

TECHNICAL DATA SHEET

DESCRIPTION

ProAnchor WeatherMax is a two component high strength, styrene-free, vinylester adhesive anchoring adhesive used for anchoring threaded rod and reinforcing bar in cracked and uncracked concrete in accordance with ACI 355.4 and ICC-ES ESR-4554.

USE

ProAnchor WeatherMax is for use in cracked and uncracked normal weight and lightweight concrete anchoring dowels, bolts, threaded rod, pins and reinforcement steel in concrete. Install anchors in a vertical down, horizontal, upwardly inclined and overhead installations.

Resists static, wind and earthquake loading in tension and shear (IBC Seismic Design Categories A through F). ProAnchor WeatherMax can also be used in cooler and freezer applications or anywhere low temperature installations are required.

FEATURES

- Full cure in 45 minutes at 70 °F (21 °C).
- Ideal for cold weather installations
- Suitable for dry, water saturated and water-filled holes
- High structural strength adhesive
- Resists sustained loads up to 161 °F (72 °C).temperatures
- Styrene free
- Non-sag gel consistency for horizontal and vertical installations
- Two component (10:1 mix ratio by volume)

APPLICABLE STANDARDS

ASTM C881, AASHTO M235: Types I, II, IV & V; Grade 3; Classes A, B & C*

*Except for gel time due to fast set

Multiple state DOT approvals

IBC Seismic Design Categories A through F
 NSF International Certified – Drinking Water
 System Components to NSF/ANSI/CAN 61

Note:

Do not thin with solvents, as this will prevent cure. For anchoring applications, concrete should be a minimum of 21 days old prior to anchor installation per ACI 355.4.

Packaging

PRODUCT CODE	Packaging	Size oz	Milliliters
100941	Cartridge	9.5	280 ml
100942	Cartridge	28	825 ml

STORAGE

Shelf life 18 months when stored in unopened containers in dry conditions. Store between 41 °F (5 °C) and 77 °F (25 °C).

Surface Preparation:

Ambient and substrate temperature conditions: 14 °F to 104 °F (-10 °C to 40 °C) and an extended in-service temperature range between 14 °F to 248 °F (-10 °C to 120 °C).

APPLICATION

1. Using a rotary hammer drill, and a bit which conforms to ANSI B212.15 and is the appropriate size for the anchor diameter to be installed, drill the hole to the specified embedment depth. CAUTION: Always wear appropriate personal protection equipment (PPE) for eyes, ears and skin and avoid inhalation of dust during the drilling and cleaning process. Refer to the Safety Data Sheet (SDS) for details prior to proceeding.

2. BLOW (4X) - BRUSH (4X) - BLOW (4X) BLOW – Remove any standing water from hole prior to beginning the cleaning process. Using oil free compressed air with a minimum pressure of 90 psi (6 bar), insert the air wand to the bottom of the drilled hole and blow out the debris with an up/down motion for a minimum of 4 seconds/cycles (4X). For drilled holes < 7/8 in. diameter, a hand pump may be used instead of compressed air.

3. BRUSH

Select the correct wire brush size for the drilled hole diameter, making sure that the brush is long enough to reach the bottom of the drilled hole. Reaching the bottom of the hole, using a brush extension if required, brush in an up/down and twisting motion for 4 cycles (4X). The brush should be clean and contact the walls of the hole. If it does not, the brush is either too worn or small and should be replaced with a new brush of the correct diameter.

TECHNICAL DATA SHEET**4. BLOW**

Blow the hole out once more to remove brush debris using oil free compressed air with a minimum pressure of 90 psi (6 bar). Insert the air wand to the bottom of the drilled hole and blow out the debris with an up/down motion for a minimum of 4 seconds/cycles (4X). Visually inspect the hole to confirm it is clean. If installation will be delayed for any reason, cover cleaned holes to prevent contamination.

5. Check the expiration date on the cartridge to ensure it is not expired. Do not use expired product! Remove the protective cap from the cartridge and insert the cartridge into the recommended dispensing tool. Screw on the proper mixing nozzle to the cartridge. Do not modify mixing nozzle and confirm that internal mixing element is in place prior to dispensing adhesive. Take note of the air and base material temperatures, review the working/full cure time and condition the cartridge accordingly prior to starting the injection process.

6. Dispense initial amount of material from the mixing nozzle onto a disposable surface until the product is a uniform gray color with no streaks, as adhesive must be properly mixed in order to perform as published. Dispose of the initial amount of adhesive prior to injection into the drill hole. When changing cartridges, never re-use nozzles. For a new cartridge (or if working time has been exceeded), ensure that cartridge opening is clean, install a new nozzle and repeat steps 5 and 6 accordingly. After finishing work, leave the mixing nozzle attached to the cartridge.

INSTALLATION AND CURING

Vertical Down, Horizontal and Overhead

7a. The engineering drawings must be followed. For any applications not covered by this document, or if there are any installation questions, please contact Dayton Superior. Insert the mixing nozzle, using an extension tube if necessary, to the bottom of the hole and fill from the bottom to the top approximately 2/3 full, being careful not to withdraw the nozzle too quickly as this may trap air in the adhesive. Building Code Requirements for Structural Concrete (ACI 318-11) requires the Installer to be certified where adhesive anchors are to be installed in horizontal or overhead installations.

7b. Piston plugs must be used with the extension tube attached to the supplied nozzle for horizontal and overhead installations with anchor sizes 5/8 in. to 1 1/4 in. diameter and rebar sizes of #5 to #10.

8a. Prior to inserting the threaded rod or rebar into the hole, make sure it is straight, clean and free of oil and dirt and that the necessary embedment depth is marked on the anchor element. Insert the anchor element into the hole while turning 1-2 rotations prior to the anchor reaching the bottom of the hole. Excess adhesive should be visible on all sides of the fully installed anchor. Use extra care with deep embedment or high temperature installations to ensure that the working time has not elapsed prior to the anchor being fully installed.

