GG 2050 Gun Grade
Two components polysulphide sealant

Description :
GG 2050 polisulphide 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. This is for application in vertical and horizontal joints

Typical Properties :

Appearance	Multi component pasty compound.	
Type	Gun Grade– grey	
Application Temperature	5 to 50^0 C	
Solid content	100%	
Cure Mechanism	Chemical cure	
Movement Accommodation Factor (BS 6093)	25% Butt joint 50% Lap joints	
Pot life	2 Hours @ 25^0 C 1 Hour @ 35^0 C	
Setting time	60 Hours @ 10^0 C 18 hrs @ 25^0 C 12 hrs @ 35^0 C	
Cure time in weeks		
	Grey	White/Off-white
10^{0}C	3	6
25^{0}C	1	2
35^{0}C	0.5	1
Hardness (Shore A @ 25^0 C)	20 +/-3	
Density	1.65 to 1.75	

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 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 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.

Advantages

- A high quality product meeting key international standards.
- It forms a tough elastic rubber like seal.
- 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
- 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 GG 2050 polisulphide.

Chemical Resistance to Occasional Spillage:
Resistant to dilute acids, dilute alkalis, petrol, aviation fuels, diesel fuels, kerosene, lubricating oils, skydrol & white spirit.

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Not Resistant to Chlorinated Solvents, Aeromatic Solvents & Dilute oxidizing acids.
It is preferentially recommended, for resistance in microbiologically active situations & in aerobic conditions.
Water Immersion: GG 2050 polisulphide 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 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. GG 2050 polisulphide 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 overpriming 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. GG 2050 polisulphide
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. GG 2050 polisulphide 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 m^2/ 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 after solvent has evaporated but before the film has completely reacted.
Mixing:
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

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sealant into a caulking gun using the follower plate, and apply to the joint.

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 5 mm to a maximum 50 mm 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 GG 2050 polisulphide in meters runs per 6.5 kg Pack, in various joints dimensions is tabulated below:

Depth	of joint (mm)							
	5	10	15	20	25	30	40	50
5	151	75.53	50.35	-	-	-	-	-
10		37.7	25.1	18.88	15.1	12.5	-	-
15			16.7	12.5	10.1	8.39	-	-
20				9.55	7.55	6.29	4.72	-
25					6.1	5.09	3.77	3.0
30						4.19	3.14	2.5
40							2.36	1.8
50								1.5

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

- 1 liter of GG 2050 polisulphide PU is expected to cover 150 m length of 20x10 mm joint.
- 1 liter of GG 2050 polisulphide is to cover 1500 m length of 20x10 mm joint.
- 1 litre of GG 2050 polisulphide 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

- GG 2050 polisulphide is supplied in 6.5 kg packs.
- GG 2050 polisulphide PU is normally supplied in 1 liter bottle.
- GG 2050 polisulphide is normally supplied in 1 liter bottle.
- GG 2050 polisulphide EP is supplied in 0.5 litre and 1 litre packs consisting of base and hardener provided in separate cans.

Shelf Life & Storage

It is in original containers when kept in dry conditions at 5^0 C to 27^0 C has a shelf life of 12 months.

Health & safety

- 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.

GG 2050 polisulphide PU

- Highly flammable liquid.
- Contains isocyanates.
- Keep away from sources of ignition - No Smoking.
- Avoid contact with skin and eyes and inhalation of vapors.

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- Wear expected suitable protective, clothing, gloves and eye/face protection.
- Use only in well ventilated areas.

GG 2050 polisulphide

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

GG 2050 polisulphide EP

- Highly flammable should not come in contact with skin and eyes or be swallowed, Avoid inhalation of solvent vapors.
- 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 he verification of details given herein.

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