High Resistivity High Flex Bimetallic Alloy 5J20110

Standard

DIN 1715：TB20110
ASTM B388：TM2 （EMS:P675R）
JIS C2530：TM1.200R110 (HITACHI: BR-1)
GB/T4461：5J20110

Production Description

Remarks	Number of layers 2 * Most active material available * Due to high manganese content of high expansion alloy, this material susceptible to stress corrosion. * Prolonged exposure to high humidity, moisture, and saline solutions should be avoided

Chemical Composition (%)

	Grade	Chemistry
High Expansion Alloy (53%)	Alloy P	Mn:72%; Cu:18%; Ni:10%
Low Expansion Alloy (47%)	Alloy 10	Ni:36%; Fe:Bal

Physical Properties

Density (g/cm ^{3})	7.76	
Modulus of elasticity (KN/mm ^{2})	140	

*value for the lowest temper class

Thermostatic Properties

Flexivity(Specific Curvature)	39.0±4%	x 10^{-6} (mm/mm)/ ℃
Max. Sensitivity Temperature Range	-20 to 200	℃
Useful Deflection Temperature Range	-70 to 250	℃
Max. Recommended Temperature	350	℃
Electrical Resistivity at 25℃	1.12	μ Ω.m

Applications

It is mainly used for automatic control devices such as temperature control, action and temperature compensation, current limitation, temperature indication, etc., and heat-sensitive elements in instruments and meters.

Merit

Thermal bimetal is a composite material that is firmly bonded by two or more layers of alloys with different linear expansion coefficients. The alloy layer with a larger expansion coefficient is called the active layer, and the alloy layer with a smaller expansion coefficient is called the passive layer. An intermediate layer can be added between the active layer and the passive layer to adjust the resistance. When the ambient temperature changes,Due to the different expansion coefficients of the active layer and the passive layer, bending or rotation occurs.

Tolerance of thickness

Thickness (mm)	Standar Tolerance (mm)	Specail Tolerance (mm)
0.050≤t≤0.150	±0.008	±0.003
0.150＜t≤0.250	±0.010	±0.005
0.250＜t≤0.400	±0.015	±0.010
0.400＜t≤0.600	±0.020	±0.015
0.600＜t≤1.000	±0.025	±0.020
1.000＜t≤1.500	±0.030	±0.025
2.000＜t≤3.300	±0.050	±0.040

Physical properties of the above materials are conventional performance indicators.If you have some special requirements,(for example property and tolerance).Pls contact Kinmachi Company directly,we will give you professional assessments and answers.

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