

## Injection Moulded Material Properties and Application Data

<b>Material:</b>	Fe-Ni-Co, expansion controlled alloy	
<b>Klasse:</b>	<b>Kovar</b>	
<b>Nominelle Zusammensetzung in %:</b>	Ni	29
	Co	17
	C	0.01 max.
	Fe	Rest

Typical properties	as sintered	hipped
Density (g/cm <sup>3</sup> )	8.0	8.35
Hardness, HV1	ca. 160	ca. 150
Elastic Modulus (GPa)	159	159
Elongation (%)	30	30
Tensile strength (MPa, N/mm <sup>2</sup> )	270	270
Surface roughness	R <sub>a</sub> < 3.2	R <sub>a</sub> < 3.2
Thermal conductivity, W/Km	17	
Curietemperatur, °C	435	
Specific electric resistance, Ωmm <sup>2</sup> /m	0.49	
Specific heat, cal/gK	0.11	
Coefficient of thermal expansion	25 – 200 °C	5.2 · 10 <sup>-6</sup> /K
	25 – 300 °C	5.1 · 10 <sup>-6</sup> /K
	25 – 400 °C	4.9 · 10 <sup>-6</sup> /K
	25 – 450 °C	5.3 · 10 <sup>-6</sup> /K
	25 – 500 °C	6.2 · 10 <sup>-6</sup> /K

### Uses, remarks:

Kovar is a material which is applied for electronic packaging or in combination with ceramic materials. Applications are micro wave tubes, transistors, Diodes integrated circuits etc.