

KEM JOINT GG and KEM JOINT PG

Two Component Gun and Pouring Grade Polysulphide Sealant

Description

KEM JOINT GG and KEM JOINT PG is a two component joint sealant based on a high quality liquid polysulphide polymer. The cured sealant is a tough rubber like seal exhibiting excellent adhesion to most surfaces including concrete, glass, aluminum; stainless steel etc., with the use of appropriate primers. Chembond Polysulphide sealants are available in two grades:

1. Gun Grade: This is ideal for general application on vertical & horizontal surfaces.

2. Pouring Grade: This is for application in horizontal joints

Uses

Sealing joints subject to expansion and contraction resulting from temperature changes in buildings and civil engineering structures including superstructures, reservoirs, floors, basements, subways. Some of the recommended applications are as follows:

- As a highly elastomeric sealing material for expansion and crack control joints.
- For sealing curtain wall panels, tilt-up panels, window glazing, flashing and material setting.
- For joint sealing applications where a short curing period is required such as expansion and contraction joints in shopping centers, side walks or any other traffic areas.
- For sealing coping joints and deck joints in frequently watered areas such as swimming pool decks, planters pots, etc.
- For sealing horizontal joints and vertical joints where movement is expected or where other mastics would prove to be ineffective.
- For sealing joints in reinforced concrete structures such as reservoirs, water treatment works, sea walls and roads etc.
- They are particularly recommended for use in high rise buildings and other applications where access for subsequent maintenance will be difficult and the risk of early movement failure must be minimized. It is also suitable for sealing joints in brickwork, retaining walls, basements and subways.

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Advantages

- √ A high quality product meeting key international standards.
- √ It forms a tough elastic rubber like sea
- √ Outstanding resistance to deterioration due to weathering, ozone, UV Light and attack by chemicals present in industrial atmosphere.
- √ Ability to withstand continuous and pronounced cyclic movements.
- √ Excellent adhesion to most of the commonly employed materials in building and construction.

Standards

- British Standards BS 4254-1983
- British Standards BS 6920-1988
- Indian Standards IS 12118
- US Federal specification TTS 00227 E Type II Class A.
- ASTM C 920-2002, Type M Class 25 Grade P & NS. Suitable for Potable water use (KEM JOINT GG only).

Typical properties

Appearance: Multi component pasty compound.

Type: Gun Grade & pouring grade- grey

Application

Temperature: 5 to 50⁰C

Solid content: 100%

Cure

Mechanism: Chemical cure

Movement

Accommodation

Factor (BS 6093): 25% Butt joint

50% Lap joints

Pot life: 2 Hours @ 25⁰C

1 Hours @ 35⁰C

Setting time: 60 Hours @ 10⁰C

18 hrs @ 25⁰C

12 hrs @ 35⁰C

Cure time in weeks:

Grey White/Off-white

10⁰C 3 6

25⁰C 1 2

35⁰C 0.5 1

Hardness (Shore A @ 25⁰C):

KEM JOINT GG 22+/- 3

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KEM JOINT PG 16 +/-3

Density: KEM JOINT GG 1.67 to 1.72

KEM JOINT PG 1.55 to 1.65
according to color and grade

Chemical Resistance to Occasional Spillage:

Resistant to dilute acids, dilute alkalis, petrol, aviation fuels, diesel fuels, kerosene, lubricating oils, skydrol & white spirit.

Not Resistant to Chlorinated Solvents, Aeromatic Solvents & Dilute oxidizing acids.

Gun Grade: Grey is preferentially recommended, for resistance in microbiologically active situations & in aerobic conditions.

Water Immersion: KEM JOINT GG and KEM JOINT PG must be fully cured prior to subjecting it to permanent immersion in water. Use of Primer is mandatory in such an application.

Flammability: Burns but does not readily support combustion.

Direction for use

Joint Preparation:

- Concrete & Masonry: Surfaces must be clean and dry. Wire brush thoroughly to remove all contaminants and dust.
- Metals: Remove any corrosion or mill scale by grit blasting or shot blasting. Degrease with clean lint free cloths soaked in oil free cleaning solvent.
- Wood: Wood surfaces must be clean and dry. Cut back or abrade to expose sound timber.
- Glass and Glazed Materials: Thoroughly clean surfaces with clear lint free cloths soaked in oil free cleaning solvent.
- Coated surface: Coating should be removed and surface treated as above:

Any expansion joint filler must be checked to ensure it is tightly packed and no gaps or voids exist at the base of the sealing slot before positioning a bond breaker. The use of a bond breaker is not required in expansion joints

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containing polyethylene expansion joint fillers. For construction or contractions joints a bond breaker tape or back-up strip should be used. Where hydrostatic pressure exists, only bond breaking tapes must be used, not foamed back-up strips. Where a particularly neat finish is required, mask the fade edges of the joint before priming and remove immediately after tooling is completed.

Priming: When primers are required they are used as follows:

1. KEM PRIMER PU

It is a one part: chemically active clear liquid for brush application to concrete, stone, brickwork, timber and unglazed edges of ceramic tiles. One thin coat should be applied using a clean, dry brush, ensuring complete coverage. Avoid over-priming resulting in an excess of primer in the base of the joint or application beyond faces. The mixed quantities must be applied when the primer is tack free, that is after the evaporation of the solvent but before the primer film has completely reacted. After three hours @20°C or 90 minutes @35°C the surfaces must be re-primed before applying the sealant. Iron and steel must be protected with an anti-corrosion primer prior to sealing.

2. KEM PRIMER

For use on glass and ceramics which are to be permanently immersed in water. It is one part chemically active clear liquid for brush or pad application. One thin coat should be applied and allowed to dry for 2 to 5 minutes prior to sealant application.

