

TECHNICAL DATA SHEET

DESCRIPTION

AHT - DB Retrofit Mortar (Concentrate) is a rapid setting, high early strength repair material that when mixed with sand, stone & water produces a permanent repair for concrete.

USE

Full or partial depth restoration of:
 Highways and roadways
 Roadway joint restoration
 Bridge decks
 Aisles
 Manufacturing, storage or shipping areas
 Distribution center and warehouse floors
 Parking garages, decks, ramps, and lots
 Bridge nosings
 Airport installations

FEATURES

- Meets or exceeds requirements of ASTM C928-92a
- Rapid, high early strength gain
- Reaches 4000 psi (27 MPa) in 3 hours
- Freeze/thaw resistant
- Wide temperature use
- Early return to traffic
- Easy to place
- Excellent bond to concrete substrate
- Expands and contracts at a similar rate to concrete

PROPERTIES

Compressive Strength- ASTM C109 at 72°F (22° C)
 3 Hours 4000 psi (27 MPa)
 1 Day: 6500 psi (45 MPa)
 7 Days: 8000 psi (55 MPa)
 28 Days: 10000 psi (69 MPa)
 Length Change of Hardened Cement Mortar and Concrete ASTM C157 (*modified per ASTM C 928)
 Length Change at 28 days
 Air Cure -0.09%
 Water Cure 0.018%
 Set Times- ASTM 191 Concrete Mix
 Initial: 25 minutes
 Final: 35 minutes
 Flexural Strength- ASTM C348
 1 Day: 1000 psi (6.9 MPa)
 28 Days: 1250 psi (8.6 MPa)
 Splitting Tensile- ASTM C496
 1 Day: 565 psi (3.9 MPa)
 28 Days: 764 psi (5.2 MPa)
 Slant Shear Bond Strength ASTM C882 (*modified per ASTM C 928)
 1 Day: 2500 psi (17 MPa)
 28 Days: 4000 psi (27 MPa)
 Modulus of Elasticity- ASTM C469
 5.8 x 10⁶
 Chloride Permeability- ASTM C1202
 155.7 Coulombs,
 Very Low Scaling Resistance- ASTM C672
 25 Cycles: No Scaling

Chemical Analysis

1. Sulfate content, CA DOT TEST METHOD 417:
 <30mg/kg (<0.003%)
2. Chloride content, CA DOT TEST METHOD 422:
 27mg/kg (0.0027%)

Freeze Thaw- ASTM C666A
 100%RDM @ 300

Cycles

CALTRANS Test Method 551- Bond Strength
 Meets requirements for both DRY and SSD PCC

Note:

The data shown is typical for controlled laboratory conditions. Reasonable variation from these results can be expected due to interlaboratory precision and bias. When testing the field mixed material, other factors such as variations in mixing, water content, temperature and curing conditions should be considered. Test data derived using mortar (no stone).

Estimating Guide

Yield: 0.42 cu. ft./50 lb. (0.012 cu. m /22.7 kg)
 0.60 cu. ft./50 lb. (0.017 cu. m/22.7 kg) bag with 60% extension, 30 lbs. (13.61 kg) with 3/8 in. (1 cm) pea gravel.

Packaging

PRODUCT CODE	PACKAGE	SIZE	
		lbs	kg
200461	Bag	40	18.14
200462	Supersack	2,250	1,020.6

STORAGE

Shelf life of unopened bags, when stored in a dry facility, is 12 months. Excessive temperature differential and/or high humidity can shorten the shelf life expectancy. Store in a cool, dry area free of direct sunlight.

Concrete Mix Design:

Concrete Mix: 1 Cubic Yard (.7646 M3)*
 DM Mortar Concentrate- 750 lbs (340 kg)
 Sand- 1125 lbs (510 kg)
 3/8" Stone- 1875 lbs (850 kg)
 Water- 25.25 to 28 gal (95 to 106 liters)
 *Approximate, bulk density of local aggregates will vary yield.

Concrete Mix: 100 lbs (45 kg)
 DB Mortar Concentrate- 20 lbs (9 kg)
 Sand- 30 lbs (13.6 kg)
 3/8" Stone- 50 lbs (22.7 kg)
 Water- 2.75 to 3.0 Qts (2.6 to 2.8 liters)

Use only clean, washed, well graded sand and stone conforming to ASTM C33. Do not use stone for repairs less than 2" (5 cm) in depth.

APPLICATION

Surface Preparation:

Proper repairs depend upon a solid bond between the mortar and base surface!

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Thoroughly clean and roughen subject area. Remove any curing compound, grease, oil, loose or carbonated concrete, dirt, dust, etc. from exposed slab. Sawcut area perimeter to a depth of at least 1/2" (12 mm). Roughen the smooth surface left behind after sawcutting. Use water under moderate pressure to flush and further clean area.

