Wirtgen | Rock Crusher WRC 240i speeds up recycling project for new Trailer Port in Dresden

Particularly cost-efficient in-situ processing of coarse material from a demolition project

At the Dresden-Friedrichstadt port facilities, the state-of-the-art TrailerPort being built for rail-road transshipment requires a particularly stable, high-quality cement-treated base layer. This is the reason why a Rock Crusher WRC 240i from Wirtgen was chosen for the job. As the port has been rebuilt many times in its 130-year history, the ground on the site was interspersed with bricks, stone and remnants of foundations with edge lengths of up to 250 mm from the demolition of the old buildings and infrastructure.

In-situ processing of the ground

The contracted construction company chose the option of in-situ processing of the ground. A Rock Crusher WRC 240i was deployed for the crushing and homogenisation of the ground material on the 12,000 m² site. This meant that the existing material could be re-used in a particularly resource-friendly way and had the added benefit of eliminating the need for transporting materials to and from the site – saving more than 1,000 transport movements in all.

Heavy-duty crushing and mixing rotor

The Rock Crusher processed the ground material with its crushing and mixing rotor to a depth of 50 cm. With an advance rate of around 8 m/min, it achieved an average productivity of approximately 450 t per hour. The HT18 crushing tools shattered the material on the crushing bars and the screens retained this material in the crushing and mixing chamber until it met the material requirements (grain size: 0/32) and could pass through the 45 mm screen mesh. The homogeneously mixed material that remained behind the WRC was prepared for subsequent stabilisation by the addition of NovoCrete ST98 cement.

Base layer production after the crushing and mixing process

A bulldozer distributed the material evenly to achieve the desired subgrade. 80 kg/m² of cement mix was spread in two passes by a Streumaster SW 16 MC and then mixed in and homogenised by a soil stabiliser WR 250i. The Wirtgen WR was followed by a soil compactor for pre-compaction, a Grader for producing the fine subgrade and a smooth drum roller for final compaction.

Significant reduction of transport costs

The chosen approach brought the advantages of savings in terms of transport costs, time and resources. The recycling of the existing surface pavement and ground material in-place enabled the realisation of a sustainable and resource-friendly construction process. The base layer with a thickness of 48 cm was completed within two weeks. Soil replacement would have taken 8 to 14 weeks. However, the use of the Wirtgen WRC 240i enabled a significant reduction of the construction time and eliminated the costs of transporting material to and from the site.

Project details:

Total area: 12,000 m²  
Working width WRC: 2.32 m  
Working depth WRC⁢: 50 cm  
Clear mesh size on the WRC: 45 mm  
Advance rate WRC: 8 m/min

Productivity of the WRC: 450 t/h  
Coarse material in the ground: > 45-250 mm  
New cement-treated base layer (CTB): 48 cm  
Asphalt overlay (asphalt surface layer): 6.5 cm

Machines deployed

Recycler/soil stabiliser: Wirtgen WRC 240i/Wirtgen WR 250i  
Binding agent spreader: Streumaster SW 16 MC

Savings  
Saved transport movements: 1,000 truckloads  
Saved construction time compared to soil replacement: 6 to 12 weeks.

**Photos:**

  
W\_pic\_js\_WRC240i\_Dresden\_2024\_0001\_HI

A new Wirtgen Rock Crusher WRC 240i was used for the crushing and homogenisation of the ground material on the 12,000 m² inland port site.

  
W\_pic\_js\_WRC240i\_Dresden\_2024\_0007\_HI

A state-of-the art TrailerPort for rail-road transshipment is currently under construction at the Dresden-Friedrichstadt port facilities.

  
W\_pic\_js\_WRC240i\_Dresden\_2024\_0068\_HI  
The Rock Crusher WRC 240i processed the ground material to a depth of 50 cm with its heavy-duty crushing and mixing rotor.

  
W\_pic\_js\_WRC240i\_Dresden\_2024\_0080\_HI  
The result delivered by the WRC 240i: the homogeneous material mixed across the entire working width and to the full working depth provides a stable foundation for subsequent building construction.

Please note: the photographs shown here are only previews. If you wish to publish them in other media, please download the higher resolution (300 dpi) versions from the link provided here.

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