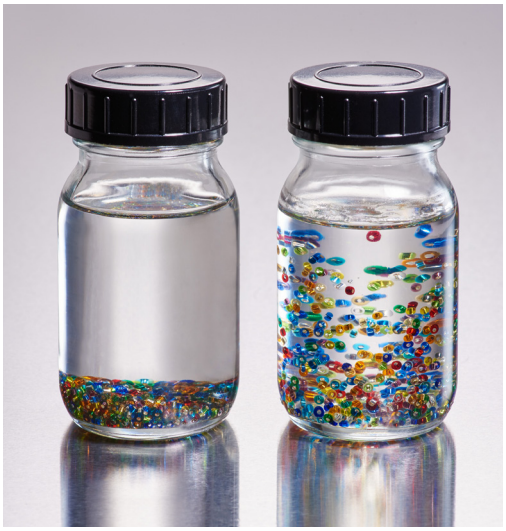
SILICA FROM EVONIK

Perfect thickening agents for unsaturated polyester resins (UPE)

Unsaturated polyester resins are components of many glass-fiber reinforced plastic objects, such as tanks and containers, boat hulls or swimming pools. Unreinforced resins are also found in many applications, such as artificial marble and filling compounds. Manufacturing products like these requires an effective thickening agent: silica from Evonik.

Benefits of silica from Evonik for unsaturated polyester resins

- Thixotropic behavior: The gel-like resin becomes thinner when sheared and is easy to process
- Fumed silica prevents solids from settling in the resin
- Easy application of multiple layers
- No sag after spray application
- Reduce moisture uptake

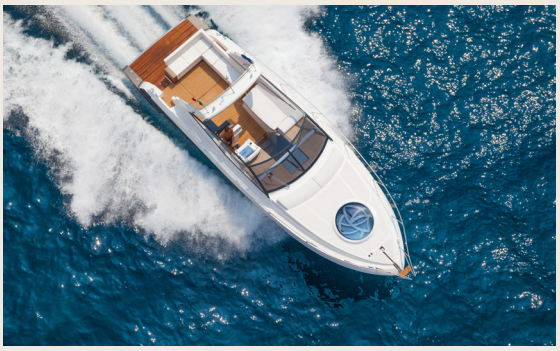


SOLUTIONS TO UPE TECHNOLOGY

INDUSTRY	PRODUCT	APPLICATIONS	EFFECT
Marine	AEROSIL® 200 AEROSIL® 200 HV AEROSIL® R 202* SIPERNAT® 380*	Gelcoat/Laminating Resin	Thickening Resin Structure Reinforcement Separation Control Anti Settling
	SIPERNAT® 28 SIPERNAT® 22 LS SIPERNAT® FPS-5	Gelcoat	
Transport & Automobile	AEROSIL® 200 SIPERNAT® 380*	Gelcoat/Laminating Resin	
	AEROSIL® 200 HV SIPERNAT® 28 SIPERNAT® 22 LS	Gelcoat	
Sanitary Facilities	AEROSIL® 200 AEROSIL® 200 HV SIPERNAT® 380*	Gelcoat/Laminating Resin	
	AEROSIL® R 202*	Vinylester	
Building & Construction	AEROSIL® 200 SIPERNAT® 380*	Gelcoat/Laminating Resin	
	AEROSIL® R 202*	Vinylester	
Pipe & Tunnel Repair	AEROSIL® R 202*	Vinylester	

*AEROSIL® R 202 Further effect on filler suspension
*SIPERNAT® 380 Only effect thickening, reinforcement
*SIPERNAT® FPS-5 Improved blush resistance in premium gelcoats

Silica Performance Attributes in Unsaturated Polyester

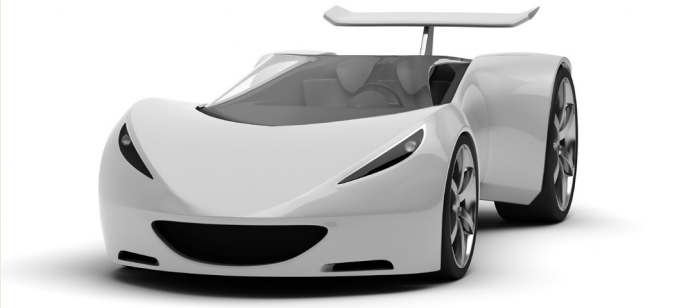


Laminating Resin

- No sag after spray application
- Reduce moisture uptake

Gelcoat

- High performance UPE resin utilized for part aesthetics and weather resistance
- Gelcoats are applied as the first layer on the mold at about 0.5 mm thickness



Vinylester

- Epoxy modified polyester with higher polarity than UPE
- Primarily function as tooling to mold the UPE application
- Enhance corrosion resistance and strength of tanks, pipes & flue stack linings

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The Silica specialists at Evonik – Inside, to get it right.

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