

ACE XP™ In Your Plant

- ACE XP™ is a reinforcement fiber introduced at the plant into the drum / pugmill
- Single Dose of 3.4oz (88g) or double dose 6.8oz (176g) of fiber are added to the mix, typically with the RAP or RAS
- Dosing at the plant options; hand dosing, line-vac, semi-automated, full automation (market depending)
- A minimum of 90PSI and for semi and full automation - 120v power will be needed
- Pre Weighed and Bagged material is available for hand and line-vac dosing
- There is no change to the mix design.
- ACE XP™ has a 400,000 PSI Tensile Strength and a 932°F / 800°C Melting Point
- A separate silo is needed the day of the job but requires no special prep or cleanout afterwards.
- ACE XP™ are 1.5 inch (38mm) long and evenly disperse thought out the mix.
- Roughly 10 million ACE XP™ fibers per ton/tonne of asphalt.
- ACE XP™ fibers create a spiderweb effect through the mix for reinforcement, similar to the way rebar reinforces concrete.
- Testing will show a 30% - 50% increase in crack and rut resistance as well as added strength.
- ACE XP™ is not a cellulose fiber, it has no absorption properties and does not get used the same way.
- ACE XP™ can be used to replace paving fabric.
- There are no issues milling fiber reinforced asphalt when it comes times to replace the pavement section.
- EPD Certified Product / Ultra low carbon additive. One dose of ACE XP™ = 0.668 kg CO2 / US Mix Ton
- ASTM Standard D8395-2023 for Aramid Fibers in Asphalt Mixtures standardizes a dose as 2.1oz/US Ton (65g/t).

Maximize Your Mix Margins.

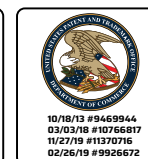
Surface Tech Contact:

312 S. Cedros Ave., S200, Solana Beach, CA 92075

+1-619-880-0265

info@surface-tech.com

www.surface-tech.com



Materials:

Aramid Reinforced Composite Asphalt (ARCA) solutions reinforce and control the liquid bitumen and aggregates that traditionally comprise asphalt mixes, preventing cracking and rutting while improving fatigue resiliency and toughness. ACE XP™ Polymer Fiber is an aramid fiber pre-treated with wax. Our patented wax binder ensures a 100% delivery of the fibers into the HMA/ WMA creating a confident dosing solution for all QC-conscious project stakeholders, with no change to the mix design's volumetric properties. No change to JMF.

- The only EPD Certification Aramid product (Low carbon additive) 0.668 kg CO₂ / US Mix Ton
- The only Emerald Eco-Labeled Aramid product
- No potentially harmful plastics or other fillers
- No risk of additional VOCs impact stack testing
- One dose is 5 times less volume than the competitor dramatically reducing shipping and storage costs
- **ASTM Standard D8395-2023 for Aramid Fibers in Asphalt Mixtures standardizes a dose as 2.1oz/US Ton (65grams/tonne).**
- Patented binding method disperses into mix. No Aramid clinging to inside of drum and hoses nor loss into the bag house.
- Form factor ensures precision dosing.

Material Properties:

Material:	Para-Aramid (min 63% by weight)
Treatment:	Wax (37% by weight, max)
Standard Dose:	2.1 oz/US ton (65 grams/tonne) of Aramid

Physical Properties:

Decomposition Temp:	>800° F / 425° deg. C
Linear Density: ASTM D1907/1907M-12	>3200 dtex
Length:	¾ in (19 mm) or 1.5" (38 mm), +/-10%
Color:	Yellow



Mechanical Properties:

Tensile Strength: ASTM D2256, D7269:	>2700 MPa.
Young's Modulus: ASTM D2256, D7269:	>80 GPa

ACE XP™ Dosing Plan

ACE XP™ Polymer Fibers are well suited for HMA/WMA. Precision dosing is recorded through a data capture every 10 seconds from the load cells on the certified DFNDR™ or SNTNL™ dosing machines that guarantees the correct amount of fiber being delivered into the asphalt. Use the dosage rate of 3.4 oz. coated weight per US Ton of asphalt mix (of which 2.1 oz. is pure aramid). Metric dosage rate is 106 grams coated weight per Tonne of asphalt mix (of which 65 g/t is pure aramid).

ASTM Standard D8395-2023 for Aramid Fibers in Asphalt Mixtures standardizes a dose as 2.1oz per US Ton (65g/t). Please note that ACE XP™ Polymer Fiber contains 63% actual aramid fiber and 37% wax binder, by weight. With ACE XP™ Polymer Fiber, the aramid fiber remains in the form of a fiber strand with over 10,000 individual fibers per strand that are efficiently conveyed to the asphalt mixing drum. In the mixing drum, the wax completely disappates allowing the dry fibers to disperse into the mix.

Batch Plant or Drum Plant:

Feed ACE XP™ Polymer Fibers with DFNDR™ or SNTNL™ precision dosing operated equipment or manually. For batch plants, feed directly into the pug mill or weigh hopper. For drum plants, feed directly into the mixing drum through the RAP Collar. Standard project HMA/WMA batch mixing times apply. Metering shall be based on batch size (tons/tonnes) and dosage rate (oz/ton) or (gram/tonne). Feeding shall occur in a constant stream-like manner during the heated aggregate mixing batch time. If necessary, increase the mixing time with heated aggregates to ensure the aramid fibers are uniformly distributed. Match the feeding of fibers with the rate the plant is producing asphalt mix. If a fiber feeder is used, it must be properly calibrated for treated aramid fiber to deliver the fiber at the correct rate. Daily reporting and data is provided by the DFNDR™ and SNTNL™ reporting system.

Storage:

ACE XP™ is supplied in a sealed bag / corrugated box containing a net weight of 45 pounds (20.4 kg). Close bags immediately after removing desired amount of fiber to prevent contamination which could alter the addition tolerance in subsequent uses. Store fibers in a dry environment.

Warranty:

Limited warranty available at www.surface-tech.com

Surface Tech Contact:

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

