APPLICATION BULLETIN

Re-homogenizing DOWSIL™ TC-40XX Dispensable Thermal Pad

Using a 5995 Agitar Red Devil paint shaker

DOWSIL™ TC-40XX features

- Low cost of ownership
- Excellent thermal performance
- Low modulus
- Reliable
- Re-workable
- Versatile application options

Dow offers a variety of silicone-based materials that are widely used for thermal interface applications. DOWSIL™ TC-40XX is a thermally conductive product family that combines thermal dissipation properties with low modulus to meet demanding reliability requirements.

Storage and handling

The DOWSIL™ TC-40XX products are supplied as a two-part, 1:1 mix ratio kit. The standard 40 kg kit is comprised of a 20 kg pail each of Part A and Part B. The material should be stored upright and according to the conditions on the label in order to maintain adequate shelf life.

Mixing procedure

It is typical for this material to exhibit minor polymer separation. A clear liquid layer on the top of the bulk material is evidence of this. A more subtle phenomenon that may occur, especially for materials that may be near the end of their shelf life, is filler settling. This manifests as a dense or viscous, filler-rich layer at the bottom of the pail. The thickness of this layer may vary in severity depending on the history of the sample. Shipping, vibration and exposure to elevated temperature can accelerate settling. The filler rich material will have to be re-incorporated back into the bulk of the material prior to using. The process to do this is known as re-homogenization. To ensure adequate re-homogenization, mix Part A and Part B of each kit for 18 minutes. This will result in a material that is ready for use in your application.

Re-homogenization equipment

To properly re-homogenize any of the DOWSIL™ TC-40XX family of products, use the 5995 Agitar paint shaker made by the Red Devil Equipment Company (www.reddevilequipment.com). It occupies minimal floor space and has dimensions of 27½” x 27¼” x 45” (WxDxH). Contact Red Devil for pricing and availability.

Red Devil Equipment Co.
14900 21st Ave. N.
Plymouth, MN 55447
Toll Free Mixers: (800) 221-1083
International: (763) 533-2969



5995 Agitar paint shaker
Photo courtesy of the Red Devil Equipment Co.



Mixing frequency

The mixing procedure applies to the original re-homogenization of the material before it is used for the first time. If the material is not continuously consumed after re-homogenization, a subsequent re-homogenization may be needed. To determine if this is required, open the lid or remove the pails from the dispense equipment and look for a clear fluid layer on the top of the pail. **If present, mix the material for three minutes to re-homogenize the material.** This process must be repeated each time the material is idle to ensure proper product performance.

Learn more

We bring more than just an industry-leading portfolio of advanced silicone-based materials. As your dedicated innovation leader, we bring proven process and application expertise, a network of technical experts, a reliable global supply base and world-class customer service.

To find out how we can support your applications, visit **Conductive Materials | Dow Inc.**

Thermally Conductive Materials

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