

# Instruction Card



**DESCRIPTION:** Pure110+ is a high strength, 100% solids epoxy anchoring adhesive which is formulated for use in anchoring applications by trained professionals. Please refer to installation instructions and SDS for additional detailed information.

**PRECAUTION:** Safety glasses and dust masks should be used when drilling holes into concrete, stone and masonry. Wear gloves and safety glasses when handling and dispensing adhesive. Do not sand the adhesive and create silica dust which could be inhaled. Avoid skin and eye contact. Use a NIOSH-approved chemical mask to avoid respiratory discomfort if working indoors or in a confined area, or if sensitive to adhesive odors. Wash hands or other affected body parts with soap and water if skin contact occurs. Flush eyes with plenty of water and seek immediate medical attention if eye contact occurs. Move to fresh air if adhesive odor begins to cause discomfort.

**IMPORTANT!** Before using, read and review Safety Data Sheet (SDS). This product contains crystalline silica and as supplied does not pose a dust hazard. IARC classifies crystalline silica (quartz sand) as a Group I carcinogen based upon evidence among workers in industries where there has been long-term and chronic exposure (via inhalation) to silica dust; e.g. mining, quarry, stone crushing, refractory brick and pottery workers. This product does not pose a dust hazard; therefore, this classification is not relevant. However, if reacted (fully cured) product is further processed (e.g. sanded, drilled) be sure to wear proper respiratory and eye protection to avoid health risk.

**HANDLING AND STORAGE:** Store in a cool, dry, well ventilated area at temperatures between 41°F (5°C) and 90°F (32°C). Keep away from excessive heat and flame. Keep partially used containers closed when not in use. Protect from damage. Store away from heat and light.

Note expiration date on product label before use. Do not use expired product. Cartridge temperature must be between 50°F - 104°F (10°C - 40°C) when in use. Partially used cartridges may be stored with hardened adhesive in the attached mixing nozzle. If the cartridge is reused, attach a new mixing nozzle and discard the initial quantity of the anchor adhesive as described in the installation instructions.

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[E]

[II.] Gel (working) times and curing times			
Temperature of base material	Gel (working) time	Full curing time	
50°F / 10°C	90 minutes	24 hours	
68°F / 20°C	25 minutes	8 hours	
86°F / 30°C	20 minutes	8 hours	
95°F / 35°C	15 minutes	6 hours	
104°F / 40°C	12 minutes	4 hours	
Linear interpolation for intermediate base material temperatures is possible.			

[III.] Installation parameters - Specifications for installation of threaded rods and reinforcing bars <sup>2,3,4</sup>																
Fractional anchor sizes									Metric anchor sizes							
Rod dia. (inch)	Rebar size (No.)	Drill bit size <sup>1</sup> (inch)	Brush size (inch)	Brush length (inches)	Wire brush (Cat. #)	Plug size (inch)	Plastic plug (Cat. #)		Rod dia. (mm)	Rebar size (Ø)	Drill bit size (inch)	Brush size (mm)	Brush length (mm)	Wire brush (Cat. #)	Plug size (mm)	Plastic plug (Cat. #)
3/8	3	7/16	1/2	6-3/4	08284	-	-	Compressed air nozzle, (min. 90 psi) Cat. # 8292	10	-	12	14	170	23325	-	-
1/2	4	9/16	5/8	6-3/4	08285	9/16	08302		12	10	14	16	200	23327	14	23377
5/8	5	11/16	3/4	7-7/8	08286	11-1/16	08297	Piston Plug	-	12	16	18	200	23330	16	23378
		3/4	13/16	7-7/8	08278	3/4	08297		16	14	18	20	200	23335	18	23379
3/4	6	7/8	15/16	7-7/8	08287	7/8	08300		-	16	20	22	200	23340	20	23380
7/8	7	1	1-1/16	11-7/8	08288	1	08301		20	20	24	26	300	23355	24(22)	23381
1	8	1-1/8	1-3/16	11-7/8	08289	1-1/8	08303		24	-	28	30	300	23360	28(27)	23385
1-1/4	9	1-3/8	1-7/16	11-7/8	08290	1-3/8	08305		27	25	32	34	300	23365	32(30)	23386
-	10	1-1/2	1-9/16	11-7/8	08291	1-1/2	08309		30	28	35	37	300	23370	35(34)	23387
									-	32	38	40	300	23375	35(36)	23387

- Note: a 5/8-inch diameter piston plug is also available with Cat.# 08304
- For installations with 5/8-inch threaded rod and #5 rebar size, the preferred ANSI drill bit diameter is 3/4-inch. If an 11/16-inch ANSI drill bit is used the user must check before injecting the adhesive to verify that the steel anchor element can be inserted into the cleaned borehole without resistance.
  - A brush extension (Cat. #08282) must be used with a steel wire brush for holes drilled deeper than the listed brush length.
  - A flexible plastic extension tube (Cat# 08297) or equivalent approved by DeWALT / Powers must be used with piston plugs.
  - All overhead installations, and all horizontal installations require the use of piston plugs where one is tabulated together with the anchor size and where the embedment depth is greater than 8 inches. The use of piston plugs is also recommended for underwater installations where one is tabulated together with the anchor size.

