



DIVISION 3 - CONCRETE
Section 03930 - Concrete Rehabilitation

Part 1 – General

1.01 Summary

- A. This specification describes the rapid repair of pressure leaks and seepage with an fast-setting, portland cement water stop.

1.02 Quality Assurance

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
- B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.03 Delivery, Storage, and Handling

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

1.04 Job Conditions

- A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 40°F (5°C) and rising.
- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.

1.05 Submittals

- A. Submit two copies of manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets (MSDS).

1.06 Warranty

- A. Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with date of substantial completion of the project.

Part 2 - Products

2.01 Manufacturer

- A. **SikaSet Plug**, as manufactured by Sika Corporation, is considered to conform to the requirements of this specification.

2.02 Materials

- A. Portland cement mortar:
 - 1. The fast-setting waterstop shall be a blend of selected portland cements, specially graded aggregates.
 - 2. The materials shall be non-combustible, either before or after cure.
 - 3. The materials shall be supplied in a factory-proportioned unit.

2.03 Performance Criteria

- A. Typical Properties of the mixed fast-setting portland cement water stop:
 - 1. Setting Time: (ASTM C-266) Approximately 90 seconds (initial set)
 - 2. Color: concrete gray
- B. Typical Properties of the cured fast-setting portland cement water stop:
 - 1. Compressive Strength (ASTM C-109)
 - a. 1 day: 4200 psi min. (28.9Mpa)
 - b. 7 days: 6800 psi min. (46.9 Mpa)
 - 2. Splitting Tensile Strength (ASTM C-496) at
 - a. 7 days: 600 psi (4.1 Mpa)
 - b. 28 days: 700 psi (4.8 Mpa)
 - 3. Sulfate-Resistance Test (ASTM C-88): no deterioration
 - 4. The portland cement mortar shall not produce a vapor barrier.

Note: Tests above were performed with the material and curing conditions @ 71°F – 75°F and 45-55% relative humidity.

Part 3 – Execution

3.01 Surface Preparation

- A. Chip away soft, deteriorated, unsound substrate. Clean cavity completely. If necessary, lightly dampen the substrate just prior to application.

3.02 Mixing and Application

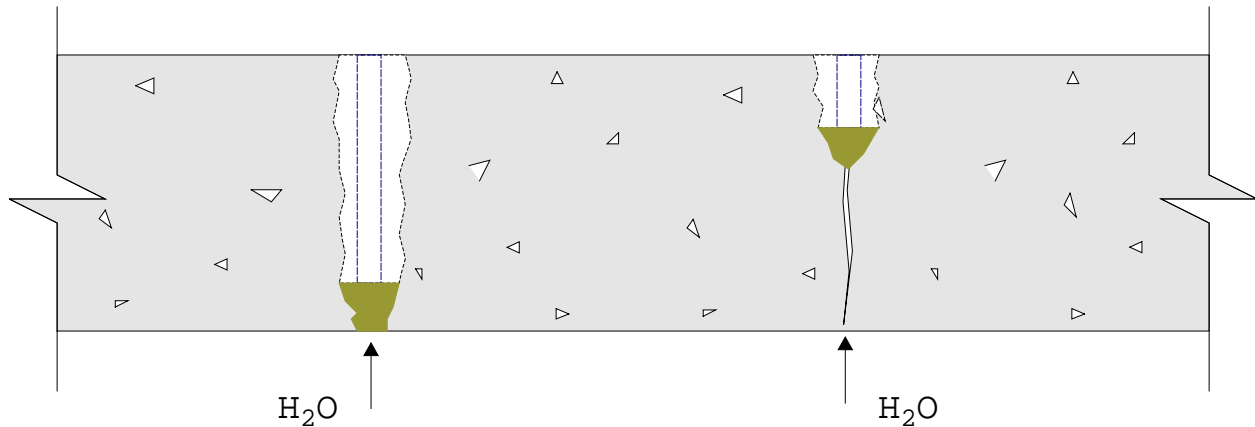
- A. Mixing the fast-setting portland cement water stop: Mix with clean water to obtain desired consistency. Do not over-mix. Do not over-wet. Do not retemper. Mix only that quantity which can be placed within its working time. Mix ratio water: powder is 1:4.
- B. Placement Procedure: At the time of application, plug minor leaks first working from the edges. Place SikaSet Plug firmly into the crack or hole. For large openings, form compound into a carrot shape, and when plug is firm, ram into cavity. Hold in place with heel of rubber gloved hand. Let go, strike off flush with surface.
- C. Adhere to all limitations and cautions for the instant-setting portland cement water stop systems stated in the manufacturers technical data sheet and literature.

3.03 Cleaning

- A. The uncured fast-setting portland water stop system can be cleaned from tools with water. The cured fast-setting portland cement water stop system can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

SC-096

SikaSet® Plug



1. Prepare substrate by mechanical means.
2. Using mixed SikaSet Plug repair minor leaks first by wedging material firmly into cavity or form compound into a carrot shape and ram into place. Hold in place with appropriate tool.
3. Let go, strike off excess and finish as required.
4. Continue working in same manner until all leaking water has stopped.

The preceding specifications are provided by Sika Corporation as a guide for informational purposes only and are not intended to replace sound engineering practice and judgment and should not be relied upon for that purpose. **SIKA CORPORATION MAKES NO WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS OR THE CONTENTS OF THESE GUIDE SPECIFICATIONS.** Sika Corporation assumes no liability with respect to the provision or use of these guide specifications, nor shall any legal relationship be created by, or arise from, the provision of such specifications. **SIKA SHALL NOT BE RESPONSIBLE UNDER ANY LEGAL THEORY TO ANY THIRD PARTY FOR ANY DIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND ARISING FROM THE USE OF THESE GUIDE SPECIFICATIONS.** The specifier, architect, engineer or design professional or contractor for a particular project bears the sole responsibility for the preparation and approval of the specifications and determining their suitability for a particular project or application.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Technical Data Sheet, product label and Material Safety Data Sheet which are available at www.sikaconstruction.com or by calling (201) 933-7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instructions for each Sika product as set forth in the current Technical Data Sheet, product label and Material Safety Data Sheet prior to product use.

Concrete Restoration Systems by Sika Corporation, 201 Polito Avenue, Lyndhurst, NJ 07071