

Transflex®

Bridge expansion joint systems



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The Trelleborg group counts on more than 25,000 employees in more than forty countries and more than 100 years experience in the fabrication of technical rubber products. We make large investments in R&D; we believe that innovation is essential to keep our leading position. Our salesmen, chemists and engineers work at finding the best solutions for our customers, developing all the time new materials, compounds, designs and production methods.

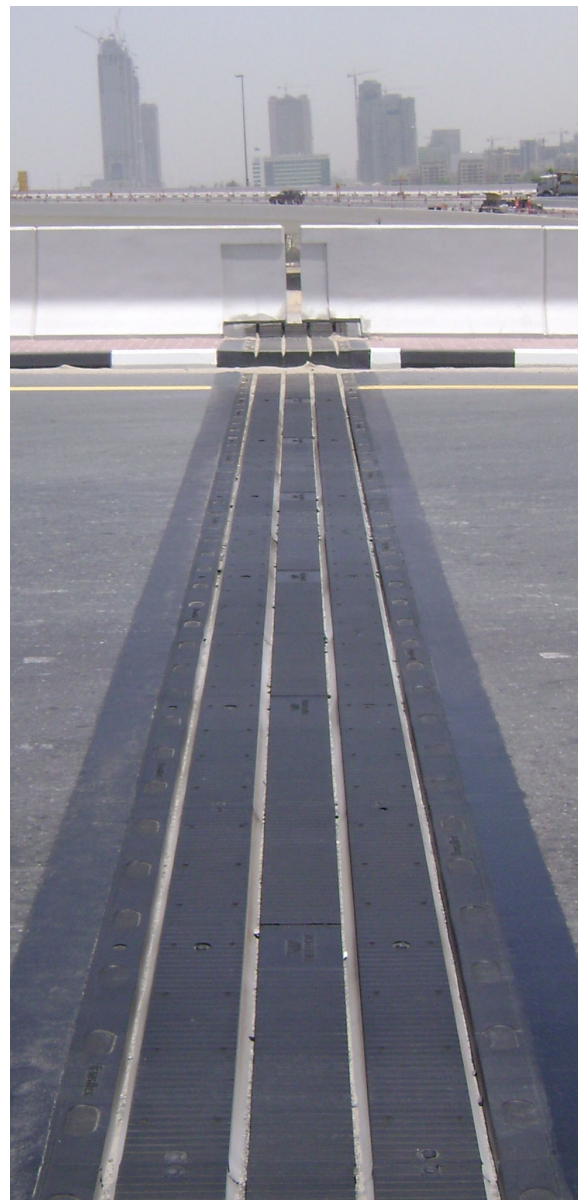
In 1964 an original modular bridge expansion joint system called Transflex® was launched for the first time.

Along these 50 years of the Transflex® system history it has evolved to offer solutions for the great challenges of civil construction, always keeping as a reference worldwide. This long experience has enabled us to have a deep knowledge of our customers needs and develop a complete range of Transflex® devices adapted to every environment.

The Transflex® system

The system consists of moulded steel reinforced rubber modules for smooth transit between two separate surfaces on the same plane, absorbing expansion and contraction, translation and rotation movements.

The Transflex® range is supplied in modules of a given length and is anchored to both sides of the structural joint. All Transflex® models offer the possibility to make special pieces for kerbs, walkways, correction of skewed joints and other contours. In this way, the continuity of the seal is ensured.



Why a Transflex® joint?

Historically bridges have been one of the greatest challenges of civil engineering. In the last century, the number of bridges and viaducts and their difficulty has increased exponentially and human talent has managed to solve the problems posed by the new challenges.

The bond between deck and the road is one of the weakest points of modern steel and concrete bridge structure.

A proper bond is key to bridge life. The system selected must provide a solid bond, enable transit of persons and goods; but at the same time allow for certain movements for the structure to adapt to the environment and thus endure with time.

The Transflex® device is designed for reinforcing this point so as to:

- absorb movement ranges including those of skewed joints.
- absorb movements from passing traffic, braking, settlement or rotation.



- damp the transmission of severe hits derived from traffic itself, accidents or other causes, to the bridge structure.
- absorb movements produced by the weather and natural forces: expansion or contraction of the structure itself from temperature changes, wind force, seismic movements
- provide efficient joint seal with the road, preventing early wear.
- provide comfortable and quiet traffic without damaging the vehicles.

Features

- In our modules, the rubber covers the steel reinforcement that entails a double benefit: the rubber protects the metallic part from corrosion and the steel reinforces the device structure.
- The rubber used is highly resistant to wear produced by tyres, to impacts and weather. Transflex® devices are designed to endure with time.
- The joint design includes drain channels that provide quick water removal preventing water stagnation. This delays the aging of the joint and reduces the possibility of accidents.
- Quick and simple installation. There is no need to use heavy machinery for the installation of new joints or replacing worn out joints.
- Special pieces for kerbs and walkways are designed, welded and cured to measure, according to the bridge contour, which ensures its uniformity and aesthetics.

