

3M™ Trizact™ Polishing Pad HT-250

Product Description

3M™ Trizact™ Polishing Pad HT-250 is a microreplicated slurry lapping pad for finishing ultra-hard substrates such as sapphire, silicon carbide and ceramics. 3M™ Trizact™ Polishing Pad HT-250 can be adhered to single- or double-sided lapping platens. This pad is used in combination with 3M™ Trizact™ Composite Slurries.

Key Advantages

- Long pad life
- Good Total Thickness Variation (TTV)
- High removal rates
- Good surface finish
- Can be directly mounted onto flat/smooth and waffle pattern lapping plates
- Easy pad replacement
- Pad diameters up to 50.5 inches (1282 mm)

Product Construction/Material Description

3M™ Trizact™ Polishing Pad HT-250

Property	Value
Pad size	Diameters up to 50.5 inches (1282 mm)

Applications

- A-, C- and R-plane sapphire fine lapping
- Fine lapping for silicon carbide (SiC), zirconia (ZrO₂), glass, silicon oxide and silicon materials
- 3M™ Trizact™ Polishing Pad HT-250 can be used with either single- or dual-sided lapping tools

Application Techniques

- Use with a 3M™ Trizact™ Composite Slurry*
- Clean platen and measure flatness before adhering pad
 - Recommended platen flatness for double-sided lapping is less than 10 microns
- Mount 3M™ Trizact™ Polishing Pad HT-250 and drill the slurry holes
 - A unibit drill bit is recommended for drilling slurry holes
- Dress/condition the pad for about 10-60 minutes to planarize asperities by running empty carriers (without workpiece) along with 3M™ Trizact™ Composite Slurry before first use
- 3M recommends that continuous operating temperature remains below 60°C (140°F)

*See the 3M™ Trizact Composite Slurry 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. Final product specifications and testing methods will be outlined in the products Certificate of Analysis (COA). Contact your local 3M Technical Representative for this product's COA.

3M™ Trizact™ Polishing Pad HT-250 Double-Sided Lapping

3M™ Trizact™ Composite Slurry	A-Plane		C-Plane	
	Removal Rate* ($\mu\text{m}/\text{min}$)	Ra (nm)	Removal Rate* ($\mu\text{m}/\text{min}$)	Ra (nm)
DGS-50, 1 μm	0.6	8	0.5	6
DT-100, 1.5 μm	1.8	15	1.6	13
DT-50, 3 μm	1.5	17	1.3	17
DT-100, 3 μm	1.8	20	1.6	16

Process Conditions

Pad Diameter (OD x ID)	18.3" x 7.1" (465 mm x 180 mm)
Platen Speed	50 rpm
Slurry Flow Rate	5.4 ml/min (DT series), 5.1 ml/min (DGS series)
Downforce	4.1 psi
Polishing Time	30 min
Wafers/Parts	Twenty four 2" (51 mm) diameter sapphire

*Initial removal rates are higher with higher incoming Ra.

Storage and Shelf Life

The shelf life of 3M™ Trizact™ Polishing Pad HT-250 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. 3M recommends storing the Trizact polishing pad flat in its original packaging materials.

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

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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