



PRODUCT SUBMITTALS

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Project: TWO (2) YEAR CONTRACT FOR THE SUPPLY OF MISCELLANEOUS PIPELINE MAINTENANCE ITEMS ON AN AS BASIS FOR THE JEFFERSON PARISH DEPARTMENT OF DRAINAGE. **Date:** 08/02/2019

Project Number: 5000127317 **Submittal Contents:** Product Data

Section	Sub Section	Product Specified	Product Submitted	Documents Submitted	Notes
			QUIKRETE Portland Cement #1124-94	Product Data (1 pg, 173 kB)	
			QUIKRETE All Purpose Gravel #1151	Product Data (1 pg, 92 kB)	
			QUIKRETE Sand / Topping Mix #1103	Product Data (2 pg, 162 kB)	
			QUIKRETE Masonry Cement (Type N) #1125-70	Product Data (1 pg, 38 kB)	
			RN101 - RAM-NEK Preformed Flexible Plastic Gasket (Strips)	Product Data (1 pg, 31 kB)	
			DRYCON - Waterproofing	DryconTDS (3 pg, 274 kB)	
			MIRAFI 140NL	TDS_140NL1_tcm29-17058 (1 pg, 55 kB)	
			SpecPlug	Product Data (2 pg, 242 kB)	

PORTLAND CEMENT

PRODUCT NO. 1124-31, -47, -94

PRODUCT DESCRIPTION

QUIKRETE® Portland Cement is a high quality Portland cement meeting ASTM C 150 Type I.

PRODUCT USE

QUIKRETE® Portland Cement is used for making high strength repair mortars, concrete and for any other applications requiring Type I Portland cement. In many locations the product also meets ASTM C 150 Type II. Consult your supplying plant to confirm compliance with ASTM C 150 Type II.

SIZES

- QUIKRETE® Portland Cement
 - 31 lb (14 kg) bags
 - 47 lb (21.3 kg) bags
 - 94 lb (42.6 kg) bags
 - 40 kg (88 lb) bags
 - 42 kg (93 lb) bags

YIELD

- Yield depends on application. For concrete mixes: Five to six 94 lb (42.6 kg) bags of QUIKRETE® Portland Cement is typically used with appropriate proportions of sand and gravel to produce 1 cu. yd. (0.8 m³) of concrete.

TECHNICAL DATA

QUIKRETE® Portland Cement complies with ASTM C 150 Type I and in many locations also complies with ASTM C 150 Type II. The product is used in a variety of construction materials. Typical mix designs for some applications are listed below:

Concrete Mix

- 1 Part QUIKRETE® Portland Cement
- 2 Parts QUIKRETE® All-Purpose Sand (ASTM C-33)
- 3 Parts QUIKRETE® All-Purpose Gravel (ASTM C-33)

Mortar Mix (Type S, per ASTM C-270)

- 1 Part QUIKRETE® Portland Cement
- 1/2 Part QUIKRETE® Hydrated Lime -Type S
- 3-1/2 to 4-1/2 Parts QUIKRETE® Masonry Sand (ASTM C-144)

Scratch and Brown Coat Stucco Mix (per ASTM C-926)

- 1 Part QUIKRETE® Portland Cement
- 1/2 Part QUIKRETE® Hydrated Lime (Type S)
- 4-1/2 to 6 Parts QUIKRETE® Washed Plaster Sand (ASTM C-897)

DIVISION 3

Cement
03 05 00



INSTALLATION

Installation methods are specific for each type of product.

PRECAUTIONS

The following points apply to all products made from Portland cement:

- Protect from freezing for at least 24-48 hr.
- Use the minimum amount of water necessary to achieve the desired consistency. Adding too much water will weaken the product.
- Keep the product damp for several days to obtain proper curing.

WARRANTY

The QUIKRETE® Companies warrant this product to be of merchantable quality when used or applied in accordance with the instructions herein. The product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is limited to the replacement of its product (as purchased) found to be defective, or at the shipping companies' option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to The QUIKRETE® Companies in writing. This limited warranty is issued and accepted in lieu of all other express warranties and expressly excludes liability for consequential damages.

