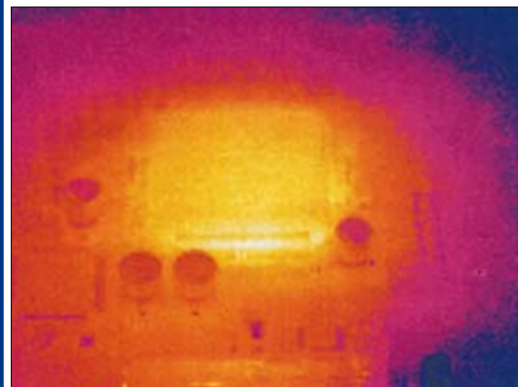
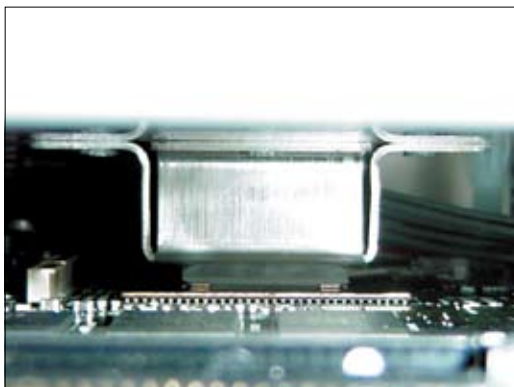
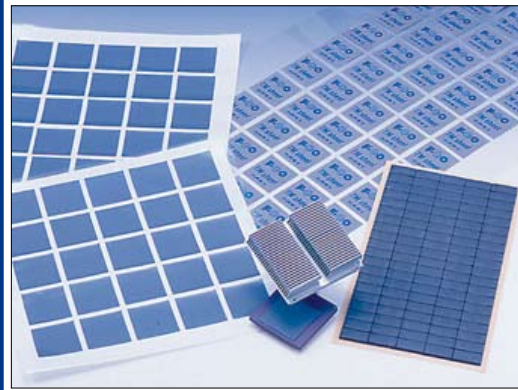
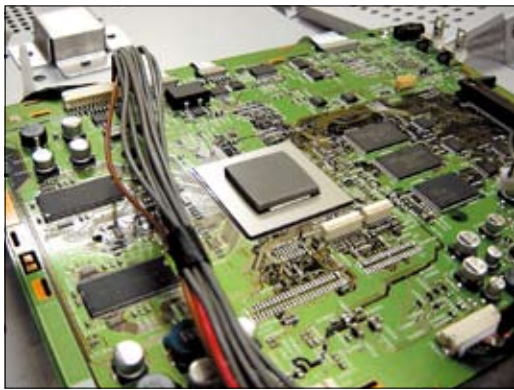


Siloxane-Free Heat-Transfer Medium

# F-co TM Sheet

No Threat of Failing Contact Integrity of  
Device & Board or Casing & Board Interface

**FREE FROM ELECTRIC CONTACT FAILURE IN ELECTRONICS**

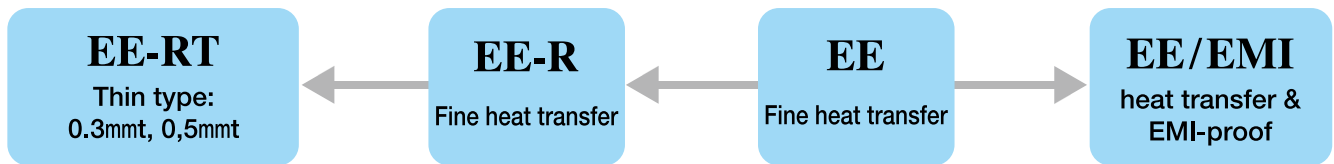


# Lineup of TM Sheets

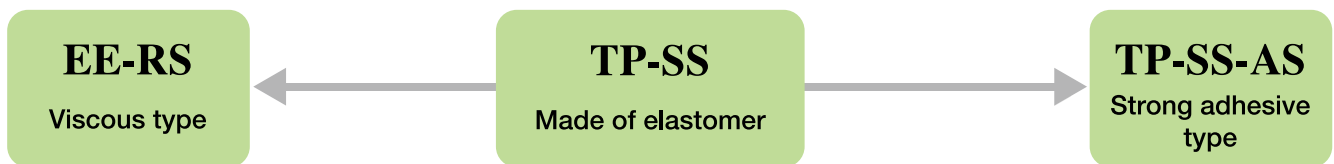
We offer purposeful variations of the TM Sheet which are designed to have enhanced electric insulation, adhesion or flexibility, along with firm heat-transfer performance.