[IV.] Installation parameters - Specifications for installation of threaded rods and reinforcing bars									
Anchor property / Setting information	Threaded rod / reinforcing bar size (rebar)								
	3/8" or #3	1/2" or #4	5/8" or #5	3/4" or #6	7/8" or #7	1" or #8	#9	1-1/4"	#10
d = Threaded rod outside diameter (in.)	0.375	0.500	0.625	0.750	0.875	1.000	-	1.250	-
d = Nominal rebar diameter (in.)	0.375	0.500	0.625	0.750	0.875	1.000	1.125	-	1.250
d <sub>o</sub> (d <sub>bit</sub> ) = Nominal ANSI drill bit size (in.)	7/16	9/16	11/16 or 3/4	7/8	1	1-1/8	1-3/8	1-3/8	1-1/2
h <sub>ef,min</sub> = Minimum embedment (inches)	2-3/8	2-3/4	3-1/8	3-1/2	3-1/2	4	4-1/2	5	5
h <sub>ef,max</sub> = Maximum embedment (inches)	4-1/2	10	12-1/2	15	17-1/2	20	22-1/2	25	25
h <sub>min</sub> = Minimum member thickness (inches)	h <sub>ef</sub> + 1-1/4			h <sub>ef</sub> + 2d <sub>o</sub>					
s <sub>min</sub> = Minimum spacing (inches)	1-7/8	2-1/2	3-1/8	3-3/4	4-3/8	5	5-5/8	6-1/4	6-1/4
c <sub>min</sub> = Minimum edge distance (inches)	1-7/8	2-1/2	3-1/8	3-3/4	4-3/8	5	5-5/8	6-1/4	6-1/4
T <sub>max</sub> = Maximum torque (ft.-lb.) <sup>1</sup>	15	33	60	105	125	165	165	280	280
T <sub>max</sub> = Maximum torque (ft.-lb.) for A36/Grade 36 and Grade 55 carbon steel rods and Grade B8/B8M (Class 1) stainless rods <sup>1</sup>	5	20	40	60	100	165	N/A	280	N/A
c <sub>min,red</sub> = Minimum edge distance, reduced (inches)	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	2-3/4	2-3/4	2-3/4
T <sub>max,red</sub> = Maximum torque (ft.-lb.), reduced edge <sup>1</sup>	7 (5) <sup>3</sup>	14	27	47	56	74	90	126	126


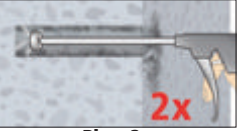
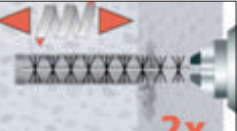
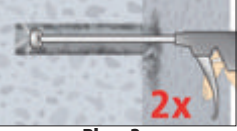
Anchor property / Setting information	Threaded rod / reinforcing bar size (rebar)															
	M10	Ø10	M12	Ø12	Ø14	M16	Ø16	M20	Ø20	M24	Ø25	M27	Ø28	M30	Ø32	
d = Threaded rod outside diameter (mm)	10		12		14	16		20		24		27	N/A	30	N/A	
d = Nominal rebar diameter (mm)	10		12		14	16		20		24		25		28		
d <sub>o</sub> (d <sub>bit</sub> ) = Nominal ANSI drill bit size (mm)	12	14	14	16	18	18	20	24	24	28	32	32	35	35	37	
h <sub>ef,min</sub> = Minimum embedment (mm)	60		70		70	80		90		96	100	108	112	120	128	
h <sub>ef,max</sub> = Maximum embedment (mm)	200		240		280	320		400		480	500	540	560	600	640	
h <sub>min</sub> = Minimum member thickness (mm)	h <sub>ef</sub> + 1-1/4			h <sub>ef</sub> + 2d <sub>o</sub>												
s <sub>min</sub> = Minimum spacing (mm)	50		60		70	80		100		120	125	135	140	150	160	
c <sub>min</sub> = Minimum edge distance (mm)	50		60		70	80		100		120	125	135	140	150	160	
T <sub>max</sub> = Maximum torque (N-m) <sup>1</sup>	20		40		60	80		120		160	160	180	180	200	300	
T <sub>max</sub> = Maximum torque (N-m) for Grade B8/B8M (Class 1) stainless rod <sup>1,3</sup>	7		20		N/A	40		100		160	-	180	-	200	-	
c <sub>min,red</sub> = Minimum edge distance (mm), reduced	45		45		45	45		45		45	45	45	70	70	70	
T <sub>max,red</sub> = Maximum torque (N-m), reduced edge <sup>1</sup>	9 (7) <sup>3</sup>		18		27	36		54		72	72	81	81	90	135	

