Polymer Concrete 900

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type

Aggregate-Filled Novolac Vinyl Ester Mortar

Description

A three-component, novolac vinyl ester mortar that is well suited for the construction of floors or structures requiring resistance to strong acids, alkalis, solvents and other corrosive chemicals. The material exhibits excellent bond strength to concrete and physical properties at least 3 times that of standard concrete. Suitable for use in areas exposed to heavy traffic and abuse.

In addition to field installations, this product can be supplied in precast shapes. These include precast trench sections, sumps, pits, floor slabs, pump pads and other fabrications that are made to fit the exact dimensions of each specific project.
Precast shapes are fabricated off site and delivered to job site, ready to drop into place.
Construction joints in precast pieces are quickly and easily seamed on site. These quick turnaround precast systems minimize downtime.

Features

- Exceptional strength and durability
- Excellent chemical resistance to a wide range of chemicals
- High resistance to abrasion
- Extremely low shrinkage

Typical Uses

- Truck unloading pads
- Chemical process flooring
- Pump pads and tank piers
- Precast trenches and sumps

Primer

Self-priming after 28 days

On green or damp concrete, use Vapor Stop after a minimum of 5 days.
For damaged or deteriorated concrete, use Primer 27.
Consult your Dudick representative.

Coverage Rate

Typical installations on high traffic floor slabs are placed at a nominal 1” (25.4 mm) thickness. For foot traffic or light duty areas, at least a 1/2” (12.7 mm) thickness generally is recommended. Each lift can be 2” to 4” in depth. A maximum of 8", using clean dry pea gravel, can be placed in each lift. For sloping or lifts exceeding 4”, contact your Dudick representative for best practices and recommendations.

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For minimum 1/2" topping:
9 ft^2 per bag of Polymer Concrete Aggregate with mixed resin @ 1/2" or 500 mils (12.7 mm)
57 ft^2 per 18 gal kit @ 1/2" or 500 mils (12.7 mm)

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For cast in place applications: 2.4 cu ft/kit or .14 cu ft/mixed gallon.
(using 6 bags)

As a flowable, precision grout for minimum 1/2":
9 ft^2 per bag of Polymer Concrete Aggregate with mixed resin @ 1/2" or 500 mils (12.7 mm)
38 ft^2 per 12 gal kit @ 1/2" or 500 mils (12.7 mm)
(using 4 bags)

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SUBSTRATES & SURFACE PREPARATION

Concrete

Concrete must be prepared mechanically to remove surface laitance. Oils, grease or other contaminant must be removed prior to surface preparation. Concrete must be free of curing compounds and form release agents (per SSPC SP-13/NACE No.6). Surface texture should be similar to 40-60 grit sandpaper or the visual standard, CSP 5 or greater from the International Concrete Repair Institute (ICRI) with pea gravel exposed. The prepared surface shall have a minimum tensile strength of 250 PSI per ASTM D7234.

All concrete substrates must be checked for moisture and pass the ASTM D4263 Plastic Sheet Test prior to product application.

PERFORMANCE DATA (TYPICAL VALUES)

Test Method	Results
Bond Strength of concrete ASTM D-7234	Greater than cohesive strength of concrete
Coefficient of Expansion ASTM C-531	$13x10^{-6}$ in./in.°F
Compressive Strength ASTM C-579	14,500 PSI
Shrinkage	<0.05% (varies with amount of filler used)
Tensile Strength ASTM C-307	1,900 PSI

MIXING & THINNING

Thinning | Do not thin.

Pot Life | 20 minutes @ 70°F (21°C)

APPLICATION PROCEDURES

General

Forms may be constructed of wood or metal. They should be coated with a generous amount of automotive or floor paste wax to prevent adhesion to the polymer concrete after it has cured. Forms should be leak-proof since the polymer concrete will flow. If necessary, they can be sealed with putty or other non-hardening materials.
Forming, transportation and pouring techniques, and the tools used are similar to those employed for normal concrete work. Thus, the polymer concrete can be prepared and installed by skilled plant maintenance personnel or by local contractors.

Mixing

Add the premeasured hardener to the liquid and mix well for at least three minutes. Pour the mixed liquid into a concrete mixer (6 cu. ft. or less), turn it on, and allow it to “wet out” the interior surface. Add the remaining aggregate (approximately 300 lbs.) to the catalyzed resin in the concrete mixer, and mix two to three minutes, achieving a uniform consistency.

First Batch: Remove approximately 5% (10 lbs.) of aggregate and discard it from the amount provided to avoid dry mixing for the first batch only.
As with normal concrete work, mixing and pouring should be a continuous process. When work is interrupted for any period of time (i.e. while moving to a new area, overnight, etc.) this "first batch" procedure must be followed to provide the “wetting out” of the mixer interior and prevent the formation of a dry batch. The “first batch” process should also be followed when beginning a new area to achieve the reduced viscosity required to “wet out” the concrete foundation and achieve self-priming action.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	60°F (16°C)	50°F (10°C)	50°F (10°C)	0%
Maximum	80°F (27°C)	90°F (32°C)	90°F (32°C)	90%

Substrate temperature must be 5ºF (3ºC) above the dew point.

CURING SCHEDULE

Surface Temp.	Cure for Service
60°F (16°C)	4 Days
70°F (21°C)	3 Days
80°F (27°C)	2 Days

CLEANUP & SAFETY

Cleanup | Use S-10 Cleaning Solvent or Carboline Thinner 2 to clean tools and equipment.

Safety | Read and follow all caution statements on this product data sheet and on the SDS. Employ normal safety precautions. Keep container closed when not in use.

Ventilation | Ventilation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. Use MSHA/NIOSH approved air respirators as needed.

Caution | Fire and explosion hazards: This product contains less than 1% volatile components, however, vapors are heavier than air and can travel long distances, ignite and flash back. Eliminate all Ignitions sources. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workers should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Packaging | **2.4 Cu. Ft. unit:**
Part A: 3.86 gallons in a 5 gal pail
Part B(PH-1): .13 gallons in a plastic bottle
6 x 50 lbs. bags of aggregate Yields up to 18 mixed gallons

Shelf Life | Part A: 3 months
Part B: 6 months
Aggregate: 36 months

Storage | Warning: All Dudick products classified by DOT labels as either white, yellow or red labels must not be mixed or stored together as an explosive reaction may occur.
Store all products in a cool, dry area away from open flames, sparks or other hazards.

WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.