



TECHNICAL DATA SHEET

2400 Boston Street | Suite 200 | Baltimore, MD | 21224

DAP® Anchoring Adhesive

PRODUCT DESCRIPTION

DAP® Anchoring Adhesive is a low odor, styrene free, 2-component adhesive with a cure time indicator. It applies blue & cures gray once fully cured. There is an extended working time of 15 minutes in room temperatures (50°F to 68°F). Ideal for common residential anchoring projects such as setting bolts & threaded rods to install railings, racks & more. It can be used with a standard caulk gun for easy use for vertical and horizontal applications. Interior/Exterior use.

PACKAGING	COLOR	UPC
10.1 fl oz cartridge	Blue/Gray	7079828100

KEY FEATURES & BENEFITS

- Non-sag, suitable for horizontal & vertical application
- 15 minutes working time 50°F to 68°F
- Medium to high load strength.
- Anchoring without expansion forces
- Low odor, styrene free
- Interior/exterior applications

SUGGESTED USES

USE FOR INSTALLING OR ANCHORING FOOTERS FOR:

- Railings & Fences
- Signs
- Safety Barrier

- Racks
- Machinery
- Canopies

(Please reference allowable load data table)

ADHERES TO:

- Uncracked concrete
- Hard natural stone
- Solid rock
- Solid & hollow masonry

FOR BEST RESULTS

- Apply in temperatures between 40°F to 85°F
- Do not apply when freezing temperatures are forecasted within 24 hours
- Store in cool conditions (41°F to 77°F) out of direct sunlight



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APPLICATION

Instructions:

1. Drill all holes to the correct diameter and depth prior to applying anchoring adhesive. Surface must be clean, structurally sound, and free of all foreign material. Clean holes using a vacuum with the required extensions and/or compressed air. Wearing gloves, remove protective cap from cartridge, cut behind clip and attach mixing nozzle. Load cartridge into caulk gun. Dispense an initial amount of material onto a disposable surface until a uniform color is observed indication proper mixing.
2. Insert the nozzle to the bottom of the hole. Begin to apply the material while slowly withdrawing the nozzle from the hole ensuring that there are no air voids as the nozzle is withdrawn. Fill the hole to approximately $\frac{1}{2}$ to $\frac{3}{4}$ full then withdraw the nozzle completely.
3. Insert the clean threaded rod/fastener (free from oil or other release agents) into the bottom of the hole, twisting clockwise (to ensure all the threads are coated. Adjust the threaded rod/fastener to the correct position within 10-15 minutes (depending on outside temperature) and brace if necessary.
Do not disturb or load the anchor until fully cured. Attachment of fixture and load can be applied in approximately 1.5 hours when applied @ 68°F (longer cure time in cooler conditions).
4. Attach the fixture and tighten fasteners to recommended torque. Do not overtighten.
5. Clean-up tools immediately with a damp rag.
6. Product should be stored in original packaging in cool conditions 41°F to 77°F, out of direct sunlight.

Color & Ratio

Part A (Resin): Blue, Part B (catalyst): Black, Mixed: Gray/Blue, Mix Ratio 10:1 Polyester.

PRODUCT SPECIFICATIONS

Physical Properties

Property		Unit	Value	Test Standard
Density		g/cm ³	14.2	ASTM D 1875 @ +20°C
Compressive Strength	24 hours	Psi	6,500	ASTM D 695 @ +20°C
	7 days		7,250	
Tensile Strength	24 hours	N/mm ²	1,450	ASTM D 638 @ +20°C
	7 days		1,580	
Tensile: Elongation at break	24 hours	%	0.1	ASTM D 638 @ +20°C
	7 days		0.1	
Tensile Modulus	24 hours	GN/m ²	406,000	ASTM D 638 @ +20°C
	7 days		533,000	
Flexural Strength	7 days	N/mm ²	3400	ASTM D 790 @ +20°C
HDT	7 days	°F	149	ASTM D 648 @ +20°C
VOC	24 hours	g/L	<1	SCAQMD Rule 1168

Note: Physical properties are typical values based on material testing in our laboratories. Typical values should not be construed as a guaranteed analysis of any specific lot or specification item, this must be referred to in the COA.



