



## Customer Case

# On the fast track with Twaron conveyor belts

Yanzhou Coal Mining Company is China's fourth biggest coal mining company, producing around 75,000 kilotonnes of coal every year. To improve the efficiency of their processes, Yanzhou Coal began to use Twaron conveyor belts at the Baodian Coal Mine in Shandong in 2015. The new conveyor belts have delivered significant energy savings and minimized downtime. Yanzhou Coal will scale up its implementation of this technology in the coming years.

### Key benefits of using Twaron conveyor belts

- Energy savings
- Increased transportation capacity
- Reduced maintenance
- Longer lifetime
- Ease of installation

### Innovation driving greater efficiency

Mining industries across the world are looking for more efficient and more environmentally friendly practices. Yanzhou Coal Mine Company (YCMC) is a leader in the mining industry, both for the scope of its operations and its forward-thinking approach. To become more sustainable and efficient, Yanzhou Coal Mine recently decided to introduce Twaron conveyor belts in the mines. "Over the last few years, we've had to adapt our operations to ensure sustainable business growth," says Ma Gang, Deputy General Manager of Baodian Coal Mine at Yanzhou Coal Mine Company. "In particular, we were keen to improve both the sustainability and the efficiency of our production processes. We explored a range of different technical solutions, including the introduction of aramid-reinforced conveyor belts at our mines."

### A Twaron solution

Aramid fibers are renowned for their excellent material properties, which include superior impact and heat resistance, light weight and an outstanding high tenacity. Tangcun Industry, a well-established Chinese conveyor belt manufacturer and part of Yanzhou Coal Mine Company, advised that Twaron aramid conveyor belts should perform much better than conventional conveyor belts, with improvements in energy consumption and lifetime.

The underground Baodian Coal Mine was selected for the first Twaron conveyor belt installation. The Twaron conveyor belt substituted a ST2000 steel conveyor belt. The belt was 666 meters long, with a 5% inclination and a transport capacity of 1300t/h. The ease of installation and energy savings of 8% confirmed the benefits of using Twaron conveyor belts. After this positive experience, a second 3.4km-long Twaron conveyor belt was installed on a newly built system. The conveyor belt was designed for horizontal transport, with a capacity of 2,500t/h. The strength class of the belt was 2,250N/mm and the width 1.4m. "Aramid belts offer the same strength as belts made with fabric or steel, but with better performance in terms of energy consumption, product lifetimes, and transport capacity, as well as a lower cost of ownership," says Mr. Ma. "We've experienced these benefits first hand. For example, our Twaron-based conveyor belt works so well that the work load of our maintenance team has been roughly halved, and we've been able to reduce the total energy consumption at our mines by 25%. That's quite a lot!"



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*Ma Gang, Deputy  
General Manager of  
Baodian Coal Mine  
at Yanzhou Coal*

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The power of Aramid

“Thanks to the technical assistance of Teijin Aramid and Tangcun Industry, the belt manufacturer, we were able to introduce the belts successfully,” says Mr. Ma. “We’re very happy to have improved this integral part of our facilities. They are a significant improvement compared to the solid woven fabric and steel cord flame-retardant conveyor belts we used before. Not only have we made our transportation processes run more smoothly and efficiently, but we’ve also reduced our energy consumption radically –great for us and great for the environment!”

### **Efficiency opportunities for the mining industry**

In line with the organizational strategy of Yanzhou Coal Mine Company, the introduction of the first Twaron conveyor belts led to improvements in the company’s operational efficiency and sustainability. In fact, Yanzhou Coal Mine Company has since scaled up its use of this solution, introducing Twaron conveyor belts in more of the group’s mines. Yanzhou Coal Mine Company is not in unique circumstances; more mining companies around the world face the same operational challenges. If you think your company could benefit from the integration of Twaron conveyor belts, please contact our experts!



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



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