

3M™ Trizact™ Composite Slurry DE-100, 4XS

Product Description

3M™ Trizact™ Composite Slurry DE-100, 4XS is a low viscosity lapping slurry designed for finishing ultra-hard substrates such as silicon carbide. Comprised of a unique nano-sized diamond composite in an agglomerate, 3M™ Trizact™ Composite Slurry DE-100, 4XS produces excellent surface finish with good removal rates for the step immediately before chemical mechanical planarization (CMP). Additionally, 3M™ Trizact™ Composite Slurry DE-100, 4XS is water miscible for easy cleanup. Trizact slurry DE-100, 4XS is designed for the highest performance when used with 3M™ Trizact™ Polishing Pads.

Key Advantages

- Excellent surface finish
- Good Total Thickness Variation (TTV)
- Easy cleanup with water
- Compatible with 3M™ Trizact™ Polishing Pads

Product Construction/Material Description

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Property	Value	
Carrier Liquid/Coolant	Water miscible organic	>95% by weight
Abrasive	Diamond-based	≥0.5% by weight
Packaging		20 kg / 5 gallon plastic pail

Applications

- Fine lapping of ultra-hard substrates such as silicon carbide
- Slurry can be used with either single or double-sided lapping tools

Application Techniques

- Use with a 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.

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Double Sided Lapping Process Conditions	
Pad Diameter (OD x ID)	18.3" x 7.1" (465 mm x 180 mm)
Lower Platen Speed	50 rpm
Slurry Flow Rate	2.5 g/min
Pressure	3 psi
Polishing Time	30 min
Wafers/Parts	Three 4" diameter 4H n-type silicon carbide (SiC) wafers
Results	
Removal Rate (µm/min)	0.2 µm/min
Average Ra	2 nm
Total Thickness Variation (TTV)	≤ 3 µm

*Initial removal rates are higher with higher incoming Ra

Storage and Shelf Life

The shelf life of 3M™ Trizact™ Composite Slurry DE-100, 4XS is 18 months from the date of manufacture when stored flat in the original packaging materials at 21°C (70°F) and 50% relative humidity.

Certificate of Analysis (COA)

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60-5005-0264-0