StenSeal® ASR-E

1. Product Profile

StenSeal® ASR-E is a hot applied crack repair and joint sealant, composed of modified asphalt, polymers, plasticizers and fillers. It has high cold elasticity and resilience. It enables heavy traffic conditions soon after its application. It is suitable to be used for filling cracks, canals and joints in asphalt pavements, and concrete asphalt joints.
StenSeal® ASR-E is available in 14kg packages.

2. Uses

StenSeal® ASR-E can be used for repairing cracks and small sized broken surfaces, sealing cable canals and joints at any kind of asphalt surface. It is suitable to be used at infrastructures that do not in contact with solvents and fuels since it does not allow microbiological contamination and it is elastic. It can also be used safely at concrete and concrete-asphalt joints.

3. Joint Design

Joint width must not be less than four times the expected movement or 10 mm. Up to 15 mm width, joint sealant depth must be equal to the width. Between 15-30 mm joint widths, sealant depth must be equal to 80% of the width. For wider joints, sealant depth must be set to 30 mm. For adjusting depth backer material must be used inside the joint. For localizing the cracks caused by contractions that may occur during and after curing at new concrete pavements, design and sealing of the contraction joints left before cure or saw cut after cure are also important. It is recommended that you refer to our technical document on joint design.
For dynamic cracks in asphalt and concrete pavements, it is recommended to saw the cracks in horizontal lines. For static cracks, joints and minor repairs, the application depth should be wider than the width or 4mm, if not it should be cut to reach appropriate dimension.

Hot Applied Elastomeric Joint and Crack Sealant

Highlights

- Asphalt-polymer based
- Hot applied
- Does not get brittle or fractured under cold temperatures; keep its elasticity
- Hardens in a short time to bear heavy traffic conditions
- Used for sealing cracks and joints at asphalt pavements

4. Application

Surface Preparation

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

Backer Material

A heat resistant material, which preferably does not adhere to the sealant, must be placed in the joint in order to attain the sealant depth determined according to the joint width. Cotton or PP rod is suitable for this purpose. Diameter of the rod must be 5 10% larger than the joint width; the rod must be placed tight in the joint. Dried sand can be used at places with no frost danger and low joint movement. In such cases, it is helpful to place a masking tape over sand in order to prevent adhesion to the sealant.

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Heating

StenSeal® ASR-E 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 must be heated up to and stabilized at 160 170 °C. Mixing should be carried out at low rpm and hot material should not be allowed to contact with air as far as possible. The temperature of oil should never exceed 200 °C. Higher oil temperatures may damage the material due to local over-heating.

Application

Melted material must be poured hot into the joints. In large scale applications, use of pumping systems equipped with heated steel pipe 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® ASR-E in hot joints for better adhesion. If the slope of the joint is higher than 2%, it is useful to place backer rods perpendicular to the joint at certain distances in order to prevent flow. Application must not be carried out at temperatures below 10 °C and at extremely windy or rainy weather.
Sealing cracks: Generally, it is helpful to saw the cracks to form a groove of minimum 10 mm depth and 10 mm width. These kinds of cracks should be filled like joints. Repair after saw cutting is sufficient at places where the cracks are infrequent. In case of severe cracking, coating for narrow cracks and combined sealing for wide cracks are recommended.
The width of the joints and cracks in the asphalt is not so important if they are static. If the depth of application is at least width of the crack, this kind of cracks could be repaired without opening canals. But to ensure the exact depth and surface cleaning it is recommended to open canals.

5. Cleaning

Application devices and other sealant smudged devices must be cleaned before the sealant cures. For that purpose, tools first wiped with cloth or oakum must be cleaned with StenSolver CL or aromatic solvents such as toluene and xylene.

6. Safety

Required safety measures must be observed during the application of the material and the applicators must use protective clothing, gloves and goggles. Applicators and supervisors must read Material Safety Data Sheet (MSDS) of the material.

7. Storage

Shelf life in unopened containers is 1 year. It must be protected against frost. Frozen material cannot be melted and reused.

8. Company Liability

The information contained in this document is based on site experience of and laboratory tests done by Stenkim® and meant to give general information. It is the purchaser's responsibility to ensure applicability of products to their use. All Stenkim® products are available in specified quality and conditions. The company accepts no liability whatsoever unless the transportation, storage, application conditions and customer use are overseen by Stenkim®. Stenkim® reserves the right to update all information contained in this document without notice.

9. Technical Data

Property	Test Method	Result
Base Polymer		Styrene Butadiene Block Copolymer
Color		Black
Movement Capability		20 %
Density		1.40±0.05 g/cm^3
Durometer Hardness (Shore)	ASTM D 2240	A40±5
Maximum Heating Temperature		170 °C
Penetration	ASTM D 5329	3.5±0.5 mm
Flow	ASTM D 5329	1.0 ± 0.5mm
Rebound	ASTM D 5329	>50%
Asphalt Compatibility	ASTM D 5329	Pass

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

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