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Installation Specification – Threaded Rods

Property	Symbol	Unit					
Threaded Rod Diameter	d_a	inch	3/8	1/2	5/8	3/4	1
Drill Bit Diameter	d_o	inch	1/2	9/16	11/16	13/16	1 1/16
Cleaning Brush Size	d_b	inch	0.551	0.787		1.142	
Minimum Embedment Depth	$h_{ef,min}$	inch	3	4	5	6	8
Maximum Embedment Depth	$h_{ef,max}$	inch	4.5	6	7.5	9	12
Minimum Concrete Thickness	h_{min}	inch	$h_{ef} + 1 - 1/4in \geq 4in$			$h_{ef} + 2d_o$	
Maximum Tightening Torque	T_{inst}	ft.lb	15	25	55	80	120

Allowable Steel Strength for Threaded Rods

Steel Grade:	Carbon Steel ASTM F 1554 Grade 36 (A307 Gr.C)		Carbon Steel ASTM A 193 B7		Stainless Steel ASTM F 593 CW		Stainless Steel ASTM F 593 SH	
Anchor Diameter	Allowable Tension, N_{all}	Allowable Shear, V_{all}	Allowable Tension, N_{all}	Allowable Shear, V_{all}	Allowable Tension, N_{all}	Allowable Shear, V_{all}	Allowable Tension, N_{all}	Allowable Shear, V_{all}
3/8"	2,110 lbf	1,080 lbf	4,550 lbf	2,345 lbf	3,630 lbf	1,870 lbf	4,190 lbf	2,160 lbf
1/2"	3,750 lbf	1,930 lbf	8,100 lbf	4,170 lbf	6,470 lbf	3,330 lbf	7,450 lbf	3,840 lbf
5/8"	5,870 lbf	3,030 lbf	12,655 lbf	6,520 lbf	10,130 lbf	5,220 lbf	11,640 lbf	6,000 lbf
3/4"	8,460 lbf	4,360 lbf	18,220 lbf	9,390 lbf	12,400 lbf	6,390 lbf	15,300 lbf	7,880 lbf
1"	15,020 lbf	7,740 lbf	32,400 lbf	16,690 lbf	22,020 lbf	11,340 lbf	27,210 lbf	14,020 lbf

Allowable tension, $N_{all} = 0.33 \times f_u \times \text{nominal cross sectional area}$

Allowable shear, $V_{all} = 0.17 \times f_u \times \text{nominal cross sectional area}$

Application Information

Cartridge Temperature	T Work (minutes)	Base Material Temperature	T Load
Min 50°F	30 minutes	Min 50°F	5 Hours
50°F to 68°F	15 minutes	50°F to 68°F	5 Hours
68°F to 77°F	10	68°F to 77°F	145 minutes
77°F to 86°F	7.5 minutes	77°F to 86°F	85 minutes
86°F to 95°F	5 minutes	86°F to 95°F	50 minutes
95°F to 104°F	3.5 minutes	95°F to 104°F	40 minutes
104°F to 113°F	2.5 minutes	104°F to 113°F	35 minutes
113°F	2.5 minutes	113°F	12 minutes

*Cartridge temperature must be maintained at a minimum of 41°F.

*T Work is the typical time to gel at the highest temperature in the range.

*T Load is the typical time to reach full capacity.