Appearing below is a Rule of Thumb for characterizing the TM Sheet models:

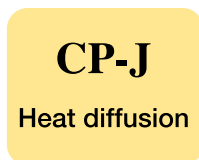
## Heat transfer



## Softness



## Thin type



## Insulation



## Product Choices and Representative Performance Characteristics

The TM Sheet is designed to display a fine and fluent heat-transfer performance or fire resistance and is made from process synthetic-rubber (acrylics, propylene, for instance) including unique fillers and equipped with solid electric insulation. Its flexibility and compatibility will create a fluent thermal interface between an electronic device and a heat sink, with a finest heat-transfer effect.

		Heat transfer				Softness			Thin type	Insulation
		Fine Heat transfer	Fine Heat transfer	Thin type	EMI	Softness	Strong adhesive	Viscous	Heat diffusion	Hardness
		EE	EE-R	EE-RT	EE/EMI	TP-SS	TP-SS-AS	EE-RS	CP-J	HF
Thickness	MIN(mm)	0.5	0.5	0.3	0.7	1	2	2	0.15	0.3
	MAX(mm)	5	5.5	0.5	2	16	16	6	—	0.5
Thermal Conductivity(W/m.K)		2.5	3	3	2.3	1.5	1.5	1.6	Heatspread15	1.3
Hardness(ASKER C)		65	60	60	60	30	35	35	—	95
Adhesion(N/25mm)		1.5	0.3	0.3	—	0.5	5	5	1.5	0.3
Volume Resistivity(Ω-cm)		8×10 <sup>9</sup>	6×10 <sup>9</sup>	10 <sup>10</sup>	10 <sup>10</sup>	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>10</sup>	1×10 <sup>9</sup>	2×10 <sup>14</sup>
Dielectric Breakdown(kV/mm)		8	10	10	—	10	10	10	1	50
Flammability(UL94)		V-0	V-0	V-0	V-0	V-0	V-0	V-0	Equal to VTM-0	V-0
Primary Resin		Acrylic Rubber	Acrylic Rubber	Acrylic Rubber	Acrylic Rubber	TPE	TPE	Acrylic Rubber	Carbon & Rubber	Polyolefin

● Thermal Conductivity : High points mean higher performance.

● Hardness : ASKER C indicate hardness. Low points mean softer performance. Silicon hardness is 30points.

● Volume resistance & Dielectric breakdown are electrical property. High points mean higher performance of insulation.

● Primary : TPE is thermo plastic Elastomer.

# TM Sheet is designed for the merits :

[ TM : Thermal Management ]

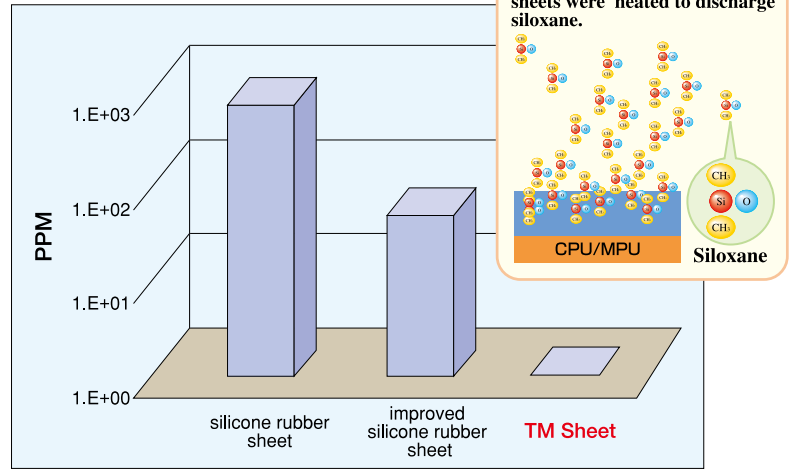
## (1) Siloxane-Free

TM Sheet, made from acrylic rubber or ethylene-propylene rubber, is equipped with a superior heat-transfer performance.

