Strong-Seal® SYSTEMS



STRONG-SEAL® QSR

RAPID SETTING CONCRETE REPAIR MATERIAL

VERSATILE APPLICATION
Suitable for a wide range of infrastructure repairs including manholes, tanks, tunnels, and pipelines, making QSR a comprehensive solution for concrete and masonry substrate repairs.

QUICK SETTING TIME & FAST RETURN TO SERVICE
Initial set time of 15-30 minutes allows storm runoff to resume in 2-4 hours and force main impact in 4-6 hours, minimizing downtime and disruption to services.

HIGH COMPRESSIVE STRENGTH
Achieves over 1,500 PSI in just 1 hour, 2,000 PSI in 24 hours, and surpasses 3,000 PSI in 28 days, ensuring strong, long-lasting repairs for critical infrastructure.

SUPERIOR BOND STRENGTH
Offers over 2,000 PSI bond strength at 28 days, ensuring strong adhesion to concrete and masonry surfaces, preventing future disintegration and long-term failures.



Part Number	Description
STRS-QSR-PAIL	Strong-Seal® QSR Fast-Acting Repair Mortar	40 lb. Bucket
STRS-QSR-BAG	Strong-Seal® QSR Fast-Acting Repair Mortar	50 lb. Bag

Fernco Inc. INFRASTRUCTURE

UNITED STATES
(877) 450-3701
www.fernco.com

CANADA
(519) 332-6711
www.fernco.ca

PRODUCT DESCRIPTION

QSR provides a system for the rehabilitation of concrete or masonry benches and inverts and the repairing of voids in concrete or masonry substrates prior to the application of Strong-Seal® products. QSR is a rapid-setting, hand-mixed, hand-applied calcium aluminate cement product blended with pozzolans, lightweight aggregate, alkaline-resistant fiberglass reinforcement, and performance enhancing admixtures used to form a patching material or monolithic liner. QSR is specifically formulated for applications with a pH of 2.0 or higher.

PERFORMANCE SPECIFICATIONS

Compressive Strength (ASTM C109)	
>1,000 psi	1 Hour
>2,000 psi	24 Hours
>3,000 psi	28 Days

Bond Strength (ASTM C882)	Drying Shrinkage (ASTM C596)
>2,000 psi | 28 Days	0% | 28 Days @ 90% RH

Working Time	Final Set
5 to 15 minutes	15 to 30 minutes

Packaging	Yield per Bucket
50 lb bag / 40 bags per pallet	0.57 ft^3 / 13.8 ft^2 @ ½" thick (Bag)
40 lb pail / 42 pails per pallet	0.46 ft^3 / 11.0 ft^2 @ ½" thick (Pail)

TYPICAL STRUCTURES

QSR provides repairs to concrete and masonry benches and inverts and repairs voids in the following structures:

- Manholes
- Tanks & Containment
- Tunnels & Pipelines
- Wastewater Facilities

EQUIPMENT

Approved application equipment includes a clean pail or bowl and gloved hands, spoon, trowel, or handheld drill for mixing. If using other equipment, please contact The Strong Company, Inc.

WEATHER

Do not apply if ambient temperature is below 40°F. Do not apply to frozen surfaces or if substrate is expected to freeze within 24 hours after application. Keep the material temperature at time of application below 90°F. Do not allow water temperature to exceed 80°F. Chill with ice if necessary.

ACCEPTANCE

Cast four 2 inch cube specimens each day or for every pallet of material used, whichever occurs first. Properly package, label, and return specimens to the manufacturer for testing in accordance with the owner's or manufacturer's directions for compressive strength per ASTM C109.

SURFACE PREPARATION

Insert plug into or bypass incoming connections. Remove all foreign material and laitance from the substrate using a high pressure water spray (minimum 3000 psi). Remove loose and protruding brick, mortar, and concrete using a mason's hammer, chisel and/or scraper.

Stop active leaks using an instant-setting, specially formulated product per manufacturer's recommendations. Some leaks may require weep holes to localize the infiltration during the application. After application, the weep holes shall be plugged with the instant-setting product prior to final pass.

When severe infiltration exists, pressure grouting may be required. Follow manufacturer's recommendations when pressure grouting.

MIXING

Use 4.0 to 5.0 fluid ounces of water per pound of product. Add the required amount of water to the pail/bowl first, followed by product. Mix by hand/spoon/trowel/drill until consistency allows for application of up to one inch thick without material "sagging" on a vertical surface. Only mix amounts that can be applied within 15 minutes. Use the minimum amount of water to achieve desired consistency. Follow all other manufacturer's recommendations.

APPLICATION

Confirm substrate is clean and free of all foreign material and is damp without noticeable free water droplets or running water prior to application.

For invert repair: quickly and firmly apply by hand/trowel up to one (1) inch thick in one or more passes starting from the bottom of invert; however, minimum total thickness shall not be less than ½ inch.

For bench repair: quickly and firmly apply by hand/trowel to bench so that a gradual slope is produced from the walls to the invert or center of the bench. Provide a ½ inch minimum thickness at the invert or center. Round the wall/bench intersection to a uniform radius.

For void repair: quickly and firmly apply by hand or trowel so that void is filled completely.

Trowel the surface to a smooth finish being careful not to over trowel. Apply a wet brush finish to the troweled surface.

CURING

Take care to minimize exposure of applied material to sunlight and air movement. Cover the structure if application of additional passes is to be longer than 15 minutes. Do not expose to sunlight or air movement for longer than 15 minutes before covering or closing access. Shade the structure in hot and arid climates during application. Keep the applied material damp for the first 72 hours if the humidity level is below 70%. An ASTM C309 curing compound may be used in lieu of keeping material damp.

Hold times for the final application are as follows: storm run-off and surcharge – 2-4 hours; force main impact – 4-6 hours