StenSeal® SI 110

1. Product Profile

StenSeal® SI 110 s a single component, cold applied, self leveling, low modulus silicone joint sealant.

StenSeal® SI 110 is designed for outdoor concrete pavements and resistant to all elements. It is suitable for heavy traffic conditions, jet blast and non-continuous chemical contact. StenSeal® SI 110 is resistant to fuels, hydraulic fluids and oils and dynamic movements. It is highly resistant to UV radiation and temperature extremes.

StenSeal® SI 110 is fully compliant to ASTM D 5893 and classified as Type A, SL, S under EN 14188-2.

StenSeal® SI 110 is available in 5 gal (18.9 l) cans, 50 gal (189 l) drums, 29 fl oz cartridges or 600ml (20.3 fl oz) sausages.

2. Uses

StenSeal® SI 110 is for horizontal joints and cracks. It can be used for indoor and outdoor applications. It is suitable for joints of airports, roads, bridges, refineries, chemical facilities. It is used at expansion and contraction joints. It can be applied to asphalt or cement concrete pavements.

It adheres to properly prepared joints without a primer.

3. Joint Design

Joint width must not be less than two times the expected movement or 1/4', whichever is higher. Up to 1-inch width, joint sealant filling depth must be equal to half of the width but never to less than 1/4'. Refer to consumption table on the next page. For wider joints, contact Stenkim®.

For adjusting depth, a backer rod must be used inside the joint. Since the joint will not be filled to the top end, the backer rod must be placed to calculated sealant depth plus recess depth.

For localizing the cracks caused by contractions

that may occur during and after curing at new concrete pavements, distance, width, depth and sealing time of the contraction joints are important. It is recommended that you refer to our technical document on joint design.

Self-Levelling
Silicone Joint Sealant

Highlights

- Silicone based, single component.
- Ultra-elastic with low-modulus and high elongation
- +100/-50 movement capability
- Ideal for horizontal joints
- Primer free application
- Adheres to asphalt and cement concrete
- Long lasting
- Resistant to jet fuels, oils, diluted acids and bases, various chemicals.
- Resistant to UV radiation, does not discolour
- Resistant to jet blast and high temperature
- Ready to use and easy to apply
- Ideal for airports, highways and large outdoor pavements

4. Application

4.1. 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.

StenSeal® SI 110 does not adhere to wet surfaces as good as dry surfaces. Therefore, the joints must be dry and the sealant must not contact water until end of tack free time.

Stenkim Kimyasal Maddeler Sanayi ve Ticaret A.S.
Office: Portakal Cicegi Sok. Ansera Is Merkezi 17/126 Cankaya/ ANKARA Tel: +90 312 442 2630 Fax: +90 312 442 2615
www.stenkim.com.tr

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Joint Width	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/8"	1-1/4"	1-3/8"	1-1/2"
Sealant Thickness	1/4"	1/4"	1/4"	5/16"	3/8"	7/16"	1/2"	1/2"	1/2"	1/2"	1/2"
Sealant Recess	1/4"	1/4"	5/16"	5/16"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Backer Rod Diameter	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"	1-1/2"	1-1/2"	1-3/4"	2"
Minimum Backer Rod Depth	1/2"	1/2"	5/8"	11/16"	3/4"	13/16"	7/8"	1"	1"	1"	1"
Usage (ft/29 oz cartridge)	69	46	34	22	15	11	8	7	6	6	5

4.2. Primer

StenSeal® SI 110 can be used in cement concrete and asphalt concrete joints without a primer. For other kinds of surfaces a primer may be necessary. Please contact Stenkim® for guidance.

4.3. Backer Material

A rod 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. Closed cell polyethylene foam rods are suitable for this purpose. Diameter of the rod must be 10 – 25% larger than the joint width; the rod must be placed tight in the joint. Rods must not be damaged during placement. In wide joints, semi-rigid materials like polystyrene foam can be used instead of rod. In such cases, it is helpful to place a polyethylene tape over backing material in order to prevent adhesion to the sealant.

4.4. Application

The application process varies slightly depending on the packing. If the product is in 50-gallon drums or 5-gallon cans, it can be applied by a pump directly from the container or can be transferred to a hand pump. The sausages should be cut on one end and put in a caulking gun. The cartridges are ready to use.

While the sealant is applied the tip of the gun or cartridge must be moved forward by sliding over the backer rod in the joint. The application pump or the caulking gun must have a nozzle appropriate to the joint width. If cartridges are used, the nozzle must be cut to correct diameter. The foil just beneath the cartridge nozzle must also be punctured.

The sealant must recess approximately 1/4-1/2 inches from the top. It must be ensured that no gap is left under the sealant and sufficient amount of sealant is used. After the application sealant surface can be finished by means of a spatula. Since the material that comes in contact with the air will harden, it is advised to use whole packages in the shortest possible time. The lids of drums and cans must be kept closed during any interruptions.

4.5. Application Tools

Application gun or sausage gun and spatula. Professional quality tools must be used.

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

Applicators and supervisors must read Material Safety Data Sheet (MSDS) carefully and observe the considerations written therein. Emptied packages must be handled in compliance with relevant regulations and laws.

7. Storage

The material must be kept in dry indoor storages. Recommended storage temperature is 50 – 90ºF. Stored unopened in these conditions, the shelf life is 12 months.

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	Requirements	Result
Cure Evaluation	ASTM D5893	Pass at 21 days	Pass at 14 days
Rheological Properties	ASTM D2202	Smooth Level Surface	Smooth Level Surface
Extrusion Rate	ASTM C1183, Type S	> 50 ml/min.	> 65 ml/min.
Tack Free Time	ASTM C679	5 hr. max.	<120 minutes
Effects of Heat Aging	ASTM C792	<10% Loss	<6% Loss
Bond -20°F, 100% extension	ASTM D5893		
Non-Immersed		Pass 5 Cycles	Pass 5 Cycles
Water Immersed		Pass 5 Cycles	Pass 5 Cycles
Oven-Aged Pass		Pass 5 Cycles	Pass 5 Cycles
Hardness @ -20°F	ASTM C661	< 25 Shore A	< 8 Shore A
Hardness @ 73°F	ASTM C661	> 30 Shore OO	> 30 Shore OO
Flow	ASTM D5329	No flow	No flow
Rubber Properties in Tension	ASTM D412		
Ultimate Elongation		>600%	>600%
Stress at 150% Elongation		<45 psi	<45 psi
Effects of Accelerated Weathering	ASTM C793	Pass 5000 hours	Pass at 5000 hours
Resilience	ASTM D5893	> 75%	> 90%
Base Polymer		Single Component Silicone	Single Component Silicone
Solids Content %			98
Color			White/Gray/Black/Red/Blue
Specific Gravity			1.28±0.05
Sustained Extension Capability			100%
Sustained Contraction Capability			50%
Adhesion and Cohesion Properties	EN 14188-2	No Failure	Pass
Hydrolysis Resistance	EN 14188-2	< 50% hardness change	Pass
Cure Time for Trafficability @73°F			1/8 inches/day
RELATED STANDARDS: ASTM D-5893, EN 14188-2			

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