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** Refer to www.quikrete.com for the most current technical data, MSDS, and guide specifications*



CEMENT & CONCRETE PRODUCTS™

QUIKRETE® SAND & GRAVEL PRODUCTS

DIVISION 32

Aggregate
32 15 00

PRODUCT DESCRIPTION

QUIKRETE® provides a variety of sands and gravels for general and special uses as follows:



All Purpose Sand #1152:

A general use sand suitable for use as a fine aggregate in concrete, underlayment for brick pavers, traction on snow and ice, and mixing with potting soil. *Meets ASTM C33, Standard Specification for Concrete Aggregates.*

Sizes: 50lb (22.7 kg) – 56 bags per pallet 70lb (31.8 kg) – 42 bags per pallet



All Purpose Gravel #1151:

High quality clean gravel with an approximate top size of 3/8" (10 mm). Suitable for landscaping, concrete manufacture and a variety of other purposes. *Meets ASTM C33, Standard Specification for Concrete Aggregates.*

Sizes: 50lb (22.7 kg) – 56 bags per pallet

Deco Pebbles # 9905-50

Use for landscaping around patios, decks, gardens, etc.

Marble Chips # 9906-50

Use for landscaping around patios, decks, gardens, etc.



Play Sand #1113:

Is specially graded sand that has been washed, dried, and screened for use in children's sandboxes. It is best used when kept damp.

Sizes: 50lb (22.7 kg) – 56 bags per pallet



Tubesand #1159:

This sand is designed in a tube shaped bag that fits along side the rear axle, above the wheel wells, or in the bed of a pick up truck. It is used for traction and vehicle weight for winter driving conditions.

Size: 60lb (27.2 kg) – 42 bags per pallet

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SAND/TOPPING MIX

PRODUCT No. 1103

DIVISION 3

Concrete Topping
03 53 00

PRODUCT DESCRIPTION

QUIKRETE® Sand/Topping Mix consists of a uniformly blended mixture of Portland cement and commercial grade sands, used for repairing and topping damaged concrete surfaces less than 2" (51 mm) thick.

PRODUCT USE

QUIKRETE® Sand/Topping Mix is formulated for placing concrete overlays less than 2" (51 mm) thick. It is also used for patching and leveling steps, walks and floors. Other applications for QUIKRETE® Sand/Topping Mix include:

- Chimney caps
- Large crack repairs
- Thick setting beds for ceramic floor tile
- Filling cores in masonry block or brick

SIZES

- QUIKRETE® Sand/Topping Mix –
 - 80 lb (36.3 kg) bags
 - 60 lb (27.2 kg) bags
 - 40 lb (18.1 kg) bags
 - 10 lb (4.5 kg) bags

YIELD

- 80 lb (36.3 kg) bag - Approximately 0.66 cu ft (19 L)
- 60 lb (27.2 kg) bag - Approximately 0.5 cu ft (14 L)
- 40 lb (18.1 kg) - Approximately 0.37 cu ft (10 L)

TECHNICAL DATA

APPLICABLE STANDARDS

ASTM International - ASTM C387 Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete

PHYSICAL/CHEMICAL PROPERTIES

QUIKRETE® Sand/Topping Mix exceeds the compressive strength requirements for high strength mortars per ASTM C387. Typical compressive strengths are:

- 3000 psi (20.7 MPa) at 7 days
- 5000 psi (34.5 MPa) at 28 days

INSTALLATION

SURFACE PREPARATION

When using Sand/Topping Mix to resurface damaged concrete surfaces 1/2" - 2" (12.7 - 51 mm) thick dig a small trench along the edge of the damaged surface so that forms can be set in place level with the old concrete surface. It is important to form a solid base for the new topping.



Remove all broken and loose concrete. Clean the surface thoroughly with QUIKRETE® Concrete & Asphalt Cleaner.

ADMIXTURES

For patches less than 1" (25.4 mm) thick, replace part of the mixing water with QUIKRETE® Concrete Acrylic Fortifier #8610 for improved bonding. Add the QUIKRETE® Concrete Acrylic Fortifier directly to the mix at the rate of 3 pt (1.4 L) per 60 lb (27.2 kg) bag or 1/2 gal (1.9 L) per 80 lb (36.3 kg) bag.

