ASTRA™

Genuine PMA Replacement

Surface Tech has introduced an effective alternative in a dry polymer form. Our proven technology is a Para-Aramid fiber introduced in dry at the mix plant. With a neat binder, Para-Aramid is the modifier that production contractor can control and is an effective way to manage the process (including 365-availability, no storage and ease of plant dosing) that increases performance and **dramatically** reduces your GWP impact per mix ton and no change to JMF. Not to mention is PMA performance really worth the built environment and health risks?

PMA	ASTRA
• Producing and construction PMA mixtures requires increased temperatures	• Expands equivalent PG (of mixture) about one bump high & low per ASTM STANDARD of 2.1 oz per US Ton
• Significantly higher embodied carbon content (Global Warming Potential)	• No change in mix temp. Temp tolerant and does not break down in HMA temps - melt point of 800° F
• Higher temperatures result in higher green house emissions	• Enhanced flexibility and elasticity of the asphalt binder
• GWP increases 5-6 Kg of CO2 per mix ton for every 6-degree PG (PM) grade bump.	• Improved resistance to temperature-induced cracking
• SBS-modified asphalt binders use sulfur based cross linking agents	• Increased resistance to rutting and deformation
• Hydrogen sulfide H2S is created during the transportation and storage of SBS modified binders	• Low Carbon Construction Material no more than GWP 0.67 kg of CO_2 per mix ton
• 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	• Zero sulfur added to binder or mix
	• No change to JMF or volumetrics
	• Available 365 easy add to any plant, anytime
	• Chemical (PPA) resistant

- Production of synthetic polymers is energy intensive
- PMA requires higher binder production temperatures when incorporating polymer modifiers
- Producing and the construction of PMA mixtures requires increased temperatures
- PMA Higher temperatures result in higher Global Warming Potential (GWP)
- PMA increases GWP 5-6 Kg of CO_2 per mix ton for every 6-degree PG (PM) grade bump.
- Aramid provides no health concerns (VOC emissions)

VERIFIED by SCS GLOBAL SERVICES ENVIRONMENTAL PRODUCT DECLARATION BASED ON LCA · Compliant with Build America, Buy America Act · ASTM INTERNATIONAL D8395-23 · NAPA The Road Forward Official Sponsor Since 2022

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