BUILDING TRUST

PRODUCT DATA SHEET

SikaSet® Waterplug

(formerly MSeal 590)

ONE-COMPONENT, CEMENT-BASED, FAST-SETTING WATER-STOP REPAIR MORTAR

PRODUCT DESCRIPTION

SikaSet® Waterplug is a one-component, quick-setting, Portland-cement-based hydraulic repair mortar that instantly stops running water through holes or cracks in concrete or masonry. It expands as it sets to lock into place even under constant water pressure.

USES

- Non-moving (static) cracks and holes with running water or moisture seepage
- For immersion service
- For anchoring vertical bolts
- Basements
- Foundations
- Retaining walls
- Sewers

Locations

- Vertical, overhead, or horizontal
- Interior or exterior
- Above or below grade

Substrates

- Concrete and masonry

CHARACTERISTICS / ADVANTAGES

- Fast setting so it can stop running water and develop high strength quickly
- Fully hydraulic so it can be set above or below the water
- Shrinkage compensated so it expands to lock in place
- One component so it mixes easily with water only
- Ready to topcoat in 15 minutes with appropriate product to minimize downtime
- Durable non-metallic, non-gypsum formula to maintain volume stability over time
- Formulation is available for cold-weather applications for use in all seasons and climates
- Certified to the NSF/ANSI Standard 61 for potable water contact

PRODUCT INFORMATION

Chemical Base	SikaSet® Waterplug is a proprietary mix composed of cement, graded silica, calcium hydrocide, fillers, and additives.
Packaging	2.5 lb (1.14 kg) cans 10 lb (4.5 kg) cans 50 lb (22.7 kg) pails
Shelf Life	1 year when properly stored

Storage Conditions	Transport and store in an unopened container in a cool, clean, dry area between 45° and 90 °F (7° and 32 °C). Keep the container tightly sealed after opening to maintain the shelf life freshness of the unused portion of the remaining powder.

TECHNICAL INFORMATION

Compressive Strength	20 min–120 min	1,800 psi (12.4 MPa)	(ASTM C 109)
	1 day	4,000 psi (27.6 MPa)	
	7 days	5,000 psi (34.5 MPa)	
	28 days	5,500 psi (37.9 MPa)	
Flexural Strength	7 days	600 psi (4.1 MPa)	(ASTM C 348)
	28 days	1,500 psi (10.3 MPa)	
Tensile Strength	7 days	300 psi (2.1 MPa)	(ASTM C 190)
	28 days	350 psi (2.4 MPa)	

Test results are averages obtained under laboratory conditions at 70 °F (21 °C) and 50% rh. Reasonable variations can be expected.

APPLICATION INFORMATION

Coverage	Volume: 15.6 in^3/1 lb (254 cm^3/0.45 kg) Static cracks: ¾" by ¾" by 28"/1 lb (1.9 cm by 1.9 cm by 70 cm/0.45 kg).

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

NOTES ON INSTALLATION

- Do not apply to frozen or frost-covered surfaces.
- Do not apply to dynamic (moving) cracks.
- Do not use to fill expansion joints or control joints.
- Do not remix (retemper) hardened material.
- Always Pre-Dampen the substrate prior to placing SikaSet® Waterplug.
- Do not use it as a surface-applied coating or as a parging material.
- Do not fill voids greater than 30 in3 (490 cm3) in a single lift.
- Do not use if hard lumps have developed in the powder.
- Make certain the most current versions of the product data sheet and SDS are being used.
- Proper application is the responsibility of the user. Field visits by Sika personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

MIXING

1. Mix SikaSet® Waterplug powder with clean, potable water.
2. Use powder (neat) without adding any aggregates, chemical additives, or admixtures.
3. Add just enough water to mix rapidly by hand to a stiff, low-slump, putty consistency. Mix no longer than 30 seconds.
4. Mix only enough SikaSet® Waterplug that can be successfully placed within 3 minutes under normal conditions (see Temperature). Do not retemper material after initially mixing.
5. Clean the mixing vessel and tools immediately after each use.

Temperature

Cold or hot air, surface, and material temperatures will retard or quicken SikaSet® Waterplug setting time. Special attention must be given when mixing and applying. The SikaSet® Waterplug and mixing water should feel neutral to the touch, normally 70 °F (21 °C). On average SikaSet® Waterplug will set in approximately 3–5 minutes.

Hot weather use

1. From 86° to 100 °F (30° to 37 °C), SikaSet® Waterplug will set very quickly. The material temperature should not be above 80 °F (26 °C) and mixing water over 100 °F (37 °C); otherwise set begins immediately and structural strength lessens when applying during these extreme conditions.
2. SikaSet® Waterplug should always be placed within 30–60 seconds after mixing.
3. If appropriate, use ice water when mixing to slow down the setting action.

