

INV 115 STRIP

DATASHEET

Inv 115 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 115 are in high-temperature thermostats and thermostatic bimetals.

CHEMICAL COMPOSITION (NOMINAL)

CHEMICAL COMPOSITION (NOMINAL) %

| |
|-------------|
| Ni |
| 43 |
| Balance Fe. |

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 | 8.14 |
| Electrical resistivity at 20°C, Ω mm ² /m ⁻¹ | ≤0.67 |

COEFFICIENT OF THERMAL EXPANSION

| Temperature °C | Thermal Expansion X10 ⁻⁶ /K |
|----------------|--|
| 30-130 | 6.05 |

THERMAL CONDUCTIVITY

| Temperature °C | |
|-----------------------------------|-----|
| | 100 |
| W m ⁻¹ K ⁻¹ | 15 |

SPECIFIC HEAT CAPACITY

| | |
|-------------------------------------|---|
| Temperature °C | 20 |
| <hr/> | <hr/> |
| <hr/> | <hr/> |
| kJ kg ⁻¹ K ⁻¹ | 0.50 |
| <hr/> | <hr/> |
| Melting point °C | 1425 |
| <hr/> | <hr/> |
| Magnetic properties | The material is magnetic up to approximately 530°C (the Curie point). |
| <hr/> | <hr/> |

Disclaimer: Recommendations are for guidance only, and the suitability of a material for a specific application can be confirmed only when we know the actual service conditions. Continuous development may necessitate changes in technical data without notice. This datasheet is only valid for materials under the trademark Kanthal®.