8b. For overhead installations, horizontal and inclined (between horizontal and overhead), wedges should be used to support the anchor while the adhesive is curing. Take appropriate steps to protect the exposed threads of the anchor element from uncured adhesive until after the full cure time has elapsed.

9. Do not disturb, torque or apply any load to the installed anchor until the specified full cure time has passed. The amount of time needed to reach full cure is base material temperature dependent. Use caution not to exceed the maximum specified torque once the anchor has fully cured.

Test before placement:

It is advisable to test a small portion of the ProAnchor WeatherMax for gel and set times at the temperature for intended use before overall installation.

Cure Time

Working Time & Full Cure Time per ESR-4554. For installations between 14° and 23° F (-10° and -5° C) the cartridge temperature must be conditioned to between 70° and 75° F (21° and 24° C). *Working Times are approximate

TECHNICAL DATA SHEET

Concrete Temperatures		Working Time	Full Cure
Fahrenheit	Celsius		
14	-10	90 minutes	24 hours
23	-5	90 minutes	14 hours
32	0	45 minutes	7 hours
41	5	25 minutes	2 hours
50	10	15 minutes	90 minutes
70	21	6 minutes	45 minutes
86	30	4 minutes	25 minutes
95	35	2 minutes	20 minutes
104	40	1.5 minutes	15 minutes

CLEAN UP

Clean up with full strength Dayton Citrus Cleaner J48 or Xylene. Cured, hardened ProAnchor WeatherMax can only be removed mechanically.

LIMITATIONS

FOR PROFESSIONAL USE ONLY

All surfaces that ProAnchor WeatherMax will be installed on must be free of frost and ice. Do not thin or mix the ProAnchor WeatherMax with any other material, solvent, thinner or other bonding agent or epoxy.

Do not use ProAnchor WeatherMax that has exceeded its shelf life as physical properties will be adversely affected. Minimum age of concrete must be 21-28 days from date of placement depending on curing and drying conditions.

PRECAUTIONS

READ SDS PRIOR TO USING PRODUCT

- Component A – Irritant
- Component B – Corrosive
- Product is a strong sensitizer
- 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
- Cured epoxy resins are innocuous

MANUFACTURER

Dayton Superior Corporation
 1125 Byers Road
 Miamisburg, OH 45342
 Customer Service: 888-977-9600
 Technical Services: 877-266-7732
 Website: www.daytonsuperior.com

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.

TECHNICAL DATA SHEET

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.

TECHNICAL DATA SHEET
Appendix A
TABLE 1: ProAnchor WeatherMax performance to ASTM C881-15^{1,2,3}

Property	Cure Time	ASTM Standard	Units	Sample Conditioning Temperature			
				Class A	Class B	Optional	Class C
				14 °F (-10 °C)	50 °F (10 °C)	75 °F (24 °C)	104 °F (40 °C)
Gel Time – 60 Gram Mass ⁴	----	C881	Min	16	8	5	5
Consistency or Viscosity			----	Non-sag			
Compressive Yield Strength	7 day	D695	PSI (MPa)	12,820 (88.4)	13,490 (93.0)	11,430 (78.8)	11,830 (81.6)
Compressive Modulus			PSI (MPa)	497,300 (3,429)	491,600 (3,389)	374,400 (2,581)	299,100 (2,062)
Bond Strength Hardened to Hardened Concrete	2 day	C882	PSI (MPa)	2,530 (17.4)	2,440 (16.8)	2,320 (16.0)	2,600 (17.9)
	14 Day		PSI (MPa)	1,870 (12.9)	3,020 (20.8)	2,940 (20.3)	3,130 (21.6)
Bond Strength Fresh to Hardened Concrete			PSI (MPa)	2,510 (17.3)			
Tensile Strength ⁵	7 day	D638	PSI (MPa)	2,510 (17.3)			
Tensile Elongation ⁵			%	0.9			
Heat Deflection Temperature		D648	°F (°C)	192 (89)			
Water Absorption	14 day	D570	%	0.74			
Linear Coefficient of Shrinkage	48 hr	D2566	%	0.005			

1. Product testing results based on representative lot(s). Average results will vary according to the tolerances of the given property.

2. Full cure time is listed above to obtain the given properties for each product characteristic.

3. Results may vary due to environmental factors such as temperature, moisture and type of substrate.

4. Gel time may be lower than the minimum required for ASTM C881.

5. Optional testing for ASTM C881 Grade 3.

Appendix B

Tools	
Brushes	
100981	Brush - 6 IN - Drill Size 7/16"
100982	Brush - 6 IN - Drill Size 9/16"
100983	Brush - 6 IN - Drill Size 5/8"
100984	Brush - 6 IN - Drill Size 3/4"

TECHNICAL DATA SHEET

100985	Brush - 6 IN - Drill Size 7/8"
100986	Brush - 9 IN - Drill Size 1"
100987	Brush - 9 IN - Drill Size 1-1/8"
100988	Brush - 9 IN - Drill Size 1-3/8"
100989	Brush - 9 IN - Drill Size 1-1/2"
100077	SDS Brush Adapter
100978	Brush Extension
Piston Plugs	
100991	Piston Plug 3/4" - Yellow (10 pk)
100992	Piston Plug 7/8" - Green (10 pk)
100993	Piston Plug 1" - Black (10 pk)
100994	Piston Plug 1-1/8" - Orange (5 pk)
100995	Piston Plug 1-3/8" - Brown (5 pk)
100996	Piston Plug 1-1/2" - Gray (5 pk)