

TECHNICAL DATA SHEET

DESCRIPTION

HD 25 VO is a high strength mortar containing portland cement, special polymers and accelerators to provide an accelerated strength gain and set time. HD 25 VO is a single component, fiber enhanced trowelable material formulated for vertical and overhead repairs of concrete. HD 25 VO is a specially formulated dry, cementitious product that needs only water for mixing.

USE

HD 25 VO is a polymer modified mortar that can be used for vertical and overhead repairs of concrete structures. HD 25 VO can be used inside or outside and above or below grade. It can be used as a structural repair for bridges, tunnels, parking structures, dams, walls, columns, etc. It is an excellent repair material for precast concrete products, such as pipes, beams and steps.

FEATURES

- Ideal for vertical and overhead applications
- Meets ASTM C928 R2; Specification for Very Rapid Hardening Cementitious Repair Materials
- Built in bonding agent/polymer modified
- Can be shaped and molded
- Fast setting, 4,000 psi (27.6 MPa) in 24 hrs.
- One component, just add water
- Excellent bond strength
- Shrinkage compensated
- Compatible with the thermal expansion of concrete

PROPERTIES

Set Times: ASTM C-266 @ 72°F. (22°F.)

Initial Set: 20 minutes

Final Set: 30 minutes

Compressive Strength ASTM C-109

3 Hours 3,400 psi (20.7 MPa)

1 Day 4,200 psi (28.3 MPa)

7 Days 5,700 psi (37.9 MPa)

28 Days 6,900 psi (44.8 MPa)

Bond Strength – ASTM C-882 Modified per ASTM C 928

1 day 1,100 psi (7.6 MPa)

7 Days 2,000 psi (13.8 MPa)

Flexural Strength – ASTM C-348

28 Days 1,100 psi (7.6 MPa)

Length Change ASTM C-157

(Water Cure) .04

Length Change ASTM C-157 (Air Cure): -.15

Scaling Resistance ASTM C-672 (25 Cycles): No Scaling

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.

Estimating Guide

Yield: Approx. 0.46 cu. ft./50 lb. (0.013 cu. m/22.7 kg) bag

Packaging

PRODUCT CODE	PACKAGE	SIZE	
		lbs.	kg
67458	Bag	50	22.7

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.

APPLICATION

Surface Preparation:

The concrete must be sound and free of all foreign material, including oil, grease, dust, laitance, or other surface contaminants. Surface preparation in accord with ICRI Guidelines is recommended. The edges of the patches should be saw-cut perpendicular to the surface to no more than a depth of 1/2 in. (13 mm) to avoid feather edging the repair material. Best results will be obtained by abrasive blasting the area to be repaired, providing uniform depth, a high surface profile and a firm bonding area. All surfaces to be repaired should be in a saturated-surface dry (SSD) condition with no standing water on the surface. Supported patches deeper than 2 in. (5 cm) may require reinforcement or anchorage. Consult project engineer for specific requirements.

Water Requirements:

3.5 – 3.75 qt.(3.3 to 3.6 L) /50 lb. (22.7 kg) bag.

Mixing:

Mix with a low speed drill or, for larger projects, a mortar mixer. Add recommended amount of mixing liquid noted above into the container followed by the HD 25 VO. Mix 2 to 3 minutes. Mix only as much material as can be easily placed within 15 minutes. HD 25 VO sets initially in approximately 20 minutes and reaches final set in less than 30 minutes.

Placement:

Using freshly mixed material, scrub a thin layer into the SSD substrate with a stiff fiber brush and place the repair mortar by trowel or hand before the scrub coat dries. Trowel the material onto the surface to a minimum thickness of ¼ in. (0.6 cm) and a maximum neat thickness of 2 in. (5.1 cm). Additional lifts can be placed up to 6 in. (15.2 cm) and between each lift, the substrate must be left roughened or scarified.

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Prior to each lift, the surface must be in a SSD condition and a scrub coat applied immediately prior to the next lift being applied. THE LESS HD 25 VO IS HANDLED THE BETTER. Application should always be finished by the time of initial set or stiffening. Never leave excess material lapping over the edges of the repair.

The finished repair should be smooth and level with the surrounding concrete. After leveling, HD 25 VO can be finished to achieve desired texture with sponge, float or trowel.

For repairs over 2 in. (5.1 cm) thick, rather than applying in lifts, up to 15 lb. (6.8 kg) of clean, SSD pea gravel can be added to a 50 lb. (22.7 kg.) bag of HD 25 VO.

CURING

Adequate curing is important, especially during windy, hot or dry conditions. A wet burlap cure or a Dayton Superior water based curing compound is recommended..

CLEAN UP

Use water when material is wet. Hardened material requires abrasive methods.

LIMITATIONS

FOR PROFESSIONAL USE ONLY

When using less than one bag always dry mix the full bag prior to each use. DO NOT place at unprotected temperatures below 40°F(5°C) or if the temperature is expected to drop below 40°F(5°C) in the next twenty-four hour period. Ideal installation temperatures are from 50°F (10°C) to 80°F (27°C). Cooler temperatures will slow set-time and strength gain. Hot temperatures will accelerate set time. In hot weather, follow ACI Committee 305 recommended procedures. Do not apply over a smooth hard troweled surfaces without first roughening the surface. DO NOT featheredge. Minimum thickness for patching is ¼ in. (0.6 cm). Do not re-temper the mixed material or use admixtures. Mixing equipment should be cleaned with water frequently and prior to material hardening. Not for use as a parge coating or stucco type application. Placement of 9 to 10 50 lb. (22.7 kg) bags is the maximum amount for any one application.

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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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.