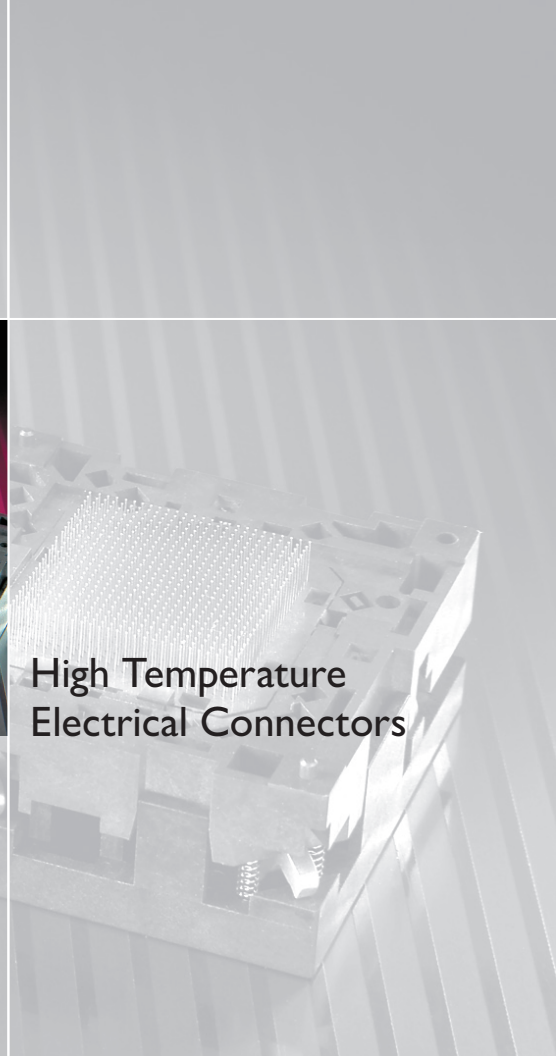
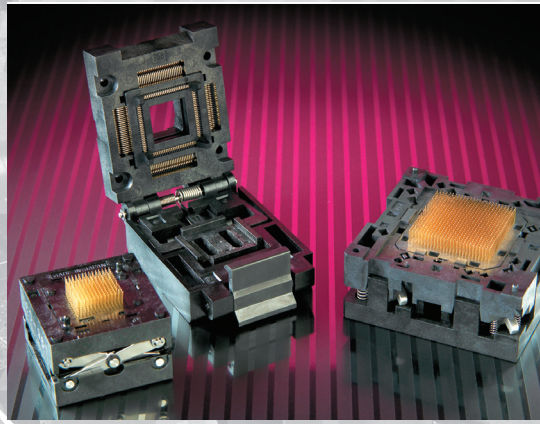
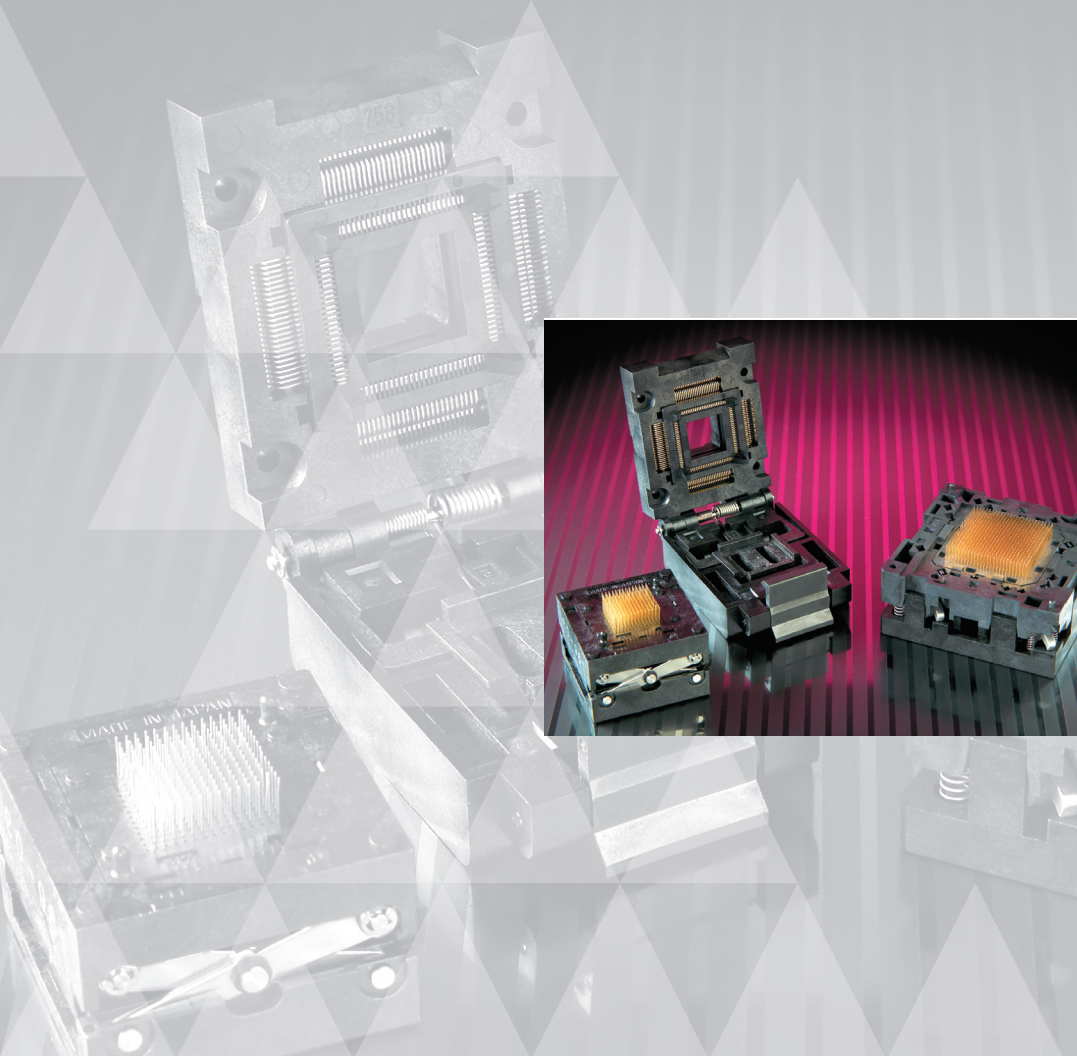




