

1. Product Description

StenSeal® BRD is a hot-applied joint sealing material specially produced for bridge expansion joints, composed of modified asphalt, polymers, plasticizers and fillers. It protects the joints with its elastic and waterproof structure. It has high cold elasticity and resilience.

It allows heavy traffic shortly after application. It provides a silent and smooth ride for vehicles. **StenSeal® BRD** conforms to EN 14188-1 standard.

2. Uses

StenSeal® BRD is used in bridge expansion joints, fixed end joints and load bearing joints. It is suitable for repairing asphalt roads and for heavy vehicle traffic. It can be used in joints between concrete and asphalt.

3. Joint Design

The standard joint width with aggregate mixture should be 50 cm and the joint filling depth should be set as minimum 5 cm and maximum 20 cm. This dimension can be extended up to 60 cm if needed. In joint filling applications without aggregate mixture, the joint width should not be less than four times the expected movement or less than 6 mm.

Contact **Stenkim®** to determine the appropriate joint dimensions.

4. Application

4.1. Surface Preparation

Joint surfaces must be clean and dry. Oil, grease, bitumen, and old sealant residues must be completely removed. Loose materials on the joint walls must be removed; broken joint walls must be repaired.

4.2. Heating

StenSeal® BRD must be melted in a pot with mixer and temperature-controlled oil jacket. Material poured in the melting pot must be homogeneously heated and mixed. The mixture is heated to 180-200 °C and these temperatures are maintained during application.

Mixing should be carried out at low rpm and contact of hot material with air should be kept to a minimum. The temperature of oil in the jacket should never exceed 200 °C. Higher oil temperatures may damage the material due to local overheating.

4.3. Application

Melted material must be poured hot into the joint or crack. In large-scale applications, the use of pumping systems equipped with a heated steel hose is recommended. Especially in cold weather, it is recommended to heat the surfaces by means of an LPG burner or an electric blower and to apply **StenSeal® BRD** in hot joints for better adhesion.

Hot-Applied Elastomeric Joint and Crack Sealant for Bridge Expansion Joints

Highlights

- Hot applied elastic joint sealant for bridge expansion joints
- Asphalt-polymer-based
- Does not become brittle or crack at low temperatures; retains its elasticity
- Hardens quickly and withstands heavy traffic shortly after application
- Used for sealing cracks and joints at asphalt pavements



A closed-cell, heat-resistant **StenBacker** backer rod of the appropriate diameter is placed in the joint gap. With **StenSeal® BRD**, which is melted and made ready for use, the gap remaining on the backer rod is filled and the material is applied in a thin layer of 1-3 mm on all horizontal and vertical surfaces of the area to be filled. While the first layer is still hot, the steel plate is placed centrally over the joint gap and a single layer of **StenSeal® BRD** is applied to cover the plate.

The remaining part of the joint gap is filled with mortar consisting of **StenSeal® BRD** and 9.5 mm-19 mm gradation, heated aggregate. Add melted **StenSeal® BRD** into the aggregate heated to 180-200 °C in a drum and mix together. Fill the joint gap with the resulting mortar so that the joint gap is flush with the existing pavement.

The backfill is compacted and leveled by running a roller of sufficient weight in all directions over the applied material. For the last layer, the filling surface is heated with a heat gun, **StenSeal® BRD** is applied as a thin layer and this layer is covered by sprinkling fine aggregate. The joint is leveled by applying the roller process again.

4.4. Restrictions

Not suitable for wet or dirty joints. Joint surfaces must be clean and dry. During application, ambient temperature should not be below 10 °C or the dew point.

Application should not be made in very windy or rainy weather. If application under conditions outside this range is necessary, contact **Stenkim®**.

5. Cleaning

Equipment and any other tools contaminated with sealant must be cleaned before the sealant cures. For that purpose, tools first wiped with a cloth or rag must be cleaned with **StenSolver CL** or aliphatic solvents such as white spirit, kerosene and diesel fuel. These solvents are flammable, so they should not be used with hot equipment or near open flames.

Equipment cleaning with solvents should be done after the equipment has completely cooled down.

6. Safety

Applicators and supervisors must read the Material Safety Data Sheet (SDS) carefully and follow the instructions provided. Emptied packages must be handled in compliance with relevant regulations and laws. Required safety precautions must be taken during application of the material; application must be carried out by authorized applicators under expert supervision, and the applicators must use protective equipment such as goggles, mask and gloves.

7. Storage

The material must be kept in dry indoor storage. Recommended storage temperature is 10-25 °C. Under these conditions, the material will retain its properties in unopened containers for 12 months from the production date.

8. Disclaimer

This document is provided for general information and reflects **Stenkim®**'s laboratory data and field experience at the time of publication. **Stenkim®** reserves the right to revise this information at any time without notice.

Stenkim® warrants that its products conform to the stated specifications on delivery. The buyer is responsible for determining the product's suitability for the intended application and for all conditions of transport, storage, handling, and use. **Stenkim®** accepts no liability for results obtained under conditions outside its control. **Stenkim®**'s



liability under this warranty is limited to replacement of non-conforming product and excludes any consequential or indirect damages.

9. Technical Data

Property	Method	Result
Base Polymer		Styrene Butadiene Block Copolymer
Color		Black
Density		1.23 ± 0.1 g/cm ³
Elastic Recovery %		70
Cone Penetration (0.1 mm)		10
Sag at 70 °C, 24 hours		Pass - No flow
Sag at 84 °C, 24 hours		Pass - 2 mm
Brittle Onset Temperature		Lower than -25 °C
-20 °C Bond 100% extension		Pass
-25 °C Bond 100% extension		Adhesive / no cohesive damage (Concrete Breaks)
Minimum Application Temperature		170 °C
Softening Point		96 °C
Shelf Life		1 year
Packaging		11 kg packages

Stenkim® reserves the right to make changes to the values in this table at any time.