Its making free from any siloxane, will never be threatened with electric performance failure.

Notably, "TM Sheet" is patented with USP No.6,338,898.

● Representative Siloxane Contents (GC-MS)



※Measurements as a result of driving out the natural components.

## (2) RoHS Regulation

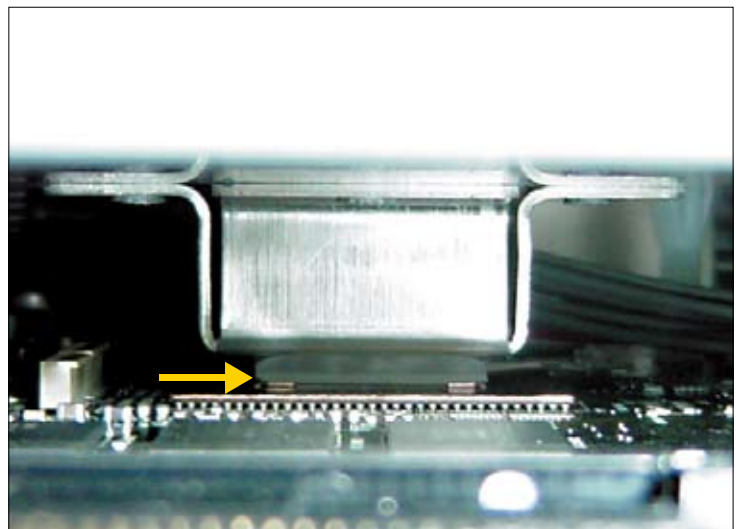
TM Sheet is free from harmful material in accordance with RoHS.

## (3) Halogen-Free Pb-Free

TM Sheet contains none of halogen, Pb (lead) and chlorofluorocarbon which make a significant impact on the environment.

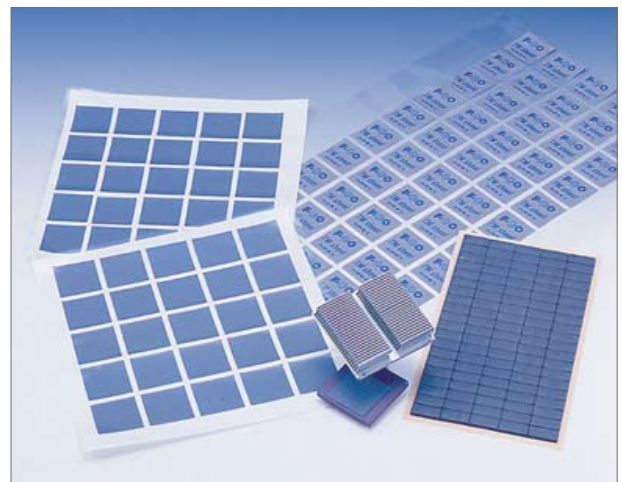
## (4) UL Certification

The TM Sheet is accredited with a UL certificate (UL File No. E210580), and its variations are ready for export as equipped in electronics or car systems.



●TM sheet

V-0	TM Sheet EE-R EE-RT
	TM Sheet EE-RS
	TM Sheet HF
	TM Sheet TP-SS TP-SS-AS
	TM Sheet EE/EMI



※Sheet patterns to be tailored to order.



## Warnings

### The TM Sheet :

- Is designed to serve as cooling accessories for general electronics, but not as chill pads for human bodies. (avoid skin contact with a piece of TM Sheet)
- Is burned out without a threat of poisonous emission, but required to be disposed of, in professional hands;

Furukawa Electric Co., Ltd. is accredited with certificates of ISO14001 and ISO9001.



**FURUKAWA ELECTRIC CO., LTD.**

**F-CO Products Division**

<http://www.furukawa.co.jp/f-co/english/products/tmsheet.htm>

1-9, Higashi-Yawata 5-Chome, Hiratsuka City, Kanagawa Prefecture, 254-0016, Japan.  
Tel: 81-463-21-4873 Fax: 81-463-21-5509

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