

High Thermal Conductive Soft Pad with Low Compression Set Property

TC-SET4-20

TC-SET4-20 is a high thermal conductive silicone soft pad with low compression set property while maintaining the flexibility of low hardness.

1 Features

- 1) High Thermal conductivity, Low thermal resistance
- 2) Excellent compressibility and stress relaxation property
- 3) Excellent workability
- 4) Low compression set compared with conventional soft pad
- 5) Low oil bleed

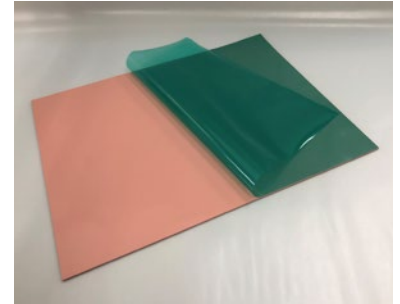
2 Applications

In-vehicle module which particularly long-term heat cycle reliability and vibration reliability are required

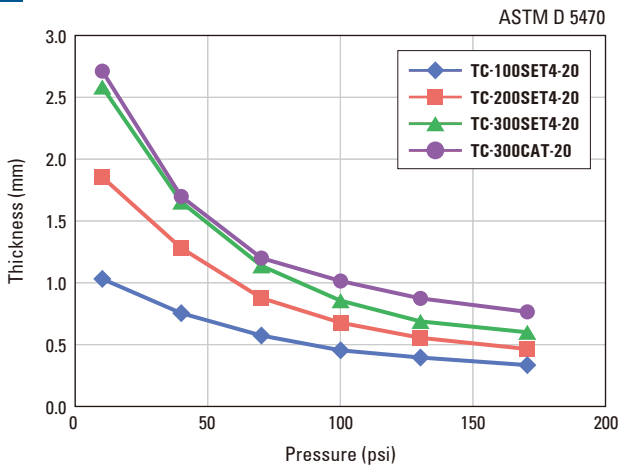
3 General properties

Parameter	Test Method	Grade	TC-SET4-20	TC-CAT-20
Features	—	—	Low compression set	Conventional
Appearance (color)	—	—	Light reddish brown	Gray
Structure	—	—	Single layer	Single layer
Density 23°C	g/cm ³	JIS K 6249	3.2	3.2
Hardness Ascer C	—	JIS K 6249	20	20
Break down voltage	kV/1mm	JIS K 6249	15	15
Thermal conductivity	W/m-K	ISO 22007-2	4.5	4.5
Flame retardancy UL94	—	—	V-0 equivalent	V-0

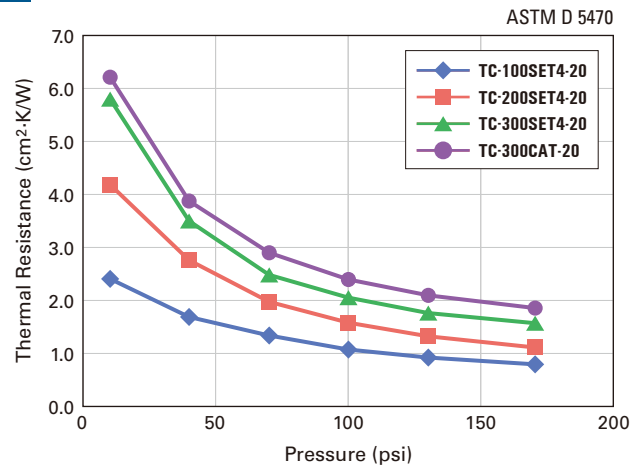
(Not specified values)



4 Pressure and Thickness



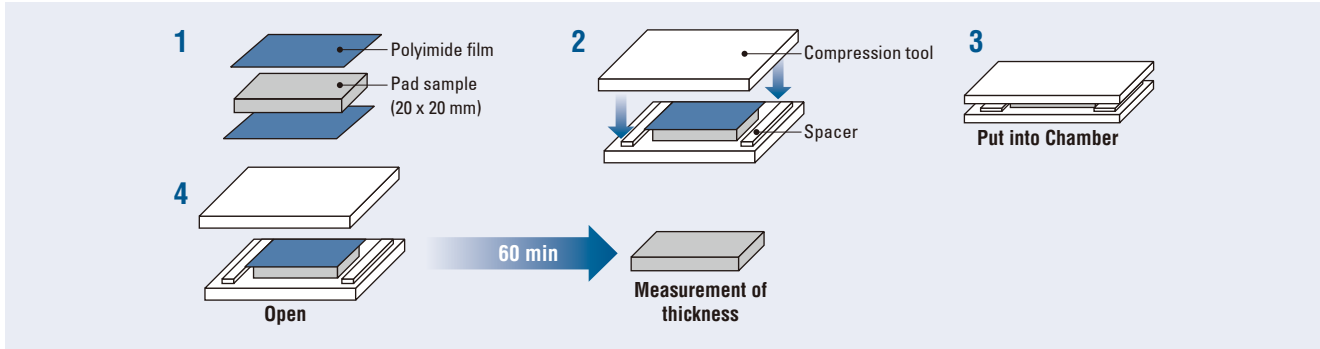
5 Pressure and Thermal Resistance



6 Compression set test

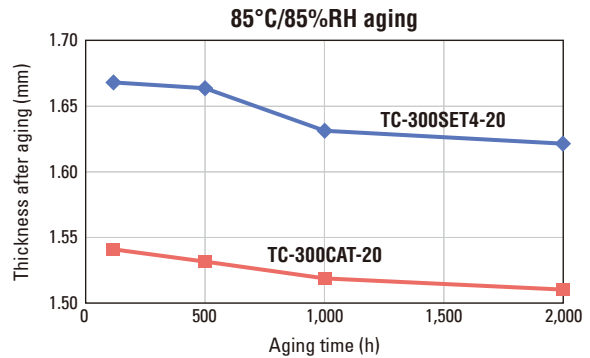
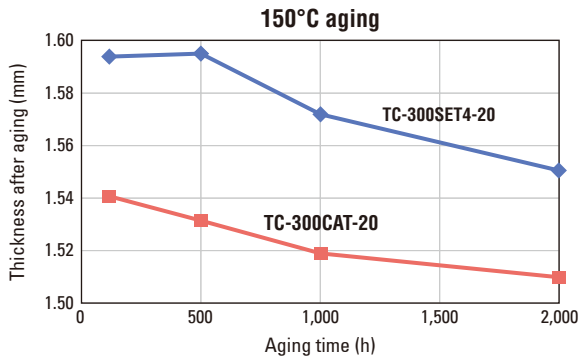
Test Method

- 1) 3 mm thickness pad was cut to 20 x 20 mm size, and sandwiched by polyimide films.
- 2) Pad sample was compressed to 50% thickness (1.5 mm) with compression tool and spacer.
- 3) Sample was put into aging chamber. After aging, sample was taken out.
- 4) Pad sample was released after it returned to room temperature, and the thickness 60 minutes later was measured.



Test Results

TC-SET4-20 shows low compression set property.



7 Handling precautions

- 1) Products should be stored in a dry place out of direct sunlight.
- 2) Avoid contact with residual solvents or oils as they may deteriorate the properties of the product.
- 3) For better results, the substrate surface should be cleaned and dried to remove any dirt, moisture or oils before application.
- 4) Prior to using the product with a thermal interface grease, test a sample with a small amount to determine compatibility.
- 5) Keep out of reach of children.
- 6) Be sure to read the Safety Data Sheets (SDS) for these products before use. SDS are available from the Shin-Etsu Silicone website.
If the SDS is not listed on the website, please contact the sales department.

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