



CHALLENGE 543-HT

SUSPENSION TYPE LAPPING/POLISHING SLURRY ADDITIVE

For Non-Recirculating Slurry Application

CHALLENGE 543-HT is a medium, viscosity lapping/polishing slurry additive which evenly disperses and suspends a variety of **non-suspension-treated abrasives**, including aluminum oxide, zirconium oxide, silicon carbide, boron carbide, synthetic and natural diamond, and garnet. Because of its superior suspension characteristics, CHALLENGE 543-HT reduces the amount of abrasive grain needed by up to 50% compared to non-suspension type additives while providing equal, and often greater stock removal at lower flow rates. CHALLENGE 543-HT is particularly effective when using equipment with smaller slurry feed tubes, which constrict flow of high viscosity products.

CHALLENGE 543 HT is also used with diamond polishing pads. For this application it is mixed with a small percentage of aluminum oxide to keep the diamond properly conditioned during the process for consistent removal rates and superior flatness over the lifetime of the pad.

Typical Properties:

Free abrasive lapping/polishing and lapping/polishing with fixed abrasive pads.

Benefits:

- Flatter parts
- No scratching
- Less sub-surface damage
- Easier post-lap cleaning
- Increased removal rate
- More consistent results
- Reduced abrasive usage

Typical Properties:

pH	9.0
Conductivity Ms	2.0
Specific Gravity	1.002

Directions:

CHALLENGE 543-HT should be mixed with deionized water and abrasive using the following slurry formula: 77-82% water, 15-18% abrasive, 3-5% CHALLENGE 543-HT. Use an agitator with a marine type propeller and a motor capable of 1750 RPM. Use a low shear dispense pump for feeding the mixed slurry onto the lap. Disperse the abrasive with DI water at 1000 rpm for 3 minutes. Add CHALLENGE 543-HT. Mix for approximately 10 minutes depending upon abrasive surface chemistry. Be careful not to suck air into the slurry when mixing. A small vortex should form at the surface of the slurry. Turn the mixer off, or to a maximum of 50 rpm. For more detailed directions, request document #DOC-DIR-543HT.

Additional Information:

CHALLENGE Products are available in 5-gallon pails and 55-gallon drums, F.O.B. Bethel, Connecticut, and also include: grinding fluids, sawing fluids, lapping/polishing slurry additives, rinse/wet storage additives and ultrasonic/megasonic detergents. Safety Data Sheets available upon request.

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