MIXING

NOTE:

- For applications 1" - 2" (25.4 - 51 mm) thick, use specified bonding agent
- For applications less than 1" (25.4 mm) thick, use specified admixture

MACHINE MIXING

QUIKRETE® Sand/Topping Mix can be mixed in a barrel type concrete mixer or a mortar mixer. Choose the mixer size most appropriate for the size of the job. Allow at least 1 cu ft (28 L) of mixer capacity for each 80 lb (36.3 kg) bag of QUIKRETE® Sand/Topping Mix to be mixed at one time

- For each 80 lb (36.3 kg) bag of QUIKRETE® Sand/Topping Mix to be mixed, add approximately 8 pt (3.8 L) of fresh water to the mixer
- Turn on the mixer and begin adding bags of Sand/Topping Mix to the mixer
- If the material becomes too difficult to mix, add additional water until a workable mix is obtained

Note - Final water content should be 8 - 12 pt (3.8 - 5.7 L) of water per 80 lb (36.3 kg) bag of Sand/Topping Mix. For other bag sizes, use Table 1 to determine water content.

HAND MIXING

- Empty Sand/Topping Mix bags into a suitable mixing container
- For each 80 lb (36.3 kg) bag of mix, add approximately 8 pt (3.8 L) of clean water. Work the mix with a shovel, rake or hoe

- Add additional water as needed to obtain a workable plastic-like consistency
- Note - Final water content should be 8 - 12 pt (3.8 - 5.7 L). Be sure all material is wet. Do not leave standing puddles. For other bag sizes, use Table 1 to determine water content.

TABLE 1 MIX WATER REQUIREMENTS FOR QUIKRETE® SAND/TOPPING MIX

Package size	Starting water content	Final water content
80 lb (36.3 kg)	8 pt (3.8 L)	8-12 pt (3.8-5.7 L)
60 lb (27.2 kg)	6 pt (2.8 L)	6-9 pt (2.8-4.3 L)
40 lb (18.1 kg)	4 pt (1.9 L)	4-6 pt (1.9-2.8 L)

APPLICATION

- Using 2 × 4s and stakes, construct a form around the old sidewalk or slab. Use a level to make sure that the forms are set at the correct height and that there is adequate slope for drainage
- If the area to be resurfaced requires topping from 1" - 2" (25.4 - 51 mm) in thickness, first coat the damaged area with QUIKRETE® Concrete Bonding Adhesive (#9902)
- Allow the Bonding Adhesive to dry before proceeding. Concrete Bonding Adhesive should not be used when Sand/Topping Mix contains Acrylic Fortifier
- Place the Sand/Topping Mix onto the damaged area and trowel the surface smooth using a steel finishing trowel or wood float
- Edge using a concrete edging tool if desired
- If the topping is placed over an existing concrete joint, it is important to tool a joint into the Sand/Topping Mix directly over the existing joint
- Use a trowel or jointer to form the joint at least half the depth of the patch

FINISHING

QUIKRETE® Sand/Topping Mix can be broom finished or hand trowel finished. Power finishing is not recommended. Specialty finishes, such as stamping, adding color or staining, are also acceptable.

CURING

General

Curing is one of the most important steps in the use of Sand/ Topping Mix. Proper curing increases the strength and durability of the repair, and a poor curing job can ruin an otherwise well-done project. Proper water content and temperature are essential for good curing. In near freezing temperatures, the hydration process slows considerably. When weather is too hot, dry or windy, water is lost by evaporation from the repair and hydration stops, resulting in finishing difficulties and cracks. The ideal circumstances for curing are ample moisture and moderate temperature and wind conditions. Curing should start as soon as possible and should continue for a period of 5 days in warm weather at minimum 70°F (21°C) or higher, or for 7 days in colder weather at 50 - 70°F (10 - 21°C).

