PLEXI-CHEMIE

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Product Data Sheet For:

PLEXI*FLEX* POLYSULFIDE EPOXY CAULK

DESCRIPTION

Plexi*Flex* Polysulfide epoxy Caulk is a 100% solids two component, high performance caulk offering the adhesion, durability, chemical cure and resistance of epoxy with the unique properties of flexibility, elongation, and compression / extension recovery of polysulfide. It is designed for caulking and sealing joints subject to structural movement and is formulated for application up to 1 inch thick, if desired, in one application. It exhibits a firm, flexible, weather-tight seal for bridging minor, moderate, or major cracks, with excellent resistance in petroleum products, salt water, and caustic environments and dilutes acidic exposures. Plexi*Flex* Caulk has good exterior weathering capabilities but may be top coated with a variety of urethanes for extended UV resistance, longevity and performance. Polysulfide technology in the formulation of coating and caulks has been used for over 50 years in commercial and industrial applications.

Product Specifications

Solids Content	100% by weight, 100% by volume
Cure Time @ 70F	Re-coat 2 - 4 hours Foot Traffic 8 - 12 hours Service 7 days minimum
Viscosity	Mixed 6,000 - 10,000
Tensile Strength, psi, ASTM D-412	350 minimum, (14 day cure @ 75F)
Elongation % @ Break, ASTM D-412	> 150, (14 day cure @ 75F)
Adhesion Strength, psi, ASTM D-4541	> 400, (14 day cure @ 75F)
Hardness, Shore A, ASTM C-661	> 20, (14 day cure @ 75F)
Shelf Life at 75F	Three months from date of manufacture, unmixed
Flash Point (SETA)	> 200F (93C)
Colors	Off White, Red Oxide, Gray (other colors available)
Pot Life	120 minutes @ 65F 90 minutes @ 75F 45 minutes @ 90F
Mixing Ratio	1 to 1 by volume
Weight per Gallon	9.6 lbs. - Part A (Base) 11.4 lbs. - Part B (Activator)

Recommended Uses

Plexi*Flex* Polysulfide Epoxy Caulk is designed for application to interior or exterior surfaces of properly prepared or sandblasted steel on weld joints, lap joints, around rivets and bolt heads or on concrete surfaces in control joints, expansion joints and numerous other types of construction joints. May also be used for forming, shaping and smoothing of surface imperfections and irregular areas. If offers excellent resistance for immersion in fuels, fresh and salt water, detergents, many chemicals, industrial fumes and spillage of most organic solvents, acids, and alkalis. Plexi*Flex* Caulk should meet or exceed the requirements of Federal specification TT-S-00227E, Type II, Class B except Section 3.5.7 “Stain and Color Change”, ANSI specification A116.1 and ASTM C-920, Type M, Grade NS, Class 12 ½, use NT, M, G, A, with exception of ASTM C-510 “Stain and Color Change”. Consult a representative for your particular requirement.

Limitations

Apply in good weather when air and surface temperature are above 50°F and surface temperature is at least 5°F above the dew point. For optimum application properties, material should be between 60°F and 90°F prior to mixing and application. Maintain unmixed material in closed containers in protected storage at 40°F to 100°F.

Surface Preparation

Good surface preparation is essential to a satisfactory coating system. Surfaces to be coated should be clean and dry. Remove all oil, grease, dust, loose aggregate, corrosion, wax, mildew, alkaline salts, asphaltic material, waterproof and form release agents or other contamination by solvent or detergent cleaning or other effective means. Any of the described contaminates in the joint or on the adjoining surface can cause adhesion failure.

Joint Design:

Optimum performance is achieved when the design of the joint requires not more than 25% extension and 25% compression. Minimum recommended joint width and depth is ¼" (6.35 mm). Maximum recommended joint width is 2" (51 mm). Ideally the depth should be a minimum of one-half the width.

New or Unfinished Surfaces – Ferrous Metal: For best performance, application to abrasive blasted and primed surface is recommended. "Commercial Blast Cleaning" SSPC-SP6 is recommended as the minimum. For immersion service "Near White Blast Cleaning" SSPC-SP10 is considered minimum. Proper blast media and blasting equipment should be used to produce an average profile depth of 2 to 5 mils minimum. Do not reuse abrasive media. Remove blasting dust and grit from surfaces before caulking. Blasted surfaces should be caulked within 8 hours after blasting or before rusting or other contamination of the surface occurs. If blasting is not feasible, remove rust by "Hand or Power Tool Cleaning" (SSPC-SP2 or SP3). Prime with Plexi*Seal* Surface Tolerant Epoxy Sealer.

Concrete: Must be clean, dry, properly cured (28 days) and free from all surface contaminants. "Brush Off Blast" (SSPC-SP7) to provide an etched surface and to remove contaminants and laitance. Remove dust before caulking. When resealing joints formerly sealed with asphalt, oil-based or other bituminous type materials, all traces of the old material should be removed. Sandblasting or chipping back to a virgin surface may be necessary. Prime with Plexi*Seal* as soon as possible. Apply Plexi*Flex* Caulk 24 hours after application of the primer.

Previously Caulked Surfaces: Repair all damaged areas of Plexi*Flex* Caulk by removing material back to the area the bond is still intact. Clean surface area and replace with new Plexi*Flex* Caulk. When resealing joints formerly sealed with asphalt, oil-based or other bituminous type materials, all traces of the old material should be removed. All surfaces must be clean and dry. Remove any contaminants such as oil, grease, dust, loose aggregate, corrosion, wax, mildew, alkaline salts, asphaltic material, waterproof and form release agents. Sandblasting or chipping back to a virgin surface may be necessary. Prime with Plexi*Seal* Surface Tolerant Epoxy. Steel surfaces do not require a primer is sandblasting is the method of preparation. Apply Plexi*Flex* Caulk 24 to 36 hours after application of primer.

