

## **Rubber Anti-Tack Slab Dips For The 21st Century**

In the last century, anti-tack materials were dusted by hand onto unvulcanized rubber to prevent slabs from sticking together. Housekeeping was a problem. The dusting process was unhealthy. The anti-tack materials of choice were talc, calcium carbonate, clay, mica, calcium stearate, zinc stearate, and magnesium stearate.

To reduce the breathing of dust, the next iteration was the dust box. The rubber was fed through a closed box of dusting powder.

The dust box was soon replaced by a trough of water that had dusting powder floated on the surface. This coating method was still unhealthy and the plant was still a dirty work area.

The next evolutionary step was to use dispersions of dusting powder in the dip tank to eliminate more dust.

More than fifty years ago, the move to slurries of calcium carbonate, kaolin, talc, or calcium, zinc or magnesium stearate brought us to where we are today. Additives needed to produce these slurries caused excessive foaming, settling out in the dip tank, buildup of dip on equipment, poor drying time, and spotty coatings due to interfacial tension problems with different rubber compounds. Other problems became apparent like slurries of stearates thickening and spoiling in storage, and freezing in transit. To minimize the thickening tendency of stearate dispersions, the anti-tack slab dip makers simply reduced solids by adding more water to the slurry. Some suppliers designed water addition systems to dilute slurries to the intended use level solids.

The cost of shipping millions of pounds of water all around the country has never been challenged. To reduce these freight costs, rubber producers would have to make their own anti-tack slab dip compounds. Formulations of powdered calcium carbonate and kaolin clay are available from several anti-tack slab dip producers but there has not been a powdered stearate product available to date.

To make a slurry of calcium, zinc or magnesium stearate requires hydration of the stearate with appropriate additives with an investment in time, energy, and mixing equipment.

Rubber compounders are not in the business of formulating and producing anti-tack slab dip slurries so they are committed to continuing to buy their supplier's anti-tack slab dip and all the water that comes with it.

Superior Formulations LLC has upped the ante with our paradigm-changing line of OverCoat™ anti-tack slab dips. OverCoat H, based on calcium stearate, and OverCoat Z, based on zinc stearate, are shipped to the rubber producer's factory as dry powder blends ready to be hydrated on site. This is an industry first.

Hydrating OverCoat powders is handled by the Superior Formulations LLC Constituter™. With a footprint slightly larger than a standard 55-gallon drum, the Constituter automatically combines OverCoat powder with the factory's own water and makes slurry at the point of use – the dip tank. In addition to making anti-tack slab dip slurry, the patent-pending Constituter manages the dip tank, adding concentrated slurry or water as needed to maintain a stable tank level and the desired solids level in real time. The OverCoat Constituter system behaves like another hand on the plant floor. This new technology is a "set it and forget it" part of the production team, and is another industry first. The slurry plant has been reduced to roughly five square feet.

The Constituter communicates in English and vocalizes important status information, for example, when the OverCoat powder hopper is running low. The only involvement of plant personnel is to empty bags of OverCoat powder into the hopper.

Superior Formulations LLC has also developed OverCoat K, based on kaolin, and OverCoat C, based on calcium carbonate, that can also be used with the Constituter for state-of-the-art tank management.

Rubber mixers and compounders can now use their own water and have anti-tack slab dip made automatically 24/7 on-site, on demand by the computer-controlled Constituter. Constituters are provided free of charge.

In addition to saving half or more of the incoming freight bill, other benefits of the OverCoat Constituter anti-tack slab dip system are:

- Increased dip tank efficiency
- No need to protect from freezing
- Elimination of product thickening
- Elimination of drum / tote disposal
- Elimination of product spoilage
- Extended product shelf-life
- Saving plant storage space
- Foam-free, dust-free, non-settling dips
- No equipment buildup

The Superior Formulations product technology for the 21st century is based on more than eighty years of combined experience designing anti-tack products and designing hardware and software for industry.

The OverCoat Constituter anti-tack slab dip system is available now from Superior Formulations LLC, 31 Gorham Road, #1208, Scarborough, ME 04070.

Please visit us at [www.SuperiorFormulations.com](http://www.SuperiorFormulations.com) or call 844.360.DIPS.