**MATERION**



**High Temperature  
Electrical Connectors**

**BRUSH  
PERFORMANCE  
ALLOYS**



**Materion Brush Performance Alloys** is one of the world's leading suppliers of high performance alloys for a wide range of markets, including connectors. From product design and development to innovative manufacturing practices, our engineers and technical staff will work with you to provide the best solution for your connector application.

## High Temperature Electrical Connectors

Roadmaps for high power connector and many other high power devices such as burn in and test sockets indicate that power will increase making heat dissipation problems worse. The challenge is to find high performance materials that can function and are stable at these higher temperatures. In most cases, for a connector to function properly, the base metal from which the conductors are made will need to have a combination of properties such as good electrical conductivity, high strength, stress relaxation resistance and be formable.

### High Performance Copper Alloys

Copper beryllium alloys provide the combination of properties necessary for a connector to provide reliable service in very harsh environments.

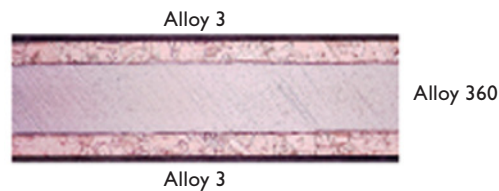
#### Alloy Attributes

- High strength
- Good electrical conductivity
- Excellent stress relaxation resistance
- High fatigue strength
- Good ductility

ALLOY	0.2% OFFSET YIELD STRENGTH KSI (MPA)	MODULUS OF ELASTICITY MPsi(GPa)	ELECTRICAL CONDUCTIVITY %IACS	1000 HR STRESS RELAXATION RESISTANCE (% STRESS REMAINING)			*FORMABILITY 90° BEND R/T	
				100C	150C	200C	LONG	TRANS
25 HT	165-205 (1130-1420)	19 (131)	22-28	95	87	55	2.0	0.7
390 HT	135-153 (930-1055)	20 (138)	44 min.	96	84	68	2.0	2.0
390 EHT	138 min. (951 min.)	20 (138)	42 min.	96	84	68	2.0	2.5
3 HT	95-120 (650-870)	20 (138)	48-60	96	85	66	1.0	1.0
360 HT	230 min.	20-30 (195-210)	6 min.	100	100	100	0.8	1.5

### Clad Metal 363

Copper beryllium can be clad to nickel beryllium to enhance stress relaxation while providing enough electrical conductivity to keep contact resistance low. For example, Alloy 3 (CuBe) can be clad to each side of Alloy 360 (NiBe) strip, in a 1:3:1 ratio. The addition of the CuBe layers increases the electrical conductivity to 20% IACS, much greater than the 4% IACS of NiBe alone, and the NiBe significantly improves the stress relaxation of CuBe.



For more information about our alloy products please visit our website:

<http://materion.com/Products/Materials/Copper%20Beryllium.aspx>

#### BRUSH PERFORMANCE ALLOYS

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