Specific Curing Methods

- QUIKRETE® Acrylic Cure & Seal – Satin Finish (#8730) provides the easiest and most convenient method of curing. Apply by spray, brush

or roller soon after the final finishing operation when the surface is hard. The surface can be damp, but not wet, when applying the curing compound. Complete coverage is essential

- Other methods of providing proper curing include covering the surface with wet burlap, keeping the surface wet with a lawn sprinkler and covering the surface with plastic sheeting or waterproof paper to prevent moisture loss
- If burlap is used, it should be free of chemicals that could weaken or discolor the concrete. New burlap should be washed before use. Place it when the concrete is hard enough to withstand surface damage and sprinkle it periodically to keep the concrete surface continuously moist
- Water curing with lawn sprinklers, nozzles or soaking hoses must be continuous to prevent interruption of the curing process
- Curing with plastic sheets is convenient. They must be laid flat, thoroughly sealed at joints and anchored carefully along edges

PRECAUTIONS

- Curing compounds should not be applied if rain or temperatures below 50°F (10°C) are expected within 24 hours
- Curing with plastic or burlap can cause patchy discoloration of the repair
- For repairs to colored surfaces, wet curing or the use of QUIKRETE® Acrylic Cure & Seal – Satin Finish (#8730) is recommended
- Do not use curing compounds during late fall on surfaces where de-icers will be used to melt ice and snow. Using curing compounds at that time can prevent proper air curing of the repair, which is necessary to enhance its resistance to damage caused by de-icers
- Protect Sand/Topping Mix from freezing during the first 48 hours. Plastic sheeting and insulation blankets should be used if temperatures are expected to fall below 32°F (0°C)
- Mixes that contain Concrete Acrylic Fortifier do not require extensive curing. No curing is required except in especially hot, dry or windy conditions. Under such conditions, the repair should be moist cured for 24 hours

WARRANTY

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Masonry Cement (Type N)

No. 1125-70

Basic use: Used for making Type N masonry mortar, and for any other application requiring Type N masonry cement.

Limitations: Must be blended with the specified amount of properly graded sand meeting ASTM C 144.

Composition and Materials: QUIKRETE® Masonry Cement is a high quality Masonry cement meeting ASTM C 91 Type N. In many locations the product is also available to meet ASTM C 91 Type S. Consult your supplying plant to confirm compliance with ASTM C 91 Type N or S.

Sizes: QUIKRETE® Masonry Cement is available in 70 lb (31.8 kg) bags.

Yield: A typical mix design consisting of one bag of Masonry Cement and 240 pounds of QUIKRETE® Mason's Sand will yield approximately 2.75 cu. ft. of mortar and will lay about 46 standard block or 144 standard bricks.

Color: gray

TECHNICAL DATA

QUIKRETE® Masonry Cement complies with ASTM C 91 Type N or in some locations Type S.

INSTALLATION

Before Application: Surfaces to receive masonry mortar should be dry or damp and clean and free of dirt loose debris, grease, oil or any other material which would reduce the bond of the mortar to the masonry.

Temperature: Do not use QUIKRETE® Masonry Cement at temperatures below 40°F (4.4°C) or if the temperature is expected to fall below freezing within 48 hr.

Warranty

The QUIKRETE® Companies warrant this product to be of merchantable quality when used or applied in accordance with the instructions or applied in accordance with the instructions herein. The product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is limited to the replacement of its product (as purchased) found to be defective, or at the shipping companies' option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to The QUIKRETE® Companies in writing at Atlanta, GA 30305. The limited warranty is issued and accepted in lieu of all other express warranties and expressly excludes liability for consequential damages.

