

1. Product Description

StenSeal® BRD is a hot-applied joint sealant specially produced for bridge expansion joints, composed of modified asphalt, polymers, plasticizers and fillers. Being elastic and water-impermeable, it protects the joints. It has high low-temperature flexibility and recovery.

The area can be opened to heavy traffic shortly after application. It provides a quiet, smooth ride for vehicles. **StenSeal® BRD** conforms to the 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

In applications with aggregate mixture, the standard joint width must be 50 cm and the joint filling depth must be set as 5-20 cm.

This dimension can be extended up to 60 cm if needed. In joint filling applications without aggregate mixture, the joint width must 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 joint materials must be completely removed. Loose material on the joint edges must be removed; broken joint edges must be repaired.

4.2. Heating

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

Mixing must be carried out at low rpm and contact of hot material with air must 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 with an LPG burner or an electric hot-air gun and to apply **StenSeal® BRD** to the hot joint to ensure good adhesion.

Hot-Applied Elastic 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 at low temperatures and retains its elasticity
- Becomes suitable for heavy traffic shortly after application
- Used for sealing cracks and joints in 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 heated aggregate graded from 9.5 mm to 19 mm. Add melted **StenSeal® BRD** to 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 fill is compacted and leveled by running a roller of sufficient weight in all directions over the applied material. Before the last layer is applied, the surface of the compacted filler mortar is heated with a flame torch. **StenSeal® BRD** is applied as a thin layer and fine aggregate is broadcast over it. The joint is leveled by compacting it again with the roller.

4.4. Restrictions

It cannot be used in wet or dirty joints. Joint surfaces must be clean and dry. During application, ambient temperature must not be below 10 °C or the dew point.

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

4.5. Cleaning

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

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

5. Safety

Applicators and supervisors must read the Safety Data Sheet (SDS) carefully and follow the instructions provided. Emptied packages must be disposed of 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.

6. Storage

The material must be kept in dry indoor storage. The 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.

7. Disclaimer

This document is provided for general information and is based on **Stenkim®**'s laboratory data and field experience at the time of publication. **Stenkim®** reserves the right to revise this information without prior 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 purpose and for all conditions of transport, storage, application, 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.

8. 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
Flow at 70 °C, 24 hours		Pass - No flow
Flow at 84 °C, 24 hours		Pass - 2 mm
Brittleness Temperature		Below -25 °C
Adhesion at 100% Extension @-20 °C		Pass
Adhesion at 100% Extension @-25 °C		No adhesive or cohesive failure (concrete failure)
Minimum Application Temperature		170 °C
Softening Point		96 °C
Shelf Life		1 year
Packaging		11 kg packages
Related Standards		EN 14188-1

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

