5.4 microinches/in.-°F (70-932°F) | 9.7 µm/m-°C (20-500°C) |
| Electrical Resistivity | 21 µ ohm.in | 53.3 µ ohm.cm |
| Thermal Conductivity | 12.60 Btu-in./ft. ² hr.-°F | 21.79 W/m-K |

Applicable Specifications

| | |
|----------------|-----------|
| Strip and Foil | ASTM B265 |
|----------------|-----------|

Typical Mechanical Properties – Spring Applications

| Condition | Heat Treatment | Tensile Strength | Suggested Operating Conditions |
|-----------|----------------|--|------------------------------------|
| Annealed | 1290°F | 35 ksi (240 MPa) min 50 ksi (345 MPa) typ | -300°F to 1000°F (-184°C to 540°C) |

Elgiloy Specialty Metals - Strip
Products

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