Maintain integrity of any abutting joints by using expansive joint material, bond breakers, polyethylene, isolation joint material, etc. to avoid bonding to adjacent slab.

If reinforcing steel has rusted or is not bonded to concrete, remove surrounding concrete to a depth of 1/2" (12mm) below the steel. Clean area of all chipped, disintegrated or broken concrete. Remove rust from reinforcing steel.

Mixing:

Place mixers close to repair area. Approximate initial set is 25 minutes at 72°F (22.5°C). Therefore, mix only an amount that can be placed and finished before initial set. Place recommended amount of clean water into mixer. Add AHT – DB Retrofit Mortar (Concentrate) mixed with sand & 3/8" stone, mix and place. Discard any material that stiffens. Do not retemper.

HOT WEATHER PROCEDURES

Hot weather when ambient and/or base concrete temperatures are over 80°F (26.5°C): Protect applied material from direct sunlight by applying an AHT approved white pigmented curing compound immediately after placement. Product set time will decrease in hot temperature applications. Follow ACI placement procedures for hot weather conditions.

Cold weather when ambient and/or base concrete temperatures are below 45°F (7°C): Use warm mixing water. Product set time will be increased and strength development will be slower in cold temperature applications. Follow ACI placement procedures for hot and cold weather conditions.

Placement:

Place material immediately upon mixing. Work from one side of site only - - not toward middle from opposite directions. Lightly vibrate material to ensure consolidation around the dowel bars.

Finishing:

Level and screed material to proper height. Float edges with wooden or magnesium floats. Occasionally clean all tools of built-up material. Broom or tine, if desired, immediately after placing and prior to initial set.

CLEAN UP

Clean tools and equipment immediately with water. Hardened material will require mechanical removal.

CURING

Water cure for a minimum of 1 hour or apply a Dayton Superior ASTM C309 water-based curing compound to the repaired area immediately after placement.

LIMITATIONS**FOR PROFESSIONAL USE ONLY**

When using less than one bag always drymix the full bag prior to each use. DO NOT use for patches less than 1/2" (12mm) deep. DO NOT ADD admixtures (accelerators, water reducers, ect.) or antifreeze to this product. DO NOT apply at temperatures below 40°F (5°C) without following the cold weather concreting procedures outlined in ACI 306. For application in temperatures below 45°F (4°C), best results will be obtained by warming the material and mix water as well as the substrate. Colder temperatures will extend the setting time and warmer temperatures will reduce the setting time. DO NOT featheredge. Do not re-temper the mixed material or use admixtures. Do not use for resurfacing or topping large floor areas. Mixing equipment should be cleaned with water frequently and prior to material hardening.

PRECAUTIONS**READ SDS PRIOR TO USING PRODUCT**

- Product contains Crystalline Silica and Portland Cement – Avoid breathing dust – Silica may cause serious lung problems
- Use with adequate ventilation
- Wear protective clothing, gloves and eye protection (goggles, safety glasses and/or face shield)
- Keep out of the reach of children
- Do not take internally
- In case of ingestion, seek medical help immediately
- May cause skin irritation upon contact, especially prolonged or repeated. If skin contact occurs, wash immediately with soap and water and seek medical help as needed.
- If eye contact occurs, flush immediately with clean water and seek medical help as needed
- Dispose of waste material in accordance with federal, state and local requirements

MANUFACTURER

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TECHNICAL DATA SHEET**WARRANTY**

Dayton Superior Corporation ("Dayton") warrants for 12 months from the date of manufacture or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Dayton, the product is free of manufacturing defects and conforms to Dayton's product properties in force on the date of acceptance by Dayton of the order. Dayton shall only be liable under this warranty if the product has been applied, used, and stored in accordance with Dayton's instructions, especially surface preparation and installation, in force on the date of acceptance by Dayton of the order. The purchaser must examine the product when received and promptly notify Dayton in writing of any non-conformity before the product is used and no later than 30 days after such non-conformity is first discovered. If Dayton, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty. Only a Dayton officer is authorized to modify this warranty. The information in this data sheet supersedes all other sales information received by the customer during the sales process. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.

Dayton shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for loss of sales, revenues or profits; cost of capital or funds; business interruption or cost of downtime, loss of use, damage to or loss of use of other property (real or personal); failure to realize expected savings; frustration of economic or business expectations; claims by third parties (other than for bodily injury), or economic losses of any kind; or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform, its obligations under any contract for sale of product, even if Dayton could foresee or has been advised of the possibility of such damages. The Parties expressly agree that these limitations on damages are allocations of risk constituting, in part, the consideration for this contract, and also that such limitations shall survive the determination of any court of competent jurisdiction that any remedy provided in these terms or available at law fails of its essential purpose.