

SOLSPERSE™ AC HYPERDISPERSANTS

POLYMERIC DISPERSANTS FOR ADVANCED CERAMICS PROCESSING

Solsperser™ AC hyperdispersants are a range of polymeric dispersants tailored for complex formulations and highly demanding applications in the advanced ceramic and electronic markets. They are designed to produce stable, low viscosity, high solid dispersions of a variety of ceramic particles.

Features

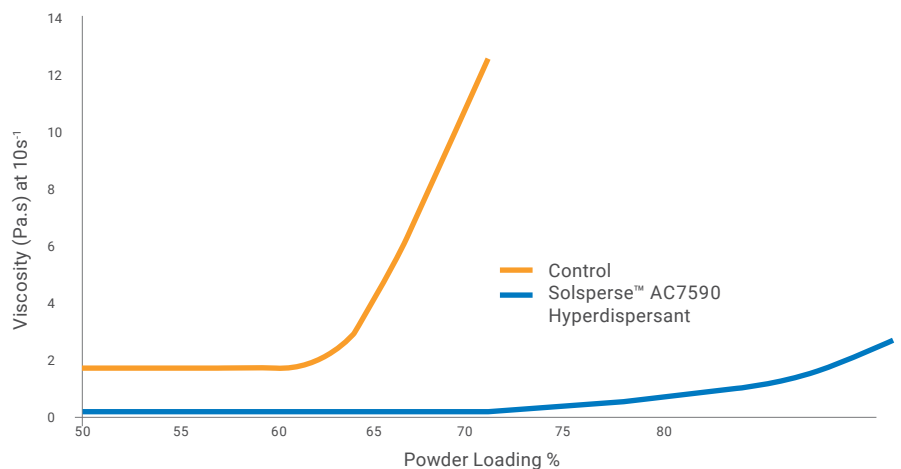
- Reduced viscosity
- Increased powder loading
- Improved rheology and homogeneity
- Effective on a broad range of ceramic materials
- Increased green body density
- High purity
- Low ash content

Applications

- Industrial and structural ceramic parts
- Ceramic tapes and electronic ceramics
- 3D printed ceramics
- Solid oxide fuel cells components
- Piezo-electric ceramics
- Ceramic polishing slurries

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Solsperser™ AC Hyperdispersants help improve the properties of ceramic slurries and enhance the performance and quality of final products, such as density, homogeneity, or purity. They can positively impact the overall manufacturing costs by reducing process time, energy consumption and breakages. In addition, they exhibit high purity and low ash content after burn-out and sintering.



Solsperser™ AC7590 Hyperdispersant can increase ceramic powder concentrations in a typical casting system – in this graph, Yttria-stabilized zirconia in terpineol. The performance of Solsperser AC7590 is compared with that of Menhaden oil, a typical traditional ceramic dispersant.

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Performance Coatings



Solsperse™ AC Hyperdispersants

Product	Description	Solid Content %	Physical Form
Solsperse™ AC3150	100% active polymeric dispersant	100	Powder
Solsperse™ AC4320	100% active polymeric dispersant ¹	100	Viscous Liquid
Solsperse™ AC4340	100% active polymeric dispersant	100	Granular Powder
Solsperse™ AC4390	100% active polymeric dispersant ²	100	Viscous Liquid
Solsperse™ AC5110	APE-free polymeric dispersant in water	40	Liquid
Solsperse™ AC5120	Partially neutralized polyacrylate dispersant ³	63	Liquid
Solsperse™ AC5128	Partially neutralized polymeric dispersant ³	55	Liquid
Solsperse™ AC5145	100% active polymeric dispersant ³	100	Liquid
Solsperse™ AC5170	100% active polymeric dispersant ³	100	Viscous Liquid
Solsperse™ AC5180	Fully neutralized polyacrylate dispersant ³	50	Liquid
Solsperse™ AC7140	100% active polymeric dispersant	100	Viscous Liquid
Solsperse™ AC7160	100% active polymeric dispersant ³	100	Liquid
Solsperse™ AC7517	100% active polymeric dispersant ⁴	100	Viscous Liquid
Solsperse™ AC7570	100% active polymeric dispersant	100	Viscous Liquid
Solsperse™ AC7576	Polymeric dispersant in solution	50	Liquid
Solsperse™ AC7590	100% active polymeric dispersant	100	Liquid

¹ contains traces of phosphorus

² contains phosphorus

³ contains sodium

⁴ contains sulfur



Product Selection - By Solvent System

Solsperse™ AC Hyperdispersants have excellent adsorption onto the surfaces of inorganic materials such as aluminum oxide, zirconium oxide, silicon nitride and barium titanate and also have good compatibility with the solvent medium being used, whether that is water, organic solvent, UV monomers or a plastic.

Product	Terpineol	Toluene	MEK	Toluene/ Ethanol Blend	Butyl Acetate	Ethyl Acetate	Ethanol	Water	Wax/ Thermoplastic
Solsperse™ AC3150									✓
Solsperse™ AC4320		✓	✓	✓	✓	✓	✓	✓	
Solsperse™ AC4340		✓	✓	✓					
Solsperse™ AC4390							✓	✓	
Solsperse™ AC5110							✓	✓	
Solsperse™ AC5120								✓	
Solsperse™ AC5128								✓	
Solsperse™ AC5145								✓	
Solsperse™ AC5170							✓	✓	
Solsperse™ AC5180								✓	
Solsperse™ AC7140	✓	✓							
Solsperse™ AC7160	✓	✓	✓	✓	✓	✓	✓		
Solsperse™ AC7517	✓	✓							
Solsperse™ AC7570	✓	✓							
Solsperse™ AC7576				✓	✓	✓	✓		
Solsperse™ AC7590	✓	✓	✓	✓	✓	✓			

✓ = First Choice

✓ = Second Choice



Product Selection - By Forming Process

Solsperse™ AC Hyperdispersants are adapted to a large range of ceramic manufacturing processes.

Product	Tape Casting	Slip Casting	Extrusion	Injection	Gel Casting	Additive Manufacturing	Ink Jet	Spray Drying
Solsperse™ AC3150			✓	✓				
Solsperse™ AC4320	✓	✓				✓		
Solsperse™ AC4340	✓	✓			✓	✓		
Solsperse™ AC4390	✓					✓		
Solsperse™ AC5110	✓	✓						
Solsperse™ AC5120		✓						✓
Solsperse™ AC5128		✓						✓
Solsperse™ AC5145		✓			✓	✓		
Solsperse™ AC5170	✓	✓						
Solsperse™ AC5180		✓						✓
Solsperse™ AC7140	✓					✓	✓	
Solsperse™ AC7160	✓	✓						
Solsperse™ AC7517					✓	✓		
Solsperse™ AC7570	✓						✓	
Solsperse™ AC7576								
Solsperse™ AC7590	✓	✓			✓	✓	✓	

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