

# **FORTA-FI® Fiber Reinforcement Technology for Asphalt**

## **Frequently Asked Questions**

### **Will FORTA-FI create any processing problems for the asphalt producer?**

No, FORTA-FI is added, bag and all, at any point in the mixing process after the fines collection and before the addition of the liquid asphalt. While the fibers disperse uniformly and completely in seconds, it's best to allow as much mixing time as possible. The use of FORTA-FI will not require any special clean up.

### **Will FORTA-FI create any placement or compaction problems?**

No, FORTA*fied* asphalt is placed and compacted exactly as typical, non-FORTA*fied* asphalt.

### **How can such a small dose of FORTA-FI do so much to strengthen my asphalt mix?**

FORTA-FI is a blend of several different fibers that each play an important role in the reinforcement of asphalt. Some fibers are designed to melt into the mixture aiding the dispersion and adhesion of the high-temperature fibers while enhancing both the cold and hot properties of your asphalt design. The high-temperature fibers are among the strongest fibers made, and are only 1/10 the diameter of a human hair. This combination creates great tensile strength with more surface area for adhesion to the binder. It also assures an incredibly high fiber count, for each dosage and every ton of asphalt.

### **Will doubling, or tripling the dose of FORTA-FI make my asphalt mix two or three times as strong as a single dose?**

Research, and our many projects from around the world, has shown that the recommended dosage of one bag per ton is optimal in most circumstances. While there may be occasions where different dosages may prove beneficial, those would have to be verified for each application.

### **How did you calculate the asphalt thickness savings and longevity increases?**

Both the asphalt savings, and increased longevity, were calculated using the Mechanistic Empirical Pavement Design Guide, (MEPDG).

### **Is this new technology?**

FORTA first patented this technology in 1982, and has used it successfully on many projects around the world. FORTA-FI is the newest generation of fiber-reinforcement for asphalt, expanding into blends for Hot Mix Asphalt, Warm Mix Asphalt and hot/cold Asphalt Patch.

### **Can FORTA-FI be mixed in either batch or drum plants?**

Yes, the new packaging assures FORTA-FI will disperse uniformly and completely.

### **How long does FORTA-FI take to mix, and will it mix at high production speeds?**

FORTA-FI will disperse uniformly and completely in seconds at all production speeds.

**[www.FORTA-FI.com](http://www.FORTA-FI.com)**

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**How can FORTA-FI save money on the initial project cost?**

Immediate cost savings are made possible by reduction in asphalt thicknesses up to 35%. Additional savings are realized through shorter construction schedules, fewer trucks, fewer lifts, etc.

**How can FORTA-FI save money over the life of the project?**

FORTA*fi*ed asphalt, of the same thickness as your typical non-FORTA*fi*ed asphalt, will last more than 50% longer. Longer life translates into less maintenance, and resurfacing over the design life of the project.

**Is FORTA-FI only for HMA, or can I use it for WMA or Patch mixes as well?**

FORTA-FI is the newest generation of fiber-reinforcement for asphalt and has been expanded into blends for Hot Mix Asphalt, Warm Mix Asphalt and hot/cold Asphalt Patch.

**Why is FORTA-FI a blend of different fibers and not simply all the same material?**

FORTA-FI is a blend of several different fibers that each play an important role in the reinforcement of asphalt. Some fibers are designed to melt into the mixture aiding the dispersion and adhesion of the high temperature fibers while enhancing both the cold and hot properties of your asphalt design. The high temperature fibers are among the strongest fibers made, and are only 1/10 the diameter of a human hair. This combination creates great tensile strength with more surface area for adhesion to the binder. It also assures an incredibly high fiber count for each dosage, and every ton of asphalt.

**Does the asphalt producer need to pre-measure the fibers?**

No, FORTA-FI is typically packaged in a (one bag per ton) dosage, and is added bag and all. While different size bag dosages are available for batch mixing if necessary, the process still requires no measuring.

**Where and when does FORTA-FI have to be added into the asphalt mix?**

FORTA-FI is added bag and all, at any point in the mixing process after the fines collection and before the addition of the liquid asphalt. While the fibers disperse uniformly and completely in seconds, it's best to allow as much mixing time as possible. Due to the many variations of asphalt mixers available, the specific location must be selected by the producer to work best with their process. Experience has shown however, that FORTA-FI mixes very easily.

**Are there any reference projects or case studies demonstrating the success of FORTA-FI?**

Results and details from our most recent research project conducted by Arizona State University, as well as some projects from our original asphalt-reinforcing product, FORTA AR<sup>®</sup>, are available at FORTA-FI.com.

**What is the difference between reinforcing with FORTA-FI fibers and woven mats?**

FORTA*fi*ed asphalt is reinforced in all 3 dimensions (Isotropic) vs. woven mats that only reinforce in 2 dimensions (Anisotropic). Cracks can, and do, form anywhere, reinforcement does little good if it's not at the crack.

**Can asphalt reinforced with FORTA-FI be recycled?**

Yes, but while many of the fibers will remain in the recycled material, new FORTA-FI should be added to the new mixture at the prescribed dosage.

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**Can using FORTA-FI be considered “green” and environmentally friendly?**

Yes, similar to the benefits provided by WMA over HMA, less FORTA*fied* asphalt is required per job saving natural resources, plant emissions, truck and equipment emissions, etc.

**Will FORTA Corporation be able to provide technical assistance if needed?**

FORTA Corporation will provide you as much information on our materials as is available, but our expertise lies in developing and producing reinforcing fibers for asphalt, not designing asphalt mixtures or roads.

**Are there any programs allowing me to try FORTA-FI without risk?**

Get FORTA*fied!* risk-free trial offer is available for a limited time. This program provides the best opportunity to try FORTA-FI on your nastiest application. Everyone has those areas that need resurfacing all too frequently, but due to logistics or budget, can never be done satisfactorily. When you see how well FORTA-FI outperforms traditional asphalt, we hope you will consider FORTA-FI for these tough situations and all your asphalt projects. Full details can be found at FORTA-FI.com.

**Will FORTA-FI be required to reinforce all asphalt projects in the future?**

Probably not, but FORTA*fied* asphalt is the only solution available to save you money now, or down the road.

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