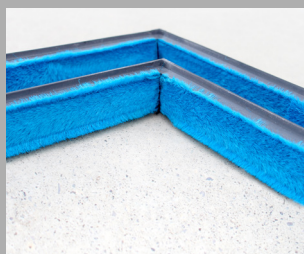


DATWYLER NEWSLETTER - QUARTER I / 2018

FIBER ANCHORED GASKETS

As a leader of innovations, Datwyler has enhanced glued and „feet“-anchored gaskets. Following the request from our customers, we are able to provide now anchoring the full gasket bottom with thousand of fibers, in contrast to the previous method of linear anchoring with feet made of rubber. The new fiber-anchored gaskets enable a freely positioning of the gasket in the concrete segment.



We introduce this new development at last AFTES in Paris and at STUVA in Stuttgart.

The project South Hartford is the first reference with our new fiber anchored gaskets.

LATEST PROJECTS

Paris EOLE RER / FR



BOUYGUES-EIFFAGE-RAZEL BEC anchored / „EOLE“ M 80 269
January 2018 - October 2019

- 3,082 sets
- 6,106 m long
- 10,700 mm OD

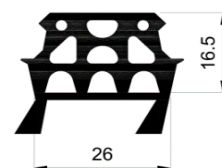


Sydney Metro 2 / AU



JH CPB Ghella JV anchored / „Lee Tunnel“ M 38 566
January 2018 - August 2019

- 16,400 sets
- 27,880 m long
- 6,690 mm OD

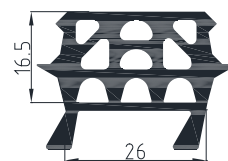


Riachuelo ID 4500 / AR



Consorcio CMI anchored / „Doha“ M 38 933
January 2018 - November 2018

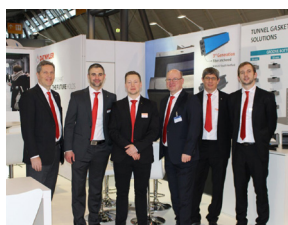
- 3,858 sets
- 5,400 m long
- 5,000 mm OD



LAST EXHIBITIONS



AFTES, Paris
November, 2017



STUVA, Stuttgart
December, 2017

LAST 10 REFERENCES



Northern Line Extension / GB

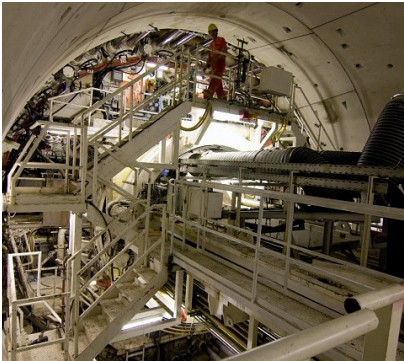


David Hicks (Senior Operations Manager), Morgan Sindall
Customer feedback

"The Datwyler M385 66 anchored gasket was successfully used to produce 3300 rings for the Northern Line Extension project in London. A delivery schedule was agreed before segment production commenced and Datwyler delivered to the agreed schedule without fail. We look forward to being able to continue our longstanding relationship on future projects."

- 3,328 sets of anchored gaskets were delivered
- 14 trucks were shipped
- delivery time 12 months

Bossfertunnel / DE



Norbert Stricker (Project Manager Bossfertunnel), ARGE PTS
Customer feedback

"We were satisfied with the quality of the developed DatBalance System from Datwyler. For questions the Datwyler staff were always available and could help us quickly. Datwyler's technical support was also very satisfactory."

- 3,688 sets of glued gaskets (DatBalance System) were delivered
- 19 trucks were shipped
- delivery time 18 months

RUBBER KNOWLEDGE - COMPOSITION OF ELASTOMERIC

In contrast to the plastics, which usually consist mainly of the polymer, elastomeric materials are complex. In addition to the base rubber, a number of additives are needed to produce technologically usable materials from raw rubber. The chemical structure of the base rubber mainly gives the properties, in particular the chemical and thermal resistance of an elastomer. An elastomer is made of the raw material rubber. The additives such as carbon black, mineral fillers, plasticizers, anti-aging agents and cross-linking agents can be used to vary and modify the physical properties such as hardness, strength, elongation, low-temperature flexibility, compression / tensile deformation behavior, heat and media resistance. In practice, this means that by appropriate combination of components elastomers can be produced with very different or even specifically tailored to the application properties.



Requirements for custom gasket corners in TBM tunneling projects

One reliable solution: Datwyler's Performance Corner

In the USA at Blacksnake Creek, a tunnel construction project is currently underway which will significantly improve the quality of the drinking water. Datwyler's Performance Corner is being used for the newly constructed tunnel pipe. By using this new system, the goal is to significantly reduce the number of overflows and avoid waste water running directly into the river. The pipe will catch the rain-water directly, separate it from the sewage system, and redirect it right into the Missouri River.

Tunnel characteristics demand for specific corners

The special properties of the Performance Corner are designed to ensure that the tunnel is leak-tight throughout the various geologies and to withstand the water pressure. It is critical here that the right adjustment is made for the corner geometry from which the relevant segment design is derived. This guarantees the perfect fit of the gasket in the segment. The custom fit results from the combination of the right cutting angle to the end of the section and the right adjustments to the opening and torsion angles, which are taken from the ring design for the segments. The adjusted angle of torsion prevents the corner from tilting and the formation of an additional offset to the adjacent gaskets which could result in possible leaks.

One deciding feature of the any corner is whether it possesses very high flexibility. For Datwyler this means the specifications for all projects are closely reviewed with a view to the required tightness of the seal and its spalling behavior, and the resulting corner geometry determined on this basis. This includes the exact evaluation of the position of the gasket groove for the outer edge of the segment. In doing so, a decision is made on which chamfer angle to choose at the end of the profile with resulting injected volumes, and to what extent the opening angle and torsion angle need to be adjusted. The profile length can be cut at 30°, 50°, or 90° in order to control the injected volumes. In the case of the new tunnel for the Blacksnake Creek project, there is a 50° cutting angle on the section ends in accordance with the specified corner geometry. The torsion angle must be adjusted to 8° and the opening angle to 71° or 109°.



produce
700.000
gaskets / year

have over
50
different
compounds

make over
250
watertightness
tests per year

http://www.railjournal.com/media/k2/items/cache/944c004199cfa789f9663253a3364d09_XL.jpg?t=1455121094
<https://www.sydneymetro.info/>
<https://www.projectmanagement.com/blog-post/31576/This-is-the-project-that-excavated-a-tunnel-to-12-kilometers-below-the-R-o-de-l-a-Plata--l>
<https://www.london.gov.uk/city-hall-blog/five-quick-facts-about-northern-line-extension>
<http://www.kirchdorfer.at/blog/bossertunnel-bahn-frei-fuer-maba-und-porr/>
<https://www.continental-corporation.com/de/presse/pressemitteilungen/faszination-kautschuk-94504>