

Highly Elastic Polymer-Modified Rail Joint Sealant. For Increased Dynamic Loading in accordance with TL/TP Fug-StB

Product Profile

GusjoinT-R Ultra is a hot-applied, polymer-modified, highly elastic bituminous rail joint sealant developed for the permanent sealing of rail joints exposed to increased movement.

The product has been specifically engineered for rail applications where, in addition to heavy traffic loading, significant vertical and horizontal relative movements occur between the rail and the adjacent pavement.

Its optimized elasticity and outstanding recovery properties enable reliable accommodation of dynamic movements and contribute to the long-term performance of the rail joint sealing system.

Typical Applications

GusjoinT-R Ultra is particularly suitable for:

- Rail joints subject to increased movement
- Tramway tracks with high traffic frequency
- Rail systems exposed to severe dynamic loading
- Heavily loaded rail crossings
- Industrial and factory railway systems
- Rehabilitation of existing rail joints requiring enhanced movement capability

Product Benefits

- Highly elastic polymer-modified formulation
- Exceptional elastic recovery
- Optimized accommodation of vertical and horizontal rail movements
- Excellent adhesion to steel, asphalt and concrete



- Outstanding resistance to ageing and weathering
- High resistance to continuous dynamic loading
- Easy application using standard hot-pour equipment
- Suitable for heavily loaded rail infrastructure

Packaging

12 kg anti-stick carton
25 kg anti-stick carton

Storage

Store in a cool, dry place protected from direct sunlight.

Material consumption

Material requirement (kg)

Joint length (m) × Joint width (mm) × Joint depth (mm) × Density (g/cm³) ÷ 1,000

Primer consumption: guideline value approximately 3% of the quantity of joint sealant used.

Safety Information

Observe all applicable occupational health and safety regulations during handling and application.

Further information is available in the current **Safety Data Sheet (SDS)**.

Application

Melting the Rail Joint Sealant

GusjoinT-R shall only be melted in **indirectly heated, thermostatically controlled melting kettles equipped with a mechanical agitator**.

The sealant shall be heated slowly to the recommended application temperature of approximately **160 °C**.

Overheating must be strictly avoided, as excessive temperatures may adversely affect the material properties and reduce the performance of the polymer-modified components.

Before each melting cycle, the melting kettle must be thoroughly cleaned. Residues from previously used sealants and carbonised material shall be completely removed.

Joint Preparation

Proper preparation is essential to achieve a durable and reliable rail joint seal.

Before sealing, the following conditions should be met:

- Carry out sealing work only under dry weather conditions.
- Minimum substrate temperature: **+3 °C**.
- Rail surfaces must be completely cleaned of rust, mill scale, corrosion protection coatings, oil, grease and all other contaminants.

- The joint and adjacent pavement faces should be mechanically cleaned and thoroughly blown out with compressed air.
- To improve adhesion, **GusjoinT-Primer** should be applied to the prepared joint faces up to the top edge of the joint.

Before sealing begins, the primer must be completely flashed off and dry to the touch. Special attention should be paid to the correct installation of the chamber filler elements. These must be installed in a dimensionally stable manner to ensure the specified joint geometry throughout the service life.

Recommended design limits:

- External joint width: **≤ 60 mm**
- Joint depth: **≤ 55 mm**

Joint Sealing

Before application, it must be ensured that the joint design prevents **three-sided adhesion**.

During installation, the specified application temperature shall be maintained at all times. Insufficient material temperature reduces flowability and may result in incomplete joint filling and the formation of voids.

The sealant should be applied using suitable equipment, such as heated application lances or pouring cans.

Partially cooled material must not be reheated or reused.

As the sealant undergoes slight volume shrinkage during cooling, application in **two stages** is generally recommended. The second pour should be carried out immediately after the first application while the surface remains clean and slightly glossy, ensuring a homogeneous bond between both layers.

Requirements for the Finished Joint

After cooling, the top surface of the sealant should be positioned approximately **3 mm below the top of the rail head**.

The type of rail support system (rigid or resilient) shall be taken into account during design and installation.

For rail settlements of up to **0.8 mm**, GusjointT-R may be used in accordance with the applicable technical specifications.

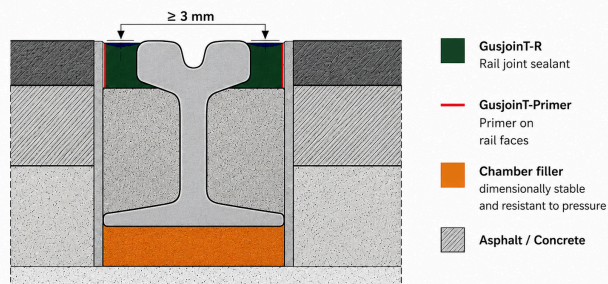
Where larger rail movements are expected, project-specific sealing solutions should be considered, as the anticipated movements may exceed the deformation capacity of conventional rail joint sealants.

Technical Summary

Application temperature	approx.. 160°C
Primer	GusjointT-Primer
Density	1,28 g/cm³
Minimum substrate temperature	≥ +3 °C
Standard	TL Fug-StB 24

INSTALLATION SCHEME – GusjointT-R

Rail joint sealant in accordance with TL/TP Fug-StB



Notes:

- Sealant surface min. 3 mm below the top of the rail head.
- External joint width ≤ 60 mm, joint depth ≤ 55 mm.
- Three-sided adhesion must be prevented.

Edition: July 2026. Subject to technical modifications without prior notice.