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The trenchless solutions company

PERMACAST® PATCH 20 Technical Data Sheet

A fast setting, ready-to-use, cement-based concrete, and masonry patching compound formulated specifically for underwater use.

TECHNICAL DATA

Typical Performance Data at 72 deg. F & 50% RH using 6 pints (6.25 lbs; 2.84kg) of water per 50 lb. Bag/pail of Patch.

C-109		
Compressive Strength	1-hour	1200 psi
	24 hours	3100 psi
	7 days	4500 psi
	28 days	6200 psi
C-78		
Flexural Strength	24 hours	450 psi
	28 days	650 psi
C-882		
Slant Shear Bond	24 hours	1000 psi
	28 days	1620 psi
C-1090 Drying Shrinkage	28 days	.0025%
Working Time	~10-15 min.	
ASTM C-266 Set Time	initial	~10-15 min.
	final	~20 min.

The Physical properties contained herein were obtained under laboratory conditions at 72° F. Physical properties obtained under field conditions may vary due to environmental variables. Data are subject to reasonable deviation.

Where to Use

- Sewer Pipe
- Manholes
- Bridge decks
- Parking structures
- Dams, Piers
- Heavy loads, industrial floors
- For horizontal and formed vertical repairs

Packaging - 50 lb. Bag/pail (22.7 kg bag/pail)

Yield - .41 cu ft./ 50 lb. Bag/pail (0.011 cu m/22.7 kg bag/pail) when mixed with three quarts of water.

FEATURES/BENEFITS

- One component-easy to use
- Shrinkage compensated-reduces early shrinkage
- High early and ultimate compressive strength
- Compatible modulus to concrete substrate
- Freeze/thaw durable
- Improved placement and workability
- No moist curing or membrane required
- High density provides low permeability minimizing infiltration of water and deicing chemicals (salt/chlorides)

INSTRUCTIONS FOR USE

Surface Preparation. Prior to starting repair and surface cleaning, strong considerations should be given to possible causes of concrete, mortar, or reinforcement deterioration. Repair in accordance with qualified professional recommendations for restoration and maintenance of the structure, and follow the guidance of:

- ACI 201.1R Guide for Making a Conditions Survey of Concrete in Service
- ICRI Guideline 03730 Surface Preparation Guidelines for Repair of Deteriorated Concrete Resulting from Reinforcing Steel Oxidation
- ICRI Guideline 03733 Guide for Selection and Specifying Materials for Repair of Concrete Surface
- ICRI Guideline 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays
- ASTM D 4258 Surface Cleaning Concrete for Coating
- ASTM D 4259 Abrading Concrete
- A.C.I. 305 Hot Weather Concreting
- A.C.I. 306 Cold Weather Concreting

For horizontal applications subject to traffic, the perimeter of the area to be resurfaced should be saw cut to a minimum depth of 1/4 in. (6mm) to prevent

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featheredges. Remove all oxidation and scale from the exposed reinforcing steel. Immediately prior to application, thoroughly clean roughened surface to remove all bond-inhibiting materials from the concrete substrate. Presoak the prepared concrete surface to provide a saturated, surface dry (SSD) condition.

Mixing. Locate the mixing operation close to the repair areas. At 72 °F (22 °C) mix, place, and finish within 10 minutes. Water content is critical. 3 qts/bag/pail for faster set in cold and normal weather (40-75° F), maximum 31/2 qts. to lengthen set time in hot weather (above 75°F) MIXING ORDER: Pour clean water into mixer. Add Patch 20, mix until smooth (2-3 minutes) and place. DO NOT mix over 3 minutes. DO NOT over water. This can cause bleeding or separation. DO NOT retemper. DO NOT add cement or any other additives.

Placing. Immediately place in one lift in prepared area from one side to the other. Work firmly into bottom and sides of void to remove air and assure proper bond. Level and screed to elevation of existing concrete. Seal the edges and saw cuts with light troweling. Minimal finishing is required. DO NOT temper.

Cold Weather:

(Below 50 °F, 10 °C) Heat the concrete until warm. use 3 qts. of warm water to increase rate of hardening. DO NOT use accelerators or antifreeze.

Hot Weather:

(Over 90 °F 29°C) Use ice water and keep patch cool. Use the max. 31/2 qts. of water/bag or use retarder.

Curing. Patch 20 will air cure. In extreme heat, keep patches covered and damp if possible. At 72 ° F, patch will take traffic in 3 hours.

Receiving

All bagged products should be checked for dryness prior to signing shipping papers.

STORAGE

Patch 20 should be stored in a cool, dry interior area. At no time should material be exposed to high moisture, rain, or snow conditions.

HAZARDS

Caution. Contains Portland Cement and sand. Cement will cause irritation. Avoid contact. Use of a dust respirator, safety goggles and rubber gloves are recommended. Avoid prolonged contact with clothing. In case of contact with eyes, immediately flush with water for at least 15 minutes. Get prompt medical attention. DO NOT wear contact lenses when working with this product. DO NOT take internally. Keep out of reach of children. Avoid hazards by following all precautions found in the Material Safety Data Sheet (MSDS), product labels and technical literature. Please read this information prior to using the product.

WARRANTY and DISCLAIMER

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