Cold weather use

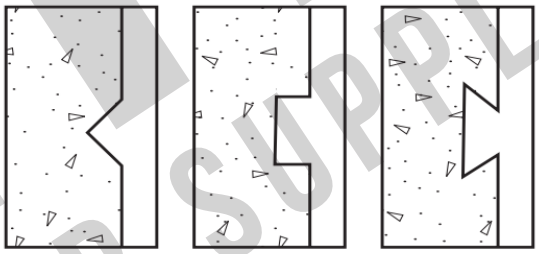
1. SikaSet® Waterplug should be stored or brought up to normal room temperatures, 40 to 70 °F (4 to 21 °C), before mixing and use. Do not apply SikaSet® Waterplug if the ambient air or surface temperatures are 40 °F (4 °C) or less or are expected to fall below 40 °F (4 °C) within 12 hours after initial placement.

APPLICATION

- Pre-dampen the substrate prior to installing SikaSet® Waterplug.
- Place SikaSet® Waterplug with minimum working, kneading, or rubbing.
- Force SikaSet® Waterplug repair mortar into cracks or holes and hold it in place (without twisting) until the set is fully achieved.
- Just prior to the final hard set, SikaSet® Waterplug may be “shaved” with a trowel until flush with the surrounding surface. Always shave from the center out, in the direction of the bond line.
- If the repair area is dry at the time of placement, keep the substrate damp for 15 minutes minimum, using a fine spray misting of water, before and after placement.

Sealing Junctions

- To seal static cracks at the junction of floors and walls, route or cut out the crack at least ¾" (19 mm) wide and deep, slightly undercutting if possible.
- Flush away all loose debris, dust, and dirt with clean water.
- Force SikaSet® Waterplug into the prepared crack with a round tool or margin trowel until a set is fully achieved and smooths out to form a cove at wall-to-floor junctions.
- Keep damp for at least 15 minutes.



Stopping Running Water

- To stop active water from running through concrete and masonry, cut out, crack, or hole to a minimum depth and width of ¾" (19 mm). Always square cut or undercut when possible; do not “V” cut.
- Start at the top and force SikaSet® Waterplug into crack. In areas of great pressure, do not place SikaSet® Waterplug into opening immediately. Hold SikaSet® Waterplug in hand or on a trowel until a slight warming occurs. Then press SikaSet® Waterplug firmly into the opening.
- Do not remove the trowel or hand pressure too soon

so as to provide some confinement to SikaSet® Waterplug expansion during its set. Do not twist SikaSet® Waterplug during placement or disturb during set time (5 minutes).
- After placement to stop the active water flow, carefully cut and "trowel shave" the patch level with the surrounding surface.

Sealing Leaks in Joints and Cracks
- To stop leaking mortar joints or static cracks in below-grade masonry and concrete walls, cut out defective mortar joints or cracks to a minimum width and depth of ¾" (19 mm). Undercut when possible.
- Force SikaSet® Waterplug into the opening and keep damp for at least 15 minutes or until a set is fully achieved.

Repairing Constructions Faults
- For patching holes and voids, etc., in concrete walls, remove all tie wires and wood or steel separators by cutting back from the surface to a minimum depth of ¾" (19 mm).
- When there is no active water present, repair mortars may be used more appropriately.

APPLICATION METHOD / TOOLS

Anchoring Hardware
- To anchor steel bolts or posts vertically in concrete or masonry, drill a hole deep enough to properly secure the bolt or post and large enough so there is at least ½" (13 mm) on all sides of the bolt or post.
- Fill the hole with SikaSet® Waterplug and tamp so that the entire hole is full. Immediately center bolt or post over the hole and force into the putty-like SikaSet® Waterplug.
- Tamp SikaSet® Waterplug firmly around the bolt or post; keep continuously moist for 15 minutes.
- Apply no pressure or stress to the bolt or post for a minimum of 5 hours after placement.

Top coating
1. Cured SikaSet® Waterplug repairs can be top coated with Sika Thoroseal®-581 or SikaTop®-584 Seal (see Form Nos. 1019906 and 1019908), both modified with Sika Thoroseal® Acryl 60 (see Form No. 1019073), as soon as an initial set is reached.
2. Cured SikaSet® Waterplug repairs can also be topcoated with various alkali-resistant acrylic coatings or used in conjunction with Sika Thorocoat®-400, Sikagard® HB 200, and Sika Thorocoat®-250 (see Form Nos. 1019100, 1019101, and 1019910).
3. SikaSet® Waterplug may also be used with preformed waterproof sheet membranes after an approximately 6–7 day cure.

CLEANING OF TOOLS

Clean tools and equipment immediately with water.

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

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