Mixing:

This is a two component coating supplied in tow containers as a unit. Always mix a complete unit in the proportions supplied. Thorough blending of the base and activator components is essential for optimum performance of the product. Mix for at least 5 minutes with a mixing paddle in a low speed, heavy-duty mechanical mixer until uniform in consistency and color. The paddle blade must be kept below the material surface to avoid whipping air into the product. Pay special attention to the bottom and sides of the container to insure complete mixing. After complete mixing of the material has been accomplished, Plexi*Flex* Caulk can be applied on any surface up to 100°F provided the surfaces are clean and dry. Plexi*Flex* Caulk can be applied by knife, trowel, handgun or air-powered caulking gun.

Joint Backing:

Deep openings should be filled to within ½" to 1" (12.7 to 25.4 mm) of the surface with a Closed Cell Backer-Rod or Soft Backer-Rod. Use a backer-rod that is approximately 25% larger than the opening to allow for about 25% compression when installed. Install the backer-rod by compressing and rolling it into the joint channel without stretching it lengthwise, to maintain the recommended sealant depth. Where it is not possible to use a backer-rod or joint backing, use of a bond-breaker (polyethylene strip) must be employed to prevent three-point bonding, and to permit free movement of the caulking after cure.

Application

Joints should be filled from bottom to top. For best results, all caulking / sealing should be performed when the ambient and surface temperatures are between 50°F and 100°F (10°C to 38°C) and the joint is at the midpoint of its designed expansion / contraction range. This provides optimum sealant efficiency with subsequent joint movement. Be sure to maintain surface temperatures of at least 5°F above the dew point to assure no presence of condensation or moisture on the surface. Moisture on the substrate could adversely affect adhesion. Immediately following application, dry tooling the joint is recommended, to compress the sealant into the joint. Tooling without a slicking agent is preferred. Tooling results in correct bead shape, a neat joint and maximum adhesion.

Coverage

Linear Feet per Gallon Joint width (inches)

	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
1/4"	308	205	154	123	102	88	77
3/8"		137	102	82	68	58	51
1/2"			77	61	51	44	38

Cleanup

Clean hands and equipment before material cures with MEK, Toluene or Xylene. Occasional cleaning of equipment during the course of the working day helps prevent buildup and non-professional joints.

Safety

Safe storage, handling, and use dictate that adequate health and safety precautions are observed with this product and any recommended thinners. User is specifically directed to consult the current Material Safety Data Sheet for this product as well as precautions contained on product labeling.

Solvent & Chemical Resistance

30 Days Immersion @ 80°F (26.7°C), per ASTM D471-62T

Solvent or Chemical	% Vol Swell	Performance				
Oils & Solvent				**Halogenated Hydrocarbons**		
ASTM Ref. Fuel A	-1	EX		Carbon Tetrachloride	78	F
ASTM Ref Fuel B	12	EX		Ethylene Dichloride	NR	NR
ASTM Oil No 1	1	EX		Trichlorethylene	NR	NR
ASTM Oil No 2	12	EX		Perchloroethylene	43	EX
Turpentine	11	EX		Monochlorobenzone	NR	NR
Motor Oil	-1	EX		**Ketones & Ethers**		
JP-5	2	EX		Acetone	50	F
Hydroxy Compounds				MEK	87	F
Ethyl Alcohol (denatured)	2	EX		MIBK	36	EX
Butyl Alcohol	-2	EX		Ethylene Glycol Monobutyl Ether	28	EX
Methyl Alcohol	3	EX		Diethylene Glycol Monobutyl Ether	19	EX
Diacetone Alcohol	10	EX		Dibutyl Ether	NR	NR
Ethylene Glycol	4	EX		**Vegetable & Wood Oils**		
Glycerol	1	EX		Linseed Oil	0	EX
2-Ethyl Hexanol	1	EX		Cottonseed Oil	-3	EX
Isopropyl Alcohol	2	EX		Castor Oil	-2	EX
Esters & Plasticizers				**Acids, Bases & Solutions**		
Ethyl Acetate	64	F		10% Sulfuric Acid	1	EX
Butyl Acetate	48	F		20% Sulfuric Acid	1	EX
Tributoxy Ethyl Phosphate	17	EX		50% Sulfuric Acid	NR	NR
Dibutyl Phthalate	55	F		Nitric Acid (10-50%)	NR	NR
Dibutyl Sebacate	8	EX		10% Hydrochloric Acid	1	EX
Dioctyl Phthalate	33	EX		30% Hydrochloric Acid	5	EX
Butyl Cellosolve	36	EX		37% Hydrochloric Acid	NR	NR
Propylene Glycol Ricinoleate	5	EX		10% Sodium Hydroxide	1	EX
Dioctyl Adipate	0	EX		50% Sodium Hydroxide	1	EX
Aromatic Hydrocarbons				Sodium Chloride (3-30%)	1	EX
Benzene	NR	NR		Copper Sulfate (10-14%)	5	EX
Toluene	NR	NR				
Xylene	61	F				

Performance Legend:
EX Excellent
F Fair to Good
NR Not Recommended

Notice: The technical data contained herein are true and accurate to the best of our knowledge. All products are offered and sold subject to Plexi-*Chemie* Standard Conditions of Sale. Published technical data and instructions are subject to change without prior notice.