

WET vs DRY

With the advent of Superpave and PG grade binders, polymer modification has been proven to be critical to taking existing source raw materials to higher performance levels. In that time a choice has developed - **wet vs dry**. Wet polymers are typically SBS or SBR and are a bi-product derived from other chemical manufacturing and blended to PG standards by binder suppliers. Surface Tech has introduced an effective alternative in a dry polymer form. Our proven technology is a para-aramid fiber mixed in dry at the mix plant. With ACE XP™, the modifier is controlled by the production contractor and is an effective way to manage the process (including 365-availability and ease of plant dosing) that increases performance and reduces your GWP impact per mix ton and no change to JMF.



WET

DRY ACE XP™

Wet polymers are usually synthetic materials like styrene-butadiene-styrene (SBS), crumb rubber (CR), ethylene-vinyl acetate (EVA), or polyethylene (PE). The addition of polymers to the asphalt binder helps to create a more robust, durable, and flexible pavement material.

ACE XP™ Aramid fibers are used as a reinforcement material in asphalt pavements that creates a three-dimensional network within the pavement.

<ul style="list-style-type: none"> Producing and construction PMA mixtures requires increased temperatures Significantly higher embodied carbon content (Global Warming Potential) Higher temperatures result in higher green house emissions GWP increases 5-6 Kg of CO₂ per mix ton for every 6-degree PG (PM) grade bump. SBS-modified asphalt binders use sulfur based cross linking agents Hydrogen sulfide H₂S is created during the transportation and storage of SBS modified binders Hydrogen sulfide can cause a range of health issues dependent upon PPM exposure such as eye and respiratory irritation, headache, dizziness, and, in extreme cases, loss of consciousness and death 	<ul style="list-style-type: none"> Expands equivalent PG (of mixture) about one bump high & low per ASTM STANDARD of 2.1 oz per US Ton (65 g/t). No change in mix temp. Temp tolerant and does not break down in HMA temps - melt point of 800° F / 425° C Enhanced flexibility and elasticity of the asphalt binder Improved resistance to temperature-induced cracking Increased resistance to rutting and deformation Low Carbon Construction Material GWP 0.668 kg of CO₂ per mix ton
	<ul style="list-style-type: none"> Zero sulfur added to binder or mix No change to JMF or volumetrics Available 365 easy add to any plant, anytime Chemical (PPA) resistant

Surface Tech Contact:
312 S. Cedros Ave., S200, Solana Beach, CA 92075
+1-619-880-0265
info@surface-tech.com
www.surface-tech.com

