

高復元低硬度放熱シリコンパッド

Thermal Interface Silicone Soft Pads Excellent in Low Compression Set

TC-SET Series

● 特長 Features

- 低硬度ならではの柔軟性を保持しつつ、高い復元性を有する。
- 振動耐久性に優れ、熱特性及び絶縁特性の長期信頼性が向上。
- 優れた圧縮特性を有し、低圧縮荷重下での低熱抵抗化を実現。
- Keeping the softness comes from the low hardness and the low compression set was accomplished.
- Excellent vibration durability, both long term thermal and insulation property were improved.
- Excellent compressibility and low thermal resistance under low pressure was achieved.

● 用途 Applications

- 電気自動車、ハイブリッド自動車、電源(自動車・電子機器)などの熱対策
- Heat dissipation for EV, HV, Power Supplies (for automobile, electronic equipment).

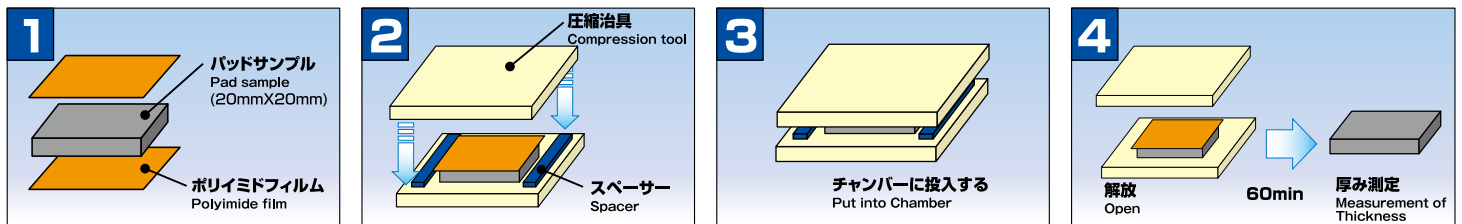
● 一般特性 General Properties

| 項目 Parameter | 製品名 Grade | TC-SET2-PC10 | TC-SET3-PC15 | TC-SET4-PC20 |
|-------------------------------------|-------------------|-----------------|---------------------------|--------------------------|
| 外観 Appearance | | 暗灰色 Dark Gray | 淡赤紫色 Light Reddish Purple | 淡赤褐色 Light Reddish Brown |
| 構造 Structure | | 単層 Single Layer | 単層 Single Layer | 単層 Single Layer |
| 熱伝導率 Thermal Conductivity | W/m-K | 2 | 3 | 4.5 |
| 硬さ Hardness アスカ-C Asker C | | 10 | 15 | 20 |
| 密度 Density at 23°C | g/cm ³ | 2.8 | 3.1 | 3.2 |
| 絶縁破壊電圧 Dielectric Breakdown Voltage | kV/mm | 15 | 15 | 15 |
| 使用温度範囲 Temperature Range | °C | -40~180 | -40~180 | -40~180 |

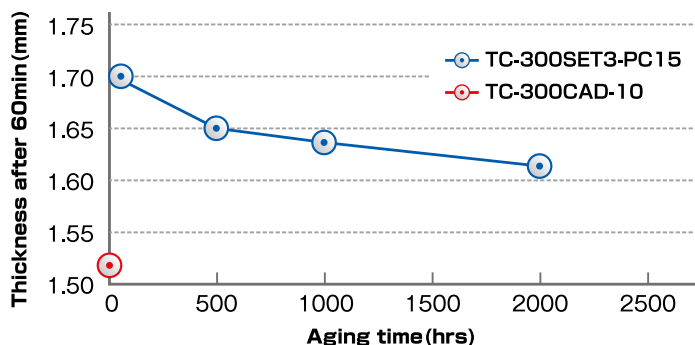
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● 圧縮永久歪試験 測定方法 Compression Set Test Method

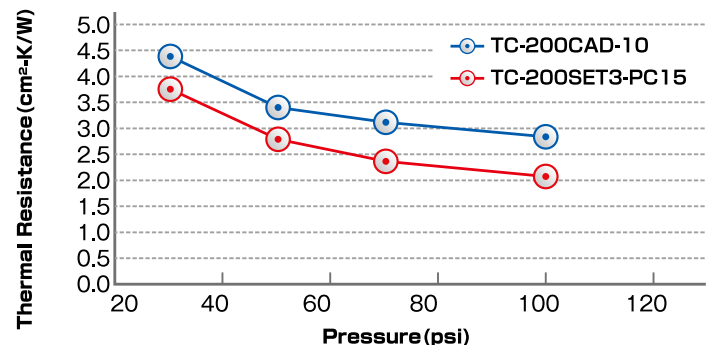
- ① 3mm厚のパッドを20mmx20mmにカットし、ポリイミドフィルムで挟む
 - ② 圧縮治具とスペーサーを用いて、パッドサンプルを約50%圧縮状態にする
 - ③ 150°Cエージングチャンバーに投入し、一定時間後に取り出す
 - ④ 常温に戻ったらパッドを解放し60分後の厚みを測定する
- ① 3mm thickness pad is cut to 20mm x 20mm size, and sandwiched by polyimide films.
 ② The pad sample is compressed to 50% thickness (1.5mm) with compression tool and spacer.
 ③ The sample is put into 150°C chamber. After aging, the sample is taken out.
 ④ The pad sample is released after it returned to room temperature, and the thickness 60 minutes later is measured.



● 復元性データ Compression Set (Test Result)



● 圧力と熱抵抗 Pressure vs. Thermal Resistance



2mm厚のシートを温度100°Cの条件で、種々圧力で圧縮して熱抵抗を測定した結果
 Thermal resistance under various pressure range at 100°C. (2mm thickness pad)