



Megasol® S50

colloidal silica for fiber bonding

Why Megasol® S50?

- **Greater product strength** - Double the dried and fired strengths of other commonly used colloidal silica binders.
- **Flexibility in formulation** - Creates stronger pads than other sols at silica to starch ratios of 1:1 through 4:1.
- **Lower or No Smoke Products** - You can use as little as 2% starch and still get excellent floccing and product strength resulting in little or no smoking at elevated use temperatures.
- **Less Shrinkage at High Temperatures** - Larger particles with lower sodium result in less shrinkage at end-use temperatures.

Typical Properties

Appearance	White liquid
Specific Gravity	1.40
Surface Area, m ² /g	80
Particle size, nm (calc)	34
Silica, wt%	50
Na ₂ O, wt. %	0.22
pH @ 25°C	9.5
Viscosity @ 25°C, cPs	15
Toxicity	Non-Toxic. See SDS

Storage, Handling and Safety

Prolonged exposure to temperatures of 0°C (32°F) or below should be avoided as the silica will precipitate irreversibly.

Packaging

4,000 gal. for bulk tanks; 275 gal. IBC totes; plastic 55 gal. drums; 1 & 5 gal. pails.

Megasol®S50 is the optimal colloidal silica for bonding and rigidizing of refractory fiber shapes and boards. Megasol®S50's unique physical properties result in higher packing densities and stronger bonds. With approximately one third the surface area of commonly used binders, Megasol®S50 requires less cationic starch to floc and yields higher silica content boards and shapes with better high temperature performance characteristics.

How to Use Megasol® S50

MEGASOL® S50 should be flocced with cationic corn starch, like Westar+ or Westar+3, starting with a ratio of 5% starch based on weight of total solids.

Typical Formulation:

		with filler	with filler	with filler
Water, Gallons	50	50	50	50
Refractory Fiber, lbs	8	8	8	8
Mullite 100 filler, lbs	----	4	----	4
Westar+ Starch, lbs.	0.4	0.6	----	----
Westar+3 Starch, lbs.	----	----	0.4	0.6
Megasol® S50, lbs	1.6	2.4	2.4	3.6

Follow above order of addition. Add starch flakes dry and mix for 10 minutes to allow hydration and swelling of starch before adding colloidal silica; mix another 5 minutes to complete floccing before vacuum forming. Dry at 250°F.

Note proper use: For best results, always add starch to slurry before the colloidal silica; the cationic starch serves to give a cationic charge to the fibers for efficient exhaustion of the negatively-charged silica particles on fibers.

For a price quote and valuable information on how we can help you improve your vacuum formed products call

WESBOND
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