

3M™ Trizact™ Composite Slurry DT-100, 3 Micron

Product Description

3M™ Trizact™ Composite Slurry DT-100, 3 Micron is a low viscosity lapping slurry designed for finishing ultra-hard substrates such as sapphire and silicon carbide. Comprised of a unique 3 µm diamond composite in triethylene glycol, Trizact slurry DT-100, 3 micron produces good surface finish with high removal rates for economical lapping. Triethylene glycol is water miscible for easy cleanup. Trizact slurry DT-100, 3 micron is designed for the highest performance when used with 3M™ Trizact™ Polishing Pads.

Key Advantages

- High removal rate
- Good surface finish
- Easy cleanup with water
- Compatible with 3M™ Trizact™ Polishing Pads

Product Construction/Material Description

3M™ Trizact™ Composite Slurry DT-100, 3 Micron

| Property | Value |
|-------------------------------------|-------------------------------|
| 3M™ Trizact™ Composite Slurry Grade | 3 µm |
| Carrier Liquid | Triethylene glycol |
| Abrasive Content | 1.0% |
| Packaging | 20 kg / 5 gallon plastic pail |

Applications

- Fine lapping of ultra-hard substrates such as sapphire
- Fine lapping for silicon carbide (SiC), zirconia (ZrO₂), glass, silicon oxide and silicon materials
- Slurry can be used with either single- or dual-sided lapping tools

Application Techniques

- Use with 3M™ Trizact™ Polishing Pads*
- Mix slurry well before use, ensure that no sediment remains in the bottom of the container
- Continue mixing during use
- Pump mixed slurry to the polishing tool at a uniform rate
- Pre-condition the Trizact polishing pads with slurry by running empty carriers before using pads for the first time
- Lapping pressures of 3-5 psi are recommended for higher removal rates

*See the 3M™ Trizact™ Polishing Pads Technical Data Sheet for more information.

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Typical Performance Characteristics

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Trizact™ Composite Slurry DT-100, 3 Micron – Double Sided Lapping

| Polishing Pad | Plane | Removal Rate (µm/min) | Ra (nm) |
|--------------------------------------|---------|-----------------------|---------|
| 3M™ Trizact™ Polishing Pad H-80-PC | A-Plane | 2.3 | 20 |
| 3M™ Trizact™ Polishing Pad H-80-PC | C-Plane | 2.2 | 20 |
| 3M™ Trizact™ Polishing Pad HT-800-PC | A-Plane | 1.8 | 25 |
| 3M™ Trizact™ Polishing Pad HT-800-PC | C-Plane | 1.2 | 24 |

| Process Conditions | |
|------------------------|--|
| Pad Diameter (OD x ID) | 18.3" x 7.1" (465 mm x 180 mm) |
| Platen Speed | Upper: 65 rpm Lower: 65 rpm Sun Gear: 13 rpm |
| Slurry Flow Rate | 6 ml/min |
| Downforce | 4.1 psi |
| Polishing Time | 30 min |
| Wafers/Parts | Nine 2" (51 mm) diameter sapphire |

*Initial removal rates are higher with higher incoming Ra

Storage and Shelf Life

The shelf life of 3M™ Trizact™ Composite Slurry DT-100, 3 Micron is 24 months from the date of manufacture when stored flat in the original packaging materials at 21°C (70°F) and 50% relative humidity.

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Regulatory: For regulatory information about this product, contact your 3M representative.

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