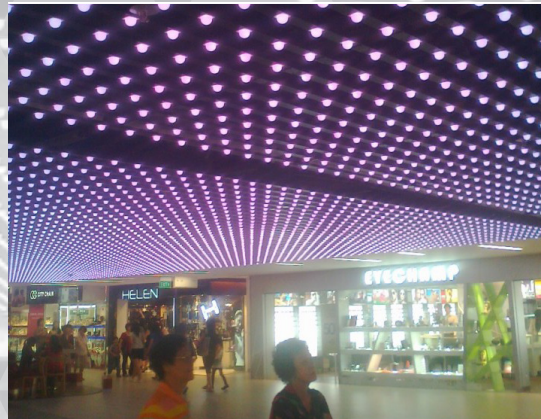




MATERION



**LED Lighting
Connectors**

**BRUSH
PERFORMANCE
ALLOYS**



Materion Brush Performance Alloys employs a diverse group of metallurgists, material technologists, and mechanical engineers to develop high performance alloys and provide global customer support.

LED Lighting

LED lighting is growing in popularity due to the more efficient energy consumption (up to 65% energy saving) when compared to fluorescent lighting. LED lighting also reduces maintenance costs. The initial cost of LED systems is higher than fluorescents systems, but has a payback in less than three years.

LED Board to Board Connectors

A popular method of connecting LED lights together in series is by using board to board connectors such as the AVX connect shown below.



AVX 9159 Board to Board 2 pc Plug/Socket System

Typically, the socket portion of the connector is made using a high performance alloy due to the reliability requires in harsh environments where temperature can range from -40°C to +125°C. The connector contacts also need to have good electrical conductivity to meet the current rating requirements.

High Performance Copper Alloys for LED Connector

Copper beryllium alloys, such as those listed below, have a long history of successfully being used in harsh environments to provide reliable interconnections.

ALLOY (UNS NUMBER)	TEMPER		0.2% OFFSET YIELD STRENGTH	ELECTRICAL CONDUCTIVITY	1000 HOUR STRESS RELAXATION RESISTANCE	
	Brush	ASTM			100 C	150 C
190 (C17200)	AM	TM00	70-95	17-28	97	61
	1/4 HM	TM01	80-110	17-28	97	69
	1/2 HM	TM02	95-125	17-28	97	66
	HM	TM04	110-135	17-28	98	74
	SHM	TM05	125-140	17-28	98	
	XHM	TM06	135-170	17-28	98	86
	XHMS	TM08	150-180	17-28	98	84
290 (C17200)	TM02	TM02	95-115	17-26	97	90
	TM03	TM03	110-125	17-26		
	TM04	TM04	115-135	17-26	98	86
	TM06	TM06	135-155	17-26	99	93
	TM08	TM08	155-175	17-26	99	
390 (C17460)	HT	TH04	135-153	44 min.		85
390 E (C17460)	EHT	TH04	138 min.	42 min.		85
3 (C17510)	AT	TF00	80-100	45-60	94	
	HT	TH04	95-120	48-60	95	85
10 (C17500)	AT	TF00	80-100	45-60	94	
	HT	TH04	95-120	48-60	95	85
174 (C17410)	1/2 HT	TH02	80-100	50 min.	94	82
	HT	TH04	100-120	45-60	95	85
Brush 60® (C17460)	3/4 HT	TH03	95-115	50 min.	96	85
	HT	TH04	105-125	50 min.	96	89

Materion Brush Performance Alloys Attributes

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

For more information about our alloy products please visit our website: <http://materion.com/CopperBeryllium>

BRUSH PERFORMANCE ALLOYS

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MATERION CORPORATION

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