



Tunnel segment gaskets

Trelleborg supplies its highest performance profile for the first 2-way metro tunnel in Russia, St. Petersburg.

Trelleborg's Engineered Products operation has supplied a profile from its range of tunnel segment gaskets for the 'extension line 5' project of the Metro system in St. Petersburg, Russia. The challenge was to create a gasket that could operate at greater depths and higher pressures than a standard bored tunnel but still meeting a guaranteed life of 100 years.

Working closely with the engineers for the Metrostroy St. Petersburg, Trelleborg provided its largest elastomeric tunnel segment gasket, the CS024C, and its high performance sprayable adhesive to securely bond the gaskets to each segment. Deeper than the standard bored tunnel at 55 meters below ground, Trelleborg calculated with a design pressure of 10bar, as opposed to the usual 5 bar, to guarantee safety and performance for 100 years.

Nikolay Laptev, Deputy Chief Engineer – Head of technological department at Metrostroy St. Petersburg, said: "Infrastructure within St. Petersburg is being invested in heavily and this extension project is just the start of it. Due to the size of the development it was imperative that a manufacturer was specified that could cater for the size and depth of the tunnel, as well as meet stringent pressure and testing requirements. Trelleborg approached the challenge head-on and proved to be a very experienced and trustworthy partner.

"We have a long-standing and successful history with Trelleborg on projects such as the St. Petersburg storm surge barrier and would be keen to work closely with Trelleborg again in the future."

Vincent van de Vrie, Sales Manager within the Engineered Products operation of Trelleborg Offshore & Construction in Ridderkerk, the Netherlands, commented: "Due to the increased depth, the impact on the performance of the tunnel and its component parts would be much greater. As a result, we needed to provide our strongest solution and test it extensively for compression stiffness and water-tightness. In addition, we completed a trial fitting and provided local support and technical guidance to ensure the smooth running of the project wherever possible.

"This project is the first of a new design for St. Petersburg's Metrolines, so it was imperative that the design and dimensions of each segment was exact and easily transferrable."

Located in the pre-cast grooves surrounding the mating faces of each segment, Trelleborg's elastomeric gaskets give a secure rubber-to-rubber waterproof seal as soon as the segments are compressed together. Even when faced with natural ground movement and harsh wet and dry conditions, the seals remain functional and watertight.

With a proven track record for durability and reliability, costly remedial work to seal leaks after construction are therefore eliminated.

For additional information regarding these products, please visit our website at [Trelleborg Engineered Products](http://www.trelleborg.com/engineered-products)

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Notes to Editors:

Trelleborg Engineered Products and Trelleborg Group

As part of the Offshore and Construction business area of Trelleborg Group, Trelleborg Engineered Products is a world leader in the design and production of engineered rubber solutions which seal, damp and protect across a broad range of industries, including civil engineering, dredging and energy infrastructure. Manufacturing a range of engineered solutions including world class sealing systems for tunnels, flood barriers and sluices, noise and vibration isolation bearings, as well as grout seals for offshore wind farms, the company is also a leading supplier of hoses to the dredging industry. Based in Ridderkerk, the Netherlands, Trelleborg Engineered Products has supplied its products to many prestigious projects around the world, since its launch in 1879 www.trelleborg.com/infrastructure

Trelleborg is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments. Its innovative engineered solutions accelerate performance for customers in a sustainable way. The Trelleborg Group has annual sales of about SEK 21 billion (EUR 2.5 billion, USD 3.3 billion) in over 40 countries. The Group comprises five business areas: Trelleborg Coated Systems, Trelleborg Industrial Solutions, Trelleborg Offshore & Construction, Trelleborg Sealing Solutions and Trelleborg Wheel Systems. In addition, Trelleborg owns 50 percent of TrelleborgVibracoustic, a global leader within antivibration solutions for light and heavy vehicles, with annual sales of approximately SEK 15 billion (EUR 1.7 billion, USD 2.3 billion) in about 20 countries. The Trelleborg share has been listed on the Stock Exchange since 1964 and is listed on NASDAQ OMX Stockholm, Large Cap. www.trelleborg.com