

# Shape-Memory Alloy Magnetic Shape Memory Alloy Bar (Ni50/Mn28/Ga22 (Atomic %))

**Grade:** Shape-Memory Alloy  
**Formula:** Ni50/Mn28/Ga22 (Atomic %)  
**Side Length:** 1mm  
**Side Length (Of Longer Side):** 2.5mm  
**Length:** 20mm  
**UOM Code:** 606-453-59  
**SKU:** 1000126024-group  
**Product Code:** MA04-BR-000110

## Material Properties for Alloys

### Magnetic Properties

Element	Value
Initial permeability	2
Maximum permeability	45
Coercivity (Hc)( A m <sup>-1</sup> )	4000
Curie temperature( C )	95-105
Remanence from saturation (Brem)( T )	0.02
Saturation flux density( T )	0.6

### Electrical Properties

Element	Value
Electrical resistivity( $\mu$ Ohmcm )	70
Temperature coefficient( K <sup>-1</sup> )	0.003

### Thermal Properties

Element	Value
Crystallisation temperature( C )	1090
Maximum use temperature in air( C )	45
Melting point( C )	1130
Temperature - Austenitic( C )	50

<b>Element</b>	<b>Value</b>
Temperature - Martensitic( C )	45
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	16
Coefficient of thermal expansion( x10 <sup>-6</sup> K <sup>-1</sup> )	20

## **Physical Properties**

<b>Element</b>	<b>Value</b>
Density( gcm <sup>-3</sup> )	8

## **Mechanical Properties**

<b>Element</b>	<b>Value</b>
Modulus of elasticity( GPa )	Aug-20
Hardness - Vickers( kgf mm <sup>-2</sup> )	130