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Physical Properties

Appearance Semi-solid	Maximum VOC <5 g/l	Softening Point (ASTM D 36) 320°F
Ductility @ 77° F, 5cm/min (ASTM D113) Min. 5.0	Penetration @ 77°F (150g 5 sec) (ASTM D217) Min. 50 - Max. 120	Specific Gravity @ 77° F (25°C) (ASTM D71) Min. 1.20 - Max. 1.35
Flash Point, C.O.C. (ASTM D92) Min. 600°F		

Approvals and Certifications

Manufactured to comply with Federal Specification SS-S-210 A, AASHTO M-198 75 1, and ASTM C990-91

Usage

- Storm Sewer Pipe
- Box Culverts
- Manhole Risers
- Septic Tanks
- Utility & Burial Vaults
- Wet Wells

Application

Vertical Application:

Apply one brush coat of **Ram-Nek Primer** to concrete surfaces to be sealed. Primer is recommended but not required unless conditions are wet. Remove protective wrapper on one side only of preformed **Ram-Nek** strip and press firmly to the dry, clean joint surface. Leave the outside wrapper in place to protect the gasket and keep it from stretching. Remove protective wrapper from **Ram-Nek** gasket and set next section. Each unit is forced "home" by its own weight, compressing **Ram-Nek** to tightly pack and immediately seal the joint. "Squeeze out" is visible proof of a watertight joint. After last section is set and fully "seated", the installation is complete. Backfilling and compaction can start immediately.

Horizontal Application:

Trench conditions shall be such that pipe jointing can be accomplished without getting mud, silt, gravel or other foreign materials into the joint. Generally, the trench should be dewatered and have a firm bottom free of muck. Remove protective wrapper on one side only of preformed **Ram-Nek** strip and press firmly to the dry, clean joint surface. Before laying the pipe in the trench, attach the gaskets end-to-end to the leading edge of the tongue or groove of each pipe joint, forming a continuous gasket around the circumference. Remove the protective wrapper before joining pipe sections. After the gasket is applied, the pipe should be handled carefully to avoid displacing or soiling of gasket. Any gasket so disturbed should be replaced. The pipe should be properly aligned before joints are forced home. For tongue and groove pipe, the pipe should be partially supported to maintain concentricity until the gasket is properly compressed in the joint space and sufficient pressure applied to make sure that the joint is properly made. Backfilling and compaction can begin when jointing is completed.

Product Sizes

NON SIZE ITEM (0.75 lb)	50 (.75in x 2.5ft) STRIPS/CASE	35 (1in x 2.5ft) STRIP/CASE (48.13
10 (2in x 3.5ft) STRIPS/CASE (70.63	20 (1.5in x 3.5ft) STRIPS/CASE	13 (1.75in x 3.5ft) STRIPS/CASE
28 (1.25in x 3.5ft) STRIPS/CASE		



IPA SYSTEMS

DRYCON

Cementitious Crystalline Waterproofing Kit



IPA SYSTEMS

QUALITY PRODUCTS FOR THE CONCRETE /MASONRY REPAIR INDUSTRY

Description

Drycon is a prepackaged, chemically active cementitious composition designed to protect masonry or concrete from water induced chemical attack, and to stop the passage of water through the material. A two coat application of Drycon is suitable for most interior below grade waterproofing applications. Two coats of Drycon will withstand hydrostatic pressures up to 7 psi (16 ft. of water, 4.9 m), while three coats provide protection to 45 psi (103.8 ft, 31.6 m).

Where to Use

Drycon is used to prevent seepage of water through masonry/concrete under pressure.

Advantages

- ◆ Made in America
- ◆ Double waterproofing protection by chemically sealing the internal structure of the masonry or concrete as well as sealing the surface with a dense, watertight cement coating.
- ◆ Chemically interacts beneath the surface to neutralize salts that cause efflorescence.
- ◆ Comes in Gray or White

Coverage

Coverage is an estimate only, actual coverage will vary depending upon surface roughness and porosity. First coat coverage is usually less than 100 square feet (9.3 m²) per kit, while the second coat is greater. Average coverage for the two coat process is 100 square feet (9.3 m²) per kit per coat of **DRYCON**.

Packaging

Drycon is packaged in 50 lb. (22.7 kg) bags as a kit, and includes a plastic pint (0.5 L) container of IPA Systems' Ipanex complex alkaline earth silicate admixture.

