



## Paving the way with Twaron®

The use of fibers to reinforce building materials can be traced back to ancient Egypt, when crude, raw “fibers” were added to clay blocks and bricks to increase sturdiness. Thousands of years later, the American company Forta Corporation has revolutionized this primitive idea. By combining high-performance synthetic materials with unique designs and shapes, Forta offers the international construction market valuable fiber reinforcement products that control cracking and add long-term durability to a wide variety of concrete and asphalt applications. In particular, over the past decade, Forta Fi®, a Twaron®-reinforced asphalt paving product, has proved very successful, allowing Department of Transportation authorities across the USA to significantly reduce their spending on asphalt paving.

### Key benefits of Twaron® for asphalt:

- Improved durability
- Superior abrasion resistance
- Higher resistance to chemicals and heat
- Superior dimensional stability
- Easy to integrate into production processes

# Twaron®



John Lindh

### **Forta: Strengthened construction materials**

Since being founded in Grove City, Pennsylvania, by Rodger Lindh in 1978, Forta's fiber-reinforced products have played an important role in the design and construction of Department of Transportation projects, public roads, large parking lots, and airport runways. Today, Forta continues to be the one of the most respected names in the fiber-reinforced construction products market. "One of our most successful products is Forta Fi<sup>®</sup>, which integrates Twaron<sup>®</sup> to deliver higher performance levels to asphalt pavements," says John Lindh, Vice President of Forta, and son of Rodger Lindh. "When we started partnering with Teijin Aramid 13 years ago, aramid-reinforced asphalt paving products were hardly used by public authorities. However, our Twaron<sup>®</sup>-

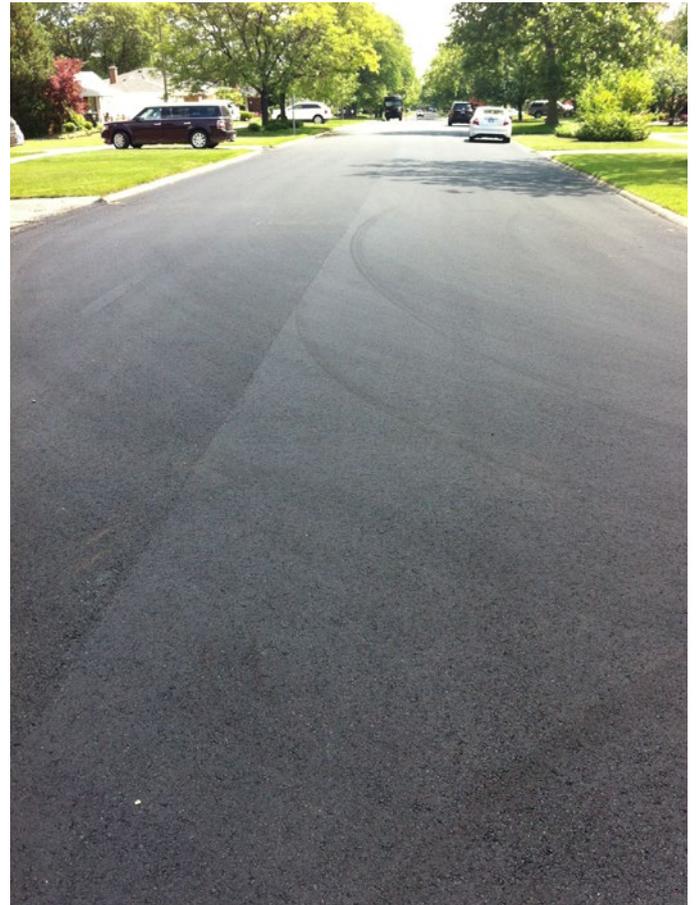
***"Forta has come a long way in a short time thanks to Twaron<sup>®</sup>."***

based product can deliver some pretty radical performance improvements, doubling the lifetime of asphalt in many cases. By giving away free samples to be tested by independent laboratories, awareness of this outstanding product has grown and grown. Nowadays, over 20 states in the USA use Forta Fi<sup>®</sup> in public paving, and we have a strong international presence. We've come a long way in a short time thanks to Twaron<sup>®</sup>!"

### **Higher safety and cost savings with Twaron<sup>®</sup>**

The use of Twaron, with its unique physical and chemical properties, delivers some sought-after, practical advantages to Forta products. "There's basically no infrastructure authority in the world that does not want their asphalt pavements to last longer, as this reduces the costs of

replacement and also increases the safety of the paving users," says John. "Our Twaron-based Forta Fi<sup>®</sup> fibers are distributed throughout the asphalt paving material to increase the strength and the durability of the mat, while helping to resist premature cracking and rutting. Forta Fi<sup>®</sup> also allows for thinner placement designs, saving money upfront on material costs, while still achieving similar design life. These higher performance levels can be achieved thanks to the combination of Twaron's high temperature resistance and high tensile strength. In addition, the Twaron we use in our production process is very fine. It does not clump, meaning it's easy to use."



*Aramid-reinforced asphalt paving*

### **Reinforcing the future with Teijin Aramid**

"Since the first day of our partnership with Teijin Aramid, the assistance we've received has always been fantastic," says John. "They have an outstanding technical and sales team, and have made us feel supported at all times. We've visited their production facilities in the Netherlands, and we've always been able to discuss any concerns with them in a quick and easy manner. While our Forta Fi<sup>®</sup> product has proved very successful over the last ten years, we're still

**Twaron<sup>®</sup>**



*Aramid-reinforced asphalt paving*

clearly in the infancy of aramid-reinforced asphalt paving. At Forta, we're experiencing strong year-on-year growth, and we're actively looking at ways of scaling up our partnership with Teijin Aramid, both through increased volumes of Twaron, and possibly integrating Twaron in more of our products. Through our partnership with Teijin Aramid, we're literally reinforcing the future of construction!"

*"Twaron® enables us to improve the strength and durability of the asphalt mat, while helping to resist premature cracking and rutting."*



For more information, please email [composites@teijinaramid.com](mailto:composites@teijinaramid.com) or visit [www.teijinaramid.com](http://www.teijinaramid.com)

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**Twaron®**