

Sapphire Slurries

High performance slurries for scalable manufacturing of sapphire wafers

Entegris is the market leader in sapphire slurries. They are designed to meet specifications at various process stages of substrate manufacturing from lapping to CMP for sapphire wafers of orientations namely C-plane, A-plane, R-plane, etc. Our optimized solutions can work on different tool sets and process conditions and achieve high removal rates with no sub-surface damage while providing excellent stability. Our sapphire slurry portfolio, enabled with additives, provides an extremely high performance, cost-effective solution in polishing applications. Custom solutions are available upon request.



Designed for sapphire wafers with multiple orientations.

APPLICATIONS

- Provides high finish for optical surfaces
- Polish all surface types (lapped or mechanically polished) to achieve atomically smooth surface finish

FEATURES & BENEFITS

High performance slurries	Achieve high removal rates with no sub-surface damage and excellent stability and dispersion
Slurry stability	Enable high-volume manufacturing scale-up and ready to use in bulk distribution systems Low cost of ownership
Global manufacturing capabilities	Provide localized quick-turn and customized solutions
Customer collaboration	Slurry development begins with the customer's application requirements at the forefront Our applications engineers work with customers to ensure that chemistries are optimized for target parameters and process conditions

SPECIFICATIONS

Product family	Process step	Polishing substrate	Key features	Material removal rate (MRR)
SP 1000 series	CMP	C-plane, A-plane	Excellent surface finish Ra <0.1 nm (5x5 AFM scan)	2.0 - 6.0 $\mu\text{m/hr}$
SP 3000 series	Lapping	C-plane, A-plane, R-plane	Ultra-high removal rates while maintaining extremely low sub-surface damage Ra 0.7 to 1 nm (5x5 AFM scan)	20 - 25 $\mu\text{m/hr}$
SA-GR-80 series	Grinding	C-plane, A-plane, R-plane	Pad-based grinding process that provides bulk removal step with 5x lower sub-surface damage compared to conventional grinding processes with similar removal rates	450 - 550 $\mu\text{m/hr}$

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entegris.com and select the [Contact Us](#) link to find the customer service center nearest you.

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