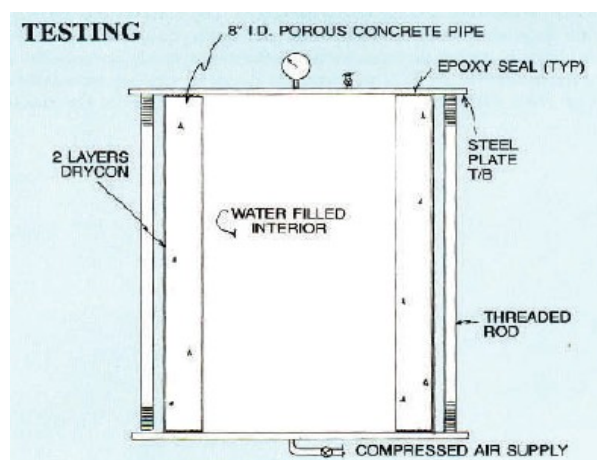
Technical Data

Drycon has been tested by using a modified hydrostatic test method ASTM C 497. Porous pipe was lightly sandblasted to remove dirt and contamination. The pipe wall thickness was 1.5 inches (3.8 cm). Pipe was thoroughly dampened immediately prior to application of the first Drycon layer. Drycon was brush applied to a thickness of 1/16 inch (1.6 mm). Material was mixed to slurry consistency and brushed firmly into the substrate. The second coat (White) was applied 1/16 inch (1.6mm) thick to pre-dampened pipe within 24 hours.

An epoxy gel sealant was applied to the bare ends of the coated pipe. This section was immediately set into the cell restraints and bolts tightened to firm pipe within. Assembly was allowed to cure for 72 hours at 65°F (18.3°C).

Water was introduced into the cell bottom and completely filled the pipe, so that water discharged from the top valve (vent). The air valve was then opened and increased to 10 psi (69.0 kPa) over one hour. Pressure was increased at the rate of 10 psi (69.0 kPa) per day thereafter.

Results: No leaks in **DRYCON** at 25 psi (172.4 kPa), seal failure in pressure cell. Additional ASTM C 497 testing indicates repairs to concrete pipe with no leakage to 30 psi (206.9 kPa) water pressure.



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Surface Prep

Surface to be repaired must be cleaned of any film, scale, loose material, oils, grease and any other foreign material that will prohibit bond. Surface preparation may be accomplished by accepted water blast, mechanical or chemical methods. If acid washing is used, surface must be repeatedly flushed with water to remove all trace of acid. Test with litmus paper to confirm neutral or alkaline conditions. Thoroughly wet surface then allow free water to run off.

DRYCON must be applied while surface is still damp. Failure to prepare surface will prevent successful development of material physical characteristics and will negate guarantee.

DRYCON must not be applied to surfaces from which water is seeping. Cracks, voids, sizable holes, and localized points of leakage must be sealed prior to treatment with **DRYCON**. Do not attempt to bridge cracks in excess of 1/16th inch width. Consult sales engineer or product application guide for other **DRYCON** system product recommendations and suggested repair procedures.

Application

1. Open **DRYCON** kit. Thoroughly shake enclosed plastic bottle until solid matter has liquefied and emulsion is uniform. Mix contents of plastic bottle with 5 1/2 quarts (5.2 L) clean water for each 50 lb. (22.7 kg) Kit. Rinse bottle with mixing water to remove all of the additive.
2. Slowly mix the powdered materials into the water and additive solution. Mix thoroughly to achieve a creamy slurry consistency.
3. Apply slurry within one hour of mixing.
4. Saturate surface with water immediately prior to application of **DRYCON** and allow excess water to run off. This is extremely important: **DRYCON** will not give desired result unless masonry surface is saturated with water.
5. Apply **DRYCON** by brush working material into surface pores. If the **DRYCON** seems too thick for efficient application, add a small amount of water (up to 1/2 quart (0.5 L) per kit) to the mix.
6. Material may alternatively be spray applied (using peristaltic or dual diaphragm pumps), but must be worked into pores with a brush. Spraying tends to bridge pores and hairline cracks. **DRYCON** must be worked into the surface for proper result. Apply **DRYCON** at 1/16" (1.6 mm) thickness per coat..
7. **DRYCON** treatment is normally a two-coat process. Second coat may be applied as soon as first coat has set, (usually about 1 1/2 hours). When unusually great hydrostatic pressures are anticipated, a third coat may be necessary. Two coats will prevent seepage up to 7 psi (16 ft. of water, 4.9 m). Three coats provide protection to 45 psi (103.8 ft. of water, 31.6 m).

