



**Conpatch VO**  
Vertical and overhead repair mortar

**PRODUCT DESCRIPTION**

Conspec Conpatch V/O is a single component, cement based, polymer modified patching and render repair mortar developed for vertical and overhead, thin to thick surface applications. Conpatch V/O's unique rapid setting, shrinkage compensating formulation offers excellent durability and ease of application without the use of forms. If required the material may be mixed with Corrosion Inhibitor admixture using proven calcium nitrite technology.

**USE**

Conpatch V/O is specifically formulated to repair vertical and overhead concrete. Surfaces subjected to severe freeze-thaw and de-icing salts such as bridge columns, parking structures columns, spandrels beams, concrete ceilings, tunnels, pipes, pilings and any other vertical or overhead application where excellent durability and strength is required.

**BENEFITS**

- ◇ Standard product is one-component; just add water
- ◇ Can be used as a two-component repair mortar with approved admixture
- ◇ Excellent resistance to freeze-thaw and de-icing salts
- ◇ Available with proven calcium nitrite corrosion technology
- ◇ Designed for Vertical and Overhead Patching
- ◇ Interior and exterior applications
- ◇ Can be extended for deep patches
- ◇ Rapid set and strength gain for multi-lift and structural repairs
- ◇ Is shrinkage compensated, helping to assure a tight contact with surrounding substrate
- ◇ High bond strength
- ◇ Thermal expansion similar to concrete for long term durability
- ◇ For overhead, vertical and horizontal applications
- ◇ Can be pumped and sprayed through small volume pneumatic equipment

**PROPERTIES, TEST DATA**

Initial Set	30 minutes		
Final Set	60 minutes		
Compressive Strength (ASTM C - 109)			
24 hours	>4500 psi	(31 MPa)	
7 days	>7000 psi	>(48 MPa)	
28 days	>8000 psi	>(55 MPa)	
Flexural Strength (ASTM C -78)			
1 Day	850 psi		
7 Day	1,000 psi		
28 day	1,200 psi		

Splitting Tensile Strength (ASTM C-496)		
1 Day	240 psi	
7 Day	540 psi	
28 Day	650 psi	
Direct Tensile Strength (CRD C164)		
1 Day	170 psi	
7 Day	200 psi	
28 Day	240 psi	
Modulus of Elasticity (ASTM C469)		
28 Days	3.9x106	
Bond Strength (ACI 503R Direct Tensile)		
1 Day	200 psi	
7 Day	245 psi	
28 Day	300 psi	
Coefficient of Thermal Expansion (CRD C-39 modified)		
4.4x10-6		
Freeze Thaw Resistance (ASTM C666, Procedure A)		
300 cycles	>96%	
Scaling Resistance (ASTM C672)		
50 cycles	0 Rating	
Rapid Chloride Permeability (ASTM C1202)		
28 Days	430 Coulombs	

**APPLICATION**

**Surface Preparation**

The concrete must be sound and free of all foreign material, including oil, grease, dust, laitance, or other surface contaminants. We recommend surface prep per ICRI Guideline 03730. Saw cut the perimeter of the repair to a maximum depth of 1/2" (1.3 cm). 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.

**Mixing**

Ratios:  
Standard Mix: Add 6.25 - 6.75 pints (2.94-3.19 L) of clean potable water per 50 lb. (22.7 kg) bag or 20-24 oz. (0.59-.70 L) per 10 lbs. (4.5 kg) of Conpatch V/O material.

Acrylic Admix: Add 6.5-6.75 pints (3.08-3.19 L) of Strong Bond diluted 1:1 with clean potable water per 50 lb. (22.7 kg) bag.

Corrosion Inhibitor: 6.5-6.75 pints (3.08-3.19 L) of Special Bond CI neat per 50 lb. (22.7 kg) bag.

Mixing: Mix with a low speed drill or, for larger projects, a mortar mixer. Add recommended amount of clean water or Special Bond CI into the container followed by the Conpatch V/O. Mix 2 to 3 minutes. Mix only what can be applied within the setting period. Work time is approximately 15-25 minutes.

Scrub-coat: Using freshly mixed Conpatch V/O, scrub a thin layer into the SSD substrate with a stiff fiber brush and

place the Conpatch V/O before the scrub coat dries. In certain conditions the use of an approved bonding agent, i.e. Spec Bond 100 surface applied epoxy or Special Bond CI integral mix, may be required. Contact technical services for further information.

**Application Temperature Range:** 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.

**Placement**

Place the Conpatch V/O by trowel or hand before the scrub coat dries. On patching applications, trowel the Conpatch V/O onto the surface to a minimum thickness of 1/4" (0.6 cm) and a maximum neat thickness of 2". Additional lifts can be placed up to 6 inches and between each lift, the substrate must be left roughened or scarified. 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.

**Curing**

Conpatch V/O is self-curing under most conditions. Thin applications will require actions for curing. To assure maximum durability under severe drying conditions (high wind and temperature, low humidity), moist cure or use approved ASTM C-309 Conspec water based curing compound.

**Clean Up**

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

**WASTE DISPOSAL**

Dispose of waste material and empty packaging in accordance with all Federal, State and Local requirements. Refer to the product's MSDS for further information.

**ESTIMATED YIELD**

0.37 ft<sup>3</sup> (0.01 m<sup>3</sup>)

**PACKAGING**

ITEM #	Package	Weight	
		lb.	kg
300437	Bags	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.

**LIMITATIONS**

When using less than one bag always dry mix the full bag. Supported patches deeper than 2" (5 cm) may require reinforcement or anchorage. Applications for unsupported repairs exceeding 1" (2.54 cm) in thickness may require anchorage and should be designed in accordance with the provisions of SEI/ASCE 7-02, Section 9.6.1.6. Please consult the engineer of record for special requirements that may be required. 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. In hot weather, follow ACI Committee 305 recommended procedures. Do not apply over smooth hard trowelled surfaces without roughening.

**PRECAUTIONS**

Contains Portland cement and sand. Cement will cause irritation. Avoid contact. Use of a dust respirator, safety goggles and rubber gloves is recommended. Avoid prolonged 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.

**MANUFACTURER**

Conspec a brand of Dayton Superior Corporation  
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 Technical Service: 877-416-3439  
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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.

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