

HYCHEM

PU5000



Hychem PU5000 Two Part Polyurethane Joint Sealant

FUNCTION

Hychem PU5000 two part polyurethane sealant is a two part polyurethane compound which, after thorough mixing, cures at ambient temperature to form a firm, but flexible, resilient rubber. It has excellent recovery characteristics even after extended periods of compression and/or elongation, and is resistant to all weather conditions over a wide temperature range.

Hychem PU5000 two part polyurethane can be supplied in pouring and gun grade for sealing horizontal and vertical joints where movement is expected or where the performance specification is too rigorous, for most common mastics and joint sealers.

Hychem PU5000 two part polyurethane sealing compound is ideal for use in expansion and contraction joints on bridge decks and floor joints, airport runways and aprons, etc. It is specially used in areas subjected to heavy foot and vehicle traffic where and abrasion resistant, flexible sealant is required.

RESISTANCE TO BIO-DEGRADATION

Hychem PU5000 two part polyurethane forms an absolute water-tight seal in reservoirs and sewage works. The material has excellent resistance to bio-degradation due to bacterial attack in sewage tanks, or reservoir, etc. It has been extensively tested in the laboratory and on-site in situations known to cause bio-degradation, eg. in dilute crude sewage, sewage sludge, digested sludge at the point of discharge from the primary (heated) digestion tanks, etc, without any detrimental effect to the material, and is far superior in resisting attack by sewage effluent than most other commercially available sealants.

STANDARDS COMPLIANCE

Hychem PU5000 two part polyurethane sealant conforms to BS 5212 : US Federal Specification TT-S-00227E A11/1969 A116.1, JIS A5758.

JOINT SIZE

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

Sealant depth shall not exceed joint width.

Minimum sealant depth recommended

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

PROPERTIES

Appearance	: polyurethane rubber
Colour	: grey, white, black
Solid content %	: 100
Viscosity at 25°C	: thixotropic paste
Specific gravity	: 1.5
Shelf life	: 12 months-store at 5 to 35°C
Mixing ratio	: 10 : 1
Pot life	: 4 hours
Tack free at 25°C	: 24 hours
Staining	: none
Slump	: 0mm
Bleeding	: 0mm
Extrudability	: 5 second at 20°C
Resistance to ozone	: non-crack
Hardness shore A	: 35±5

JOINT PREPARATION

● SURFACE TREATMENT

SURFACE	TREATMENT
Concrete & Masonry	Surfaces must be clean and dry. Wire brush thoroughly and remove dust and all contaminants.
Metals	Remove any corrosion or millscale by grit or shot blast, wire brush, grinder or chemical remover. Degrease the surfaces with clean cloth soaked in oil-free cleansing solvent.
Wood (bare)	Wood surfaces must be clean and dry. Cut back or abrade where necessary to sound timber.
Glass and Glazed	Thoroughly clean the surfaces with clean cloths soaked in oil cleansing solvent.
Coated surfaces	Where feasible, coating should be removed and the surfaces treated as above.

- Where required, masking tape and bond breaker should be applied before priming.

PRIMING

- The correct primer must always be used.

SURFACE/APPLICATION	PRIME 70
Porous surfaces (such as concrete & masonry)	X
Non-porous surfaces (such as metals, glass and glazed surfaces)	X
Oil-resistant applications	X

- Application of primer should not be carried out below 4°C (40°F).
- A single coat of primer should be applied by brush in accordance with the instructions on the primer tins. The primer must be allowed to dry for a minimum period of one hour before applying PU5000.
- PU5000 should be applied within 24 hours of priming, otherwise repriming will be necessary.

APPLICATION TEMPERATURES

- PU5000 should only be applied when the ambient temperature is between 4°C (40°F) and 50°C (122°F).
- When the temperature is below 10°C (50°F) storage at 21°C (70°F) for several hours will ease mixing and application.

MIXING PU5000

- Mix and use one complete unit at a time - do not subdivide.
- PU5000 is supplied in two part, in separate tins with the curing agent contained in a smaller tin.
- Mix for 5-10 minutes using a paddle fitted to a 500 r.p.m. electric drill, moving the paddle completely through the mass of the material. The sides and base of the container should be periodically scraped down with a palette knife to ensure all the curing agent is completely blended with the base compound.
- Failure to completely disperse curing agent throughout the base compound will result in uncured sealant. PU5000 should be used immediately once mixed.

APPLICATION

- PU5000 is designed to be applied using a sealant gun, but can be applied by trowel if required.
- Sealant guns are fitted with conical nozzles which can be cut to suit the joint width.
- The sealant should be gunned into the joint using an even trigger pressure, cleaning the nozzle occasionally to avoid contamination. Deep joints should be filled in two or more runs, to prevent air entrapment.
- Once the sealant has been applied, a small timber spatula, soaked in a soapy water, should be used to compact the sealant into the joints and to tool off to achieve a smooth polished finish. Any masking tape which has been applied should be removed before the sealant cures.
- Mixing and application equipment should be cleaned immediately using tool cleaner, using rubber gloves to prevent tool cleaner coming into contact with skin.

QUANTITY ESTIMATION

Metres per litre for rectangular joints can be obtained from the following table:

DEPTH OF JOINT mm	WIDTH OF JOINT (mm)					
	6	10	15	20	25	30
6	28	20	13	10	8	6.6
10		10	6.6	5	4	3.3
15			4.5	3.3	2.6	2.2
20				2.5	2	1.6
25					1.6	1.3

Length in linear metres per litre

Example: for a rectangular joint 10mm by 10mm, one litre will fill 10m.

Cured compound can be removed by scraping with a sharp tool, wire brush or sanding. Prior soaking in paint stripper greatly facilitates mechanical removal of cured compound.

RECOMMENDED MOVEMENT

Transverse ± 25%

Shear ± 50%

STANDARD PACKING

MATERIAL	PACK	STD KIT SIZE
PU5000 two part polyurethane Gun Grade	2 Part Kit	2.5 litres
PU5000 two part polyurethane Pouring Grade	2 Part Kit	2.5 litres
Polyurethane primer	1 Part material	1,000ml

STORAGE

The storage life is approximately 18 months, but the material should be used before the date stamped on the container. Storage temperature range is 5°C to 28°C. Store in dry conditions.

PRECAUTIONS

HEALTH & SAFETY

The components and mixed sealant should not be left in skin for prolonged period. Gloves should be worn and use of creams is strongly recommended. Solvents is not recommended for cleaning the hands, used an industrial cleaner and wash with soap and water.

Note: The above information is for general information only. The stated properties and performance characteristics are approximate values. Actual field results may vary, due to temperature fluctuations etc.