Curing:

Curing of **DRYCON** is not necessary in closed underground structures such as manholes and vaults unless strong drafts exist. **DRYCON** must be cured if exposed to strong sunlight, hot or windy conditions. Water mist periodically applied under draped poly or wet burlap will usually provide the best curing conditions.

Limitations

- ◆ Minimum material, surface and ambient temperature must be 40°F (4.4°C) and rising
- ◆ Do not apply to frozen substrates.
- ◆ Will not bridge cracks greater than 1/16" inch (1.6mm).
- ◆ Material cannot be installed on surfaces that are actively seeping water. Contact IPA's Technical department if water seepage is present.

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IPA SYSTEMS



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QUALITY PRODUCTS FOR THE CONCRETE /MASONRY REPAIR INDUSTRY

Clean-up

Cleanup must be done immediately due to the high bonding characteristics of **DRYCON**. Clean equipment with water.

Caution

FOR INDUSTRIAL USE ONLY:

Freshly mixed cement, mortar, grout, or concrete may cause minor skin irritation. Avoid direct contact where possible and wash exposed skin areas promptly with water. If any of the cementitious material gets into the eyes, rinse immediately and repeatedly with water. If irritation persists, obtain medical assistance.

Warranty

This product is warranted and guaranteed to be of good quality. Manufacturer, as its sole and exclusive liability hereunder, will replace material if proved defective. This warranty and guarantee are expressly in lieu of all others, express or implied, including any implied warranty of merchantability or fitness for a particular purpose and may not be extended by representatives or any persons, written sales information, or drawing in any manner whatsoever. While the manufacturer recommends uses for the product based on tests believed reliable, no warranties, express or implied, or guarantee can be given as to particular methods of use or application, nor can performance be warranted, expressly or impliedly, or guaranteed under special conditions. Distributors, salesperson or company representatives are not authorized to extend or vary any warranties or guarantees beyond those outlined herein nor may the manufacturer's or seller's limitation of liability be waived or altered in any manner whatsoever.

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Mirafi® 140NL



Mirafi® 140NL is a needlepunched nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. Mirafi® 140NL is inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids.

TenCate Geosynthetics Americas Laboratories are accredited by [a2La](#) (The American Association for Laboratory Accreditation) and Geosynthetic Accreditation Institute – Laboratory Accreditation Program ([GAI-LAP](#)). [NTPEP Listed](#)

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	90 (401)	90 (401)
Grab Tensile Elongation	ASTM D4632	%	50	50
Trapezoid Tear Strength	ASTM D4533	lbs (N)	40 (178)	40 (178)
CBR Puncture Strength	ASTM D6241	lbs (N)	250 (1113)	
Mullen Burst Strength	ASTM D3786	psi (kPa)	175 (1207)	
Puncture Strength	ASTM D4833	lbs (N)	55 (245)	
Apparent Opening Size (AOS) ¹	ASTM D4751	U.S. Sieve (mm)	50 (0.30)	
Permittivity	ASTM D4491	sec ⁻¹	2.0	
Flow Rate	ASTM D4491	gal/min/ft ² (l/min/m ²)	145 (5907)	
UV Resistance (at 500 hours) ²	ASTM D4355	% strength retained	70	

¹ ASTM D4751: AOS is a Maximum Opening Diameter Value

² Modified

Physical Properties	Unit	Typical Value ³	
Roll Dimensions (width x length)	ft (m)	12.5 x 360 (3.8 x 110)	15 x 360 (4.57 x 110)
Roll Area	yd ² (m ²)	500 (418)	600 (502)
Estimated Roll Weight	lb (kg)	133 (60)	160 (70)

³ ASTM D4439 Standard Terminology for Geosynthetics: typical value, *n—for geosynthetics*, the mean value calculated from documented manufacturing quality control test results for a defined population obtained from one test method associated with on specific property.

