

INV 127 STRIP

DATASHEET

Inv 127 is a nickel-iron alloy (NiFe alloy) for use at temperatures up to 600°C (1110°F). The alloy has a moderate constant thermal expansion factor up to 300°C (570°F).

Typical applications for Inv 127 are in high-temperature thermostats and thermostatic bimetal.

CHEMICAL COMPOSITION

| | Ni % | Fe % |
|---------------------|------|------|
| Nominal composition | 41.0 | Bal. |

MECHANICAL PROPERTIES

| Yield strength | Tensile strength | Elongation | Hardness |
|-------------------|------------------|------------|----------|
| R _{p0.2} | R _m | A | |
| MPa | MPa | % | Hv |
| 270 | 460 | 30 | 125 |

PHYSICAL PROPERTIES

| | |
|---|------|
| Density g/cm ³ | 8.12 |
| Electrical resistivity at 20°C Ω mm ² /m | 0.71 |

COEFFICIENT OF THERMAL EXPANSION

| Temperature °C | Thermal Expansion X10 ⁻⁶ /K |
|----------------|--|
| 30-130 | 3.8 |

THERMAL CONDUCTIVITY

| | |
|-----------------------------------|------|
| Temperature °C | 100 |
| W m ⁻¹ K ⁻¹ | 12.5 |

SPECIFIC HEAT CAPACITY

| | |
|-------------------------------------|------|
| Temperature °C | 20 |
| kJ kg ⁻¹ K ⁻¹ | 0.50 |

| | |
|---------------------|---|
| Melting point °C | 1425 |
| Magnetic properties | The material is magnetic up to approximately 530°C (the Curie point). |

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