StenSeal® 2PT 211

1. Product Profile

StenSeal® 2PT 211 is a two component, cold applied, chemically curing, non-sag type, polyurethane based, coal tar modified, elastomeric material with high abrasion resistance and adhesion; suitable for heavy traffic conditions; resistant to jet fuels, hydraulic fluids and oils and dynamic movements. It is fully resistant to UV radiation.

StenSeal® 2PT 211 is classified as Type M, Grade NS, Class 25, Use T according to ASTM C920.

StenSeal® 2PT 211 is available in 10 kg sets.

Jet Fuel Resistant
Cold Applied
Non-sagging
Polyurethane Sealant

Highlights

- Polyurethane based, two component
- Cold applied and non-sagging
- Ideal for sloped, vertical and overhead joints
- Cures chemically
- High abrasion resistance and adhesion
- Resistant to dynamic movements
- Resistant to jet fuels, oils, diluted acids and bases, various chemicals
- Resistant to UV radiation
- Curing time can be adjusted

2. Uses

StenSeal® 2PT 211 is produced especially for runways, park areas, terminals and ramps, cargo fields and roads at airports. At the same time, it is also a very compatible and economic joint sealant for highways subject to all types of traffic, secondary roads, bridge connections, ramps, stadium, industrial floors, pavements, fuel oil stations, roads and concrete fields at petrochemical and other industrial facilities. It is suitable for all kinds of vertical, sloped and overhead outdoor joints.

3. Joint Design

Joint width must not be less than four times the expected movement or 8 mm. Up to 15 mm width, joint sealant depth must be equal to the width. Between 15 and 25mm joint widths, sealant depth must be equal to 80% of the width (min. 14mm). For wider joints, sealant depth must be set to 20mm. For adjusting depth backer material must be used inside the joint.

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® 2PT 211 is affected from water before curing like all other polyurethane materials. Therefore, the joints must be dry and the sealant must not contact water until chemical curing occurs.

4.2. Primer

StenSeal® 2PT 211 can be used in concrete joints without primer. However, in any case primer application minimizes the negative effects of possible contamination, concrete moisture and loose materials. Therefore; StenAst® S is recommended for all kind of surfaces.

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.

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Joint Width - mm	8	10	12	14	16	18	20	24	28	32	36
Sealant Thickness - mm	8	10	12	14	14	14	16	19	20	20	20
Sealant Recess - mm	4	5	6	7	7	7	8	10	10	10	10
Backer Rod Diameter - mm	10	13	15	18	20	23	25	30	35	40	45
Minimum Backer Rod Depth -mm	12	15	18	21	21	22	24	29	30	30	30
Usage (meter / 10kg)	104	67	46	34	30	26	21	14	12	10	9

4.4. Application

StenSeal® 2PT 211 consists of two components, namely A and B, and these are packed in proportional mixing ratios. First the container of component A is opened and it is homogenized for 1-2 minutes, then all of component B is poured onto component A and it is mixed via a low speed (100/500 rev/min) drill and a suitable paddle for 3 minutes. Longer mixing times are required to obtain a homogeneous mixture in manual mixing (not recommended). During mixing the mixer must be moved inside the container and it must be ensured that no air is trapped inside. Mixed material must be used within the pot life and thickened materials must not be thinned and used.

Prepared mixture is filled into a refillable type application apparatus with piston (sealant gun – applicator). A nozzle with a diameter enabling it to enter into the joint must be fitted to the apparatus and while the sealant is applied this tip must be sliding over the backer rod in the joint. Thus, it is 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. Application can be carried out directly with a spatula.

It is recommended to tape both sides of the joint before starting application on joints especially where the decorative look is important. In this manner material smeared outside of the joint during the application is removed by pulling off the tape after the application.

Sealing cracks: Repairing the cracks formed and ensuring impermeability is especially important on concrete pavements at airports and highways. StenSeal® 2PT 211 can be used for such purposes too. Generally, it is helpful to saw the cracks to form a groove of minimum 10 mm depth and 6 mm width. Repairing after saw cut is sufficient at places where the cracks are infrequent. In case of severe cracking, it is recommended to coat narrow cracks and seal wide cracks.

4.5. Accelerated Curing

In cases where curing is desired to be completed sooner, accelerator StenQuick PU can be used. In order to attain a comfortable application time under very hot weather conditions, decelerating the curing may be desired; in such cases it is recommended to use inhibitor StenSlow PU.

For more information about curing times adjustments, please contact the producer.

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 10-25°C. 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.

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9. Technical Data

Property	Test Method	Result
Base Polymer		Two Component Polyurethane
Solids Content %		100
Color		Brownish - Black
Movement Capability	Expansion	25 %
Movement Capability	Contraction	25 %
Flow		Non-sag
Elongation at Break	ASTM D 412 Die B	>300%
Density	TS 5926 EN 14188-2	1.50±0.05 g/cm^3
Durometer Hardness (Shore)	ASTM D 2240	A20±5
Resilience	TS 5926 EN 14188-2	>90 %
Pot life of the mixture @20°C		2 hours
Tack free time @20°C	TS 5926 EN 14188-2	8 hours
Cure Time for Light Trafficability @20°C		24 hours
Cure Time for Heavy Trafficability @20°C		2 days
Cure Time for Chemical Resistance @20°C		4 days
RELATED STANDARDS: ASTM C-920, TS 5926 EN 14188-2, ISO 11600		

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

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