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FGS000360
ETQR71



GAI-LAP-25-97



Testing Lab 1291.01 & 1291.02

SPECPLUG

Fast-setting hydraulic-cement mortar



DESCRIPTION

SPECPLUG is a durable, fast-setting hydraulic-cement mortar that stops flowing water through holes and cracks in concrete and masonry surfaces. SPECPLUG will not shrink or oxidize.

FEATURES/BENEFITS

- Single component; just add water and use
- Expands as it sets, bonds strongly to concrete and makes watertight repairs
- Sets in approximately 3 – 5 minutes, stops flowing water fast.
- Certified to NSF/ANSI Standard 61 for potable water contact

SPECIFICATIONS

Yield

One 50 lb (22.7 kg) pail yields approximately 0.43 cubic feet

One pound (0.45 kg) will fill 15.6 cubic inches

Color: Concrete gray

APPLICATION

Recommended for use in:

- Basement and masonry cracks
- Floor and wall joints
- Manholes
- Sewer pipes
- Tunnels
- Swimming pools
- Below-grade foundations

Surface Preparation

1. For best results, enlarge crack to a width and depth of 3/4" (19 mm); cut square or undercut. Do not cut in a "V" shape.
2. Clean the substrate of all grease, wax, oil, contaminants, and curing compounds. Remove all weak, contaminated, or deteriorated concrete.
3. Saturate the surface with water. SPECPLUG will cure in the presence of running water.)

Mixing

Add a small amount of clean water to SPECPLUG and mix to a putty consistency. Use an approximate ratio of 20%-21% water to product (by weight). Mix only enough material that can be placed in 2 minutes: approximately 9.5 pints water to 50 lbs of product.

Application

1. For vertical and moving-water applications, hold product firmly in place until it reaches final set, in approximately 3 minutes.
2. Temperatures below 60° F (16° C) may delay set. Use hot water and warm material to speed setting time. In temperatures above 80° F (27° C) protect the material from hot sun and use cold water to slow setting time.

Curing

SPECPLUG cures and continues to gain strength as long as it remains damp. Keep the material damp for a minimum of 30 minutes. The product obtains optimal strength when wet cured for up to 2 days.

TYPICAL TEST DATA

Compressive Strength (ASTM C 109)	
1-hour	1850 psi
1 day	3050 psi
28 days	7650 psi
Expansion (ASTM C 157) moist cure	
28 days	.08%
Flexural Strength (ASTM C 78)	
28 days	1200 psi
Tensile Strength (ASTM C 190)	
28 days	800 psi

PACKAGING

10 lb (4.5 kg) pail and 50 lb (22.7 kg) pails

LIMITATIONS/PRECAUTIONS

Do not place at temperatures below 40°F (5°C) or if the temperature is expected to fall below 40°F (5°C) in the next twenty-four hour period.

SPECCHEM 
 Solution to Service

1511 Baltimore Ave, Suite 600
 Kansas City, MO 64108

www.specchemllc.com

866.791.8700

SHELF LIFE

18 months when properly stored in unopened containers in a clean, dry area between 45°F and 90°F (7°C and 32°C).

WARRANTY

NOTICE-READ CAREFULLY

CONDITIONS OF SALE

SpecChem offers this product for sale subject to and limited by the warranty which may only be varied by written agreement of a duly authorized corporate officer of SpecChem. No other representative of or for SpecChem is authorized to grant any warranty or to waive limitation of liability set forth below.

WARRANTY LIMITATION

SpecChem warrants this product to be free of manufacturing defects. If the product when purchased was defective and was within use period indicated on container or carton, when used, SpecChem will replace the defective product with new product without charge to the purchaser. SpecChem makes no other warranty, either expressed or implied, concerning this product. There is no warranty of merchantability. NO CLAIM OF ANY KIND SHALL BE GREATER THAN THE PURCHASE PRICE OF THE PRODUCT IN RESPECT OF WHICH DAMAGES ARE CLAIMED.

INHERENT RISK

Purchaser assumes all risk associated with the use or application of the product.



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