- Torque may not be applied to the anchors until the full cure time of the adhesive has been achieved.
- These torque values apply to ASTM A 36 / F 1554 Grade 36 carbon steel threaded rods; ASTM F 1554 Grade 55 carbon steel threaded rods; and ASTM Q 193 Grade B8.B8M (Class 1) stainless steel threaded rods.
- These torque values apply to ASTM A 193 Grade B8/B8M (Class 1) stainless steel threaded rod only.


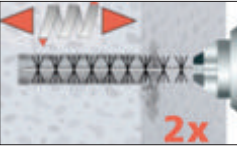



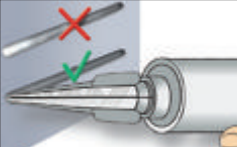
[I.] Pure110+ epoxy adhesive anchor system selection table						
Dispensers		Cartridges			Mixing Nozzles	
Tool	Size	Cat. #	Type	Size	Cat. #	Cat. #
Caulking	10 fl. oz.	08437	Quik-shot	9 fl. oz.	08310SD	08294
Manual	13 fl. oz.	08298	Dual tube	13 fl. oz.	08313SD	08609
Manual	20 fl. oz.	08298	Dual tube	20 fl. oz.	08320SD	08609
Pneumatic	20 fl. oz.	08497SD				
Battery	20 fl. oz.	08279SD				
Manual	21 fl. oz.	08409	Dual tube	21 fl. oz.	08321SD	08609
Pneumatic	21 fl. oz.	08459				
Battery	21 fl. oz.	08442				

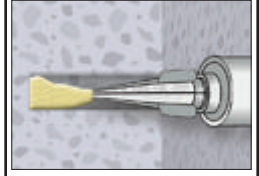

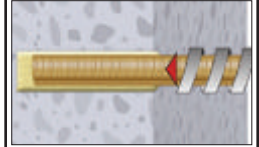



One mixing nozzle is included with each cartridge unit. A plastic extension tube (Cat. #08281 or 08297) or equivalent approved by DeWALT / Powers must be used for embedment depths greater than 8 inches. Contact DeWALT / Powers for information regarding the 51 fl. oz. size cartridge system.

# Installation instructions for solid base material – For any application not covered by this document please contact DeWALT / Powers

SELECT HAMMER DRILLING AS SUITABLE FOR APPLICATION	
HAMMER DRILLING	 <p><b>1.</b> Drill a hole into the base material with rotary hammer drill (i.e. percussion drill) to the size and embedment required by the selected steel hardware element (see Table III). Tolerances of carbide drill bits must meet ANSI Standard B212.15.</p> <p><b>⚠️</b> <i>Precaution: Wear suitable eye and skin protection. Avoid inhalation of dusts during drilling and/or removal.</i></p> <p><i>Note: In case of standing water in the drilled bore hole (flooded hole condition), all the water has to be removed from the hole (e.g. vacuum, compressed air, etc.) prior to cleaning.</i></p>
For underwater (submerged) installations please see separate specific instructions below. Next go to Step 2a-i; or for underwater (submerged) installations, 2b-i.	
HOLE CLEANING DRY OR WET HOLES	 <p><b>2a-i.</b> Starting from the bottom or back of the drilled anchor hole, blow the hole clean (free of noticeable dust) a minimum of two times (2x).</p> <p>Use a compressed air nozzle (min. 90 psi) for all sizes of anchor rod and reinforcing bar (rebar).</p>
	 <p><b>2a-ii.</b> Determine brush diameter (see Table III) for the drilled hole and attach the brush with adaptor to a rotary drill tool or battery screw gun. Brush the hole with the selected wire brush a minimum of two times (2x).</p> <p>A brush extension (supplied by DeWALT / Powers) must be used for holes drilled deeper than the listed brush length. The wire brush diameter must be checked periodically during use; The brush should resist insertion into the drilled hole, if not the brush is too small and must be replaced with the proper brush diameter (e.g. new brush).</p>
	 <p><b>2a-iii.</b> Repeat Step 2a-i again by blowing the hole clean a minimum of two times (2x).</p> <p>When finished, the hole should be clean and free of dust, debris, ice, grease, oil or other foreign material.</p> <p>Next go to Step 3.</p>