3. KEM PRIMER EP

It is a two component transparent epoxy polysulfide primer. This is especially recommended for use in severe service: requirements such as water reservoirs, sewage treatment plants, areas subject to fuel and oil attack and highly trafficked areas etc.

Mix base component and hardener component thoroughly in the base can and use within 2 to 3 hours @25°C. The coverage is normally 10-14 m²/litre. One thin coat-should be applied by using a clean brush ensuring complete coverage. The mixed sealant is applied when primer is tack free that is

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after solvent has evaporated but before the film has completely reacted.

Mixing:

1. Gun Grade: The base component and curing agent are mixed thoroughly using a slow speed drill (300-500 rpm) fitted with a Paddle Stirrer for 5 minutes. Only thorough mixing, including material right at the bottom of the tin, will result in proper curing. In cold weather It mixes more easily if stored overnight at room temp. Immediately after mixing load the sealant into a caulking gun using the follower plate, and apply to the joint.

2. Pouring Grade: "KEM JOINT PG" grade is mixed as per gun grade instructions. The pouring grade may be poured directly into horizontal joints. However for joints less than 15mm wide a caulking-gun may be used.

Finishing:

It should be tooled to a smooth finish. A minimum of surface lubricant such as dilute detergent solution may be used to assist the process. Any masking tape should be removed immediately after tooling.

Joint Design Criteria:

Joint size may range from a minimum of 5mm to a maximum 50mm wide. Joints with cyclic movements should have width: depth ratio 2:1 and designed such that total movement does not exceed the 25% MAF

Minimum sealant depth recommended:

- 5 mm for metals, glass and other impervious surfaces.
- 10 mm for all porous surfaces.
- 20 mm for joints exposed to traffic and hydrostatic pressures.
- 5 mm below flush for joints exposed to traffic.

The use of surface primer is recommended on porous surfaces. On non-porous surfaces a primer is not normally required except where glass or glazed surfaces are to be permanently immersed in water.

Estimation of quantities:

Coverage of KEM JOINT GG and KEM JOINT PG in metres runs per 4 kg Pack, in various joints dimensions is tabulated below:

Depth	of joint (mm)							
	5	10	15	20	25	30	40	50
5	100	50	-	-	-	-	-	-
10		25	16.0	12.5	10	8.30	-	-
15			11.0	8.3	6.6	5.55	-	-
20				6.1	5.0	4.15	3.1	-
25					4.0	3.30	2.5	2.0
30						2.70	2.0	1.6
40							1.5	1.2
50								1.0

As a guideline consider 3 to 5 % loss at site condition, mainly due to retention to packing, mixing head and application losses.

- 1 litre of KEM PRIMER PU is expected to cover 150 m length of 20x10 mm joint.
- 1 litre of KEM PRIMER is to cover 1500 m length of 20x10 mm joint.
- 1 litre of KEM PRIMER EP is expected to cover 150 m length of 20x10 mm joint. These are theoretical values. No allowance has been made for variation in joint width or wastage.

Packaging

- All grades of KEM JOINT GG and KEM JOINT PG are normally supplied in 4 kg packs.
- KEM Primer PU is normally supplied in 0.5 litre cans.
- KEM Primer is normally supplied in 0.5 liter cans.
- KEM Primer EP is supplied in 0.5 litre and 1 litre packs consisting of base and hardener provided in separate cans.

Storage

Storage: It is in original containers when kept in dry conditions at 5⁰ C to 27⁰ C has a

Shelf life: 12 months

Health & safety

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- Harmful if swallowed.
- The curing agent consists of a heavy metal based oxide.
- Avoid contact with skin and eyes. Wear suitable protective gloves and eye/face protection.
- In case of contact with skin, wash immediately with soap and water.
- In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice.
- Hands should be thoroughly washed with soap and water before eating or smoking.
- Empty containers should be disposed of in accordance with waste disposal regulations.

KEM PRIMER PU

- Highly flammable liquid.
- Contains isocyanates.
- Keep away from sources of ignition - No Smoking.
- Avoid contact with skin and eyes and inhalation of vapours.
- Wear expected suitable protective, clothing, gloves and eye/face protection.
- Use only in well ventilated areas.

KEM PRIMER

- Highly flammable liquid.
- Keep away from sources of ignition - No Smoking.
- Avoid contact skin and eyes and inhalation of vapours.
- Wear suitable protective clothing, gloves and eye/face protection.
- Use only in well ventilated areas.

KEM PRIMER EP

- Highly flammable should not come in contact with skin and eyes or be swallowed, Avoid inhalation of solvent vapours.
- Some people are sensitive to epoxy resins, hardeners, and solvents.
- Gloves, goggles and barrier cream should therefore be used.
- Ensure adequate ventilation and if working in enclosed areas suitable breathing apparatus is recommended.

- If mixed resin comes in contact with skin it must be removed before it hardens with a resin removing cream or with soap and water.
- Do not use solvent.
- Contamination of skin with any of the above component products should be removed immediately with soap and water.
- Should accidental eye contamination occur with any of the above products wash well with plenty of clean water and seek medical attention immediately.
- Do not induce vomiting

Technical Service

Chembond has established itself in various fields on the basis of its dependable technical service. For this purpose, we maintain a well equipped laboratory for research & quality assurance of all products. Our experienced personnel are always on call and would always be available for product demonstrations and product performance monitoring.

Limitation of Liability

This information is based on our current level of knowledge. It is given in a good faith but it is not intended to guarantee any particular properties. The users must satisfy themselves that there are no circumstances requiring additional information or precautions or the verification of details given herein.