Trelleborg provides the following services:

- Advice in the selection of the most adequate device.
- Fabrication and supply of the expansion joint
- Installation or installation supervision of the expansion joint.
- Maintenance work and replacement of the joint when appropriate.

The entire process of design, fabrication, distribution and installation is carried out from the Bridge Expansion Joint department, pertaining to the Infrastructure and Civil Engineering division of the Trelleborg group.

Most adequate solution from beginning to end

With more than two hundred thousand metres of Transflex® expansion joints installed, we have possibly the largest experience in the market endorsed by our design engineers and technical installation teams. We offer the right solution from the design stage to the final installation of the joint.

- **Design**

Bridge life is subject to the effectiveness of the expansion joints. That is why ensuring a proper design of the expansion joint for the structure and bridge features is essential. Our team of engineers will help to analyse the different factors in order to select the type of module to be installed.

- **Manufacturing**

One of the reasons for the endurance of Transflex® systems rests on the polymer of

the external elastic part: highly resistant to abrasion and impacts; it has been formulated to withstand the action of ozone and an ample range of temperatures without damage.

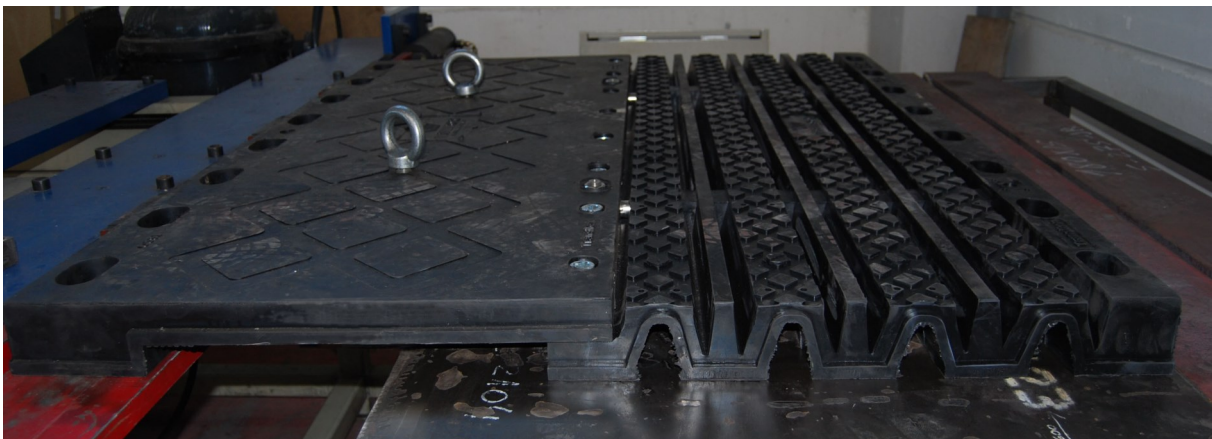
European standards that metallic components comply with as well as technical details of the elastomeric section are shown in the product data sheets.





- **Tests and quality**

Every material used for construction is subject to previous tests to ensure good performance of the final product. Also, periodically and randomly, devices are tested in our own facilities for traverse movements, opening and closing.

- **Installation**

The installation of the Transflex® joint is quick as it needs no structure under the surfacing layer to house it. It is worth mentioning that a proper installation of the expansion joint guarantees a long life and the service of the bridge. The huge experience of our technical teams offers maximum guarantee for an efficient and enduring installation.



Types of Transflex®	Movement absorption	Type of movement	Example of section
Standard	50 - 380 mm	Longitudinal Transverse	
Large movement	400 - 1.600 mm	Longitudinal	
Seismic	350 - 1.440 mm	Longitudinal Transverse	
B7 – B75	50 - 75 mm	Longitudinal Transverse Vertical	

Benefits

- Impact loads are perfectly absorbed by the device.
- Provide comfortable traffic over the joint without impairing vehicle damping.
- Ensure quiet rolling traffic.
- Outstanding endurance.
- Possibility to accommodate to skewed movements.
- Great capacity to absorb seismic movements.
- Easy and quick installation in case of replacement of worn out joints.
- Low maintenance costs as it is practically nil.
- Rolling traffic helps self cleaning of the device.
- Replacement of damaged parts takes little time, with minimum service interruption for bridge users.
- Technical support along the entire process: device selection, design, fabrication, installation and replacement.
- Short delivery time. We have stock of our standard Transflex® modules.
- After sale service.



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