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HOLE CLEANING UNDERWATER INSTALLATIONS	
HOLE CLEANING UNDERWATER INSTALLATIONS	 <p><b>Rinse</b></p> <p><b>2b-i.</b> Starting from the bottom or back of the drilled anchor hole, rinse/flush the hole clean with air/water (air/water line pressure) until clear water comes out.</p>
HOLE CLEANING UNDERWATER INSTALLATIONS	 <p><b>Brush 2x</b></p> <p><b>2b-ii.</b> Determine brush diameter (see Table III) for the drilled hole and attach the brush with adaptor to a rotary drill tool. Brush the hole with the selected wire brush a minimum of two times (2x).</p> <p>A brush extension (supplied by DeWALT / Powers) must be used for holes drilled deeper than the listed brush length. The wire brush diameter must be checked periodically during use; The brush should resist insertion into the drilled hole, if not the brush is too small and must be replaced with the proper brush diameter (e.g. new brush).</p>
HOLE CLEANING UNDERWATER INSTALLATIONS	 <p><b>Rinse</b></p> <p><b>2b-iii.</b> Repeat Step 2b-i again by blowing the hole clean a minimum of two times (2x).</p> <p>When finished the hole should be clean and free of dust, debris, ice, grease, oil or other foreign material.</p> <p>Next go to Step 3.</p>
PREPARATION	 <p><b>3.</b> Check adhesive expiration date on cartridge label. Do not use expired product. Review Safety Data Sheet (SDS) before use. Cartridge temperature must be between 50°F - 104°F (10°C - 40°C) when in use; for overhead applications cartridge temperature must be between 50°F - 90°F (10°C - 30°C). Review published working and cure times. Consideration should be given to the reduced gel (working) time of the adhesive in warm temperatures. For the permitted range of the base material temperature see Table II. Attach a supplied mixing nozzle to the cartridge. Do not modify the mixer in any way and make sure the mixing element is inside the nozzle. Load the cartridge into the correct dispensing tool.</p> <p><i>Note: Always use a new mixing nozzle with new cartridges of adhesive and also for all work interruptions exceeding the published gel (working) time of the adhesive.</i></p>
PREPARATION	 <p><b>4.</b> Prior to inserting the anchor rod or rebar into the filled bore hole, the position of the embedment depth has to be marked on the anchor. Verify anchor element is straight and free of surface damage.</p>
PREPARATION	 <p><b>5.</b> Adhesive must be properly mixed to achieve published properties. Prior to dispensing adhesive into the drilled hole, separately dispense at least three full strokes of adhesive through the mixing nozzle until the adhesive is a consistent red color.</p> <p>Review and note the published working and cure times (see Table II) prior to injection of the mixed adhesive into the cleaned anchor hole.</p>

INSTALLATION	 <p><b>6.</b> Fill the cleaned hole half to two-thirds full with mixed adhesive starting from the bottom or back of the anchor hole. Slowly withdraw the mixing nozzle as the hole fills to avoid creating air pockets or voids. For embedment depths greater than 8" a plastic extension tube must be used with the mixing nozzle (see Table I).</p> <p><i>Note: Piston plugs must be used with and attached to mixing nozzle and extension tube for overhead and horizontal installations with anchor rod sizes as indicated in Table III. Insert piston plug to the back of the drilled hole and inject as described in the method above. During installation the piston plug will be naturally extruded from the drilled hole by the adhesive pressure.</i></p>
INSTALLATION	 <p><b>With piston plug</b></p> <p><b>Attention! Do not install anchors overhead without proper training, and installation hardware provided by DeWALT / Powers. Contact DeWALT / Powers for details prior to use.</b></p>
INSTALLATION	 <p><b>7.</b> The anchor should be free of dirt, grease, oil or other foreign material. Push clean threaded rod or reinforcing bar into the anchor hole while turning slightly to ensure positive distribution of the adhesive until the embedment depth is reached. Observe the gel (working) time.</p>
INSTALLATION	 <p><b>8.</b> Ensure that the anchor element is installed to the specified embedment depth. Adhesive must completely fill the annular gap at the concrete surface. Following installation of the anchor element, remove excess adhesive. Protect the anchor element threads from fouling with adhesive. For all installations the anchor element must be fully restrained from movement throughout the specified curing period, where necessary through the use of temporary wedges, external supports, or other methods. Minor adjustments to the position of the anchor element may be performed during the gel time only.</p>
CURING AND FIXTURE	 <p><b>9.</b> Allow the adhesive anchor to cure to the specified full curing time prior to applying any load (see Table IV).</p> <p>Do not disturb, torque or load the anchor until it is fully cured.</p>
CURING AND FIXTURE	 <p><b>10.</b> After full curing of the adhesive anchor, a fixture can be installed to the anchor and tightened up to the maximum torque (shown in Table IV) by using a calibrated torque wrench.</p> <p><i>Note: Take care not to exceed the maximum torque for the selected anchor.</i></p>

*Note: Take care not to exceed the maximum torque for the selected anchor.*

Follow steps #1 through #10 for recommended installation