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Allowable Load Data in Tension and Shear – Threaded Rod

Anchor Diameter	Embedment Depth	Allowable Concrete Capacity / Bond Strength					
		Tension (lbf)			Shear (lbf)		
		f _c = 2,500 psi	f _c = 4,000 psi	f _c = 8,000 psi	f _c = 2,500 psi	f _c = 4,000 psi	f _c = 8,000 psi
3/8"	3"	1,614	1,773	2,037	2,152	2,365	2,716
	3-3/4"	2,018	2,217	2,546	2,690	2,956	3,395
	4-1/2"	2,421	2,660	3,056	3,229	3,547	4,074
1/2"	4"	3,076	3,379	3,881	4,101	4,505	5,175
	5"	3,845	4,223	4,851	5,126	5,631	6,469
	6"	4,613	5,068	5,822	6,151	6,758	7,762
5/8"	5"	4,163	4,573	5,253	5,550	6,097	7,004
	6-1/4"	5,203	5,716	6,566	6,938	7,621	8,755
	7-1/2"	6,244	6,859	7,879	8,325	9,146	10,506
3/4"	6"	5,072	5,572	6,400	6,762	7,429	8,533
	7-1/2"	6,340	6,964	8,000	8,453	9,286	10,667
	9"	7,608	8,357	9,600	10,143	11,143	12,800
1"	8"	9,016	9,905	11,378	12,022	13,207	15,171
	10"	11,270	12,381	14,222	15,027	16,508	18,963
	12"	13,525	14,858	17,067	18,033	19,810	22,756

1. The above values represent mean ultimate values and allowable working loads. The allowable working loads have been reduced using a safety factor of 4.0 for tension and 3.0 for shear. However, in some cases, such as life safety, safety factors of 10.0 or higher may be necessary.
2. For installations in water-saturated concrete or in flooded bore holes it is recommended to use safety factors a minimum of 5.0 for tension and 4.0 for shear.
3. Allowable loads must be checked against steel capacity. The lowest value controls.
4. Tabulated data is applicable for anchors installed in dry, normal weight concrete unaffected by edge or spacing reduction factors in holes drilled with a hammer drill and ANSI carbide drill bit.
5. Maximum long-term temperature = 122°F; maximum short-term temperature = 176°F. Long term temperatures are roughly constant over significant time periods. Short term temperatures occur over brief intervals (e.g. diurnal cycling).
6. Linear interpolation is allowed.

Installation Specification – Rebar

Property	Symbol	Unit				
Rebar size	d _a	inch	#3	#4	#5	#6
Drill Bit Diameter	d _o	inch	1/2	9/16	11/16	13/16
Cleaning Brush Size	d _b	inch	0.551	0.787		1.142
Minimum Embedment Depth	h _{ef,min}	inch	3	4	5	6
Maximum Embedment Depth	h _{ef,max}	inch	4.5	6	7.5	9
Minimum Concrete Thickness	h _{min}	inch	h _{ef} + 1 - 1/4in ≥ 4in			h _{ef} + 2d _o



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TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Typical Uncured Physical Properties (Mixed)	
Appearance/Consistency	Part A (Resin): Blue; Part B (Hardener): Black; Mixed: Grey, light-weight paste/creamy
Base Polymer	Epoxy and Hardener
Odor	Low
Clean Up (uncured state)	Mineral Spirits, IPA, Acetone (mild solvents)
Freeze Thaw Stability (ASTM C1183)	Passed 5 cycles.
Shelf Life	12 months (unopened container)
Typical Application Properties	
Application Temperature Range	40°F to 85°F
Cure Time	Maximum 5 hours (refer to application information table above)

CLEAN UP & STORAGE

Clean tools immediately with damp rag. Cured materials can only be removed mechanically. Cartridges should be stored in their original packaging, the correct way up, in cool conditions (40°F to 77°F) out of direct sunlight. Shelf life is 12 months when stored in unopened containers in dry conditions from date of manufacture.

SAFETY

See product label or Safety Data Sheet (SDS) for health and safety information. You can request a SDS sheet visiting our website at dap.com or by calling 888-DAP-TIPS.

WARRANTY

LIMITED WARRANTY: If product fails to perform when used as directed within one year of date of purchase, call 888-DAP-TIPS with your sales receipt and product container available for replacement product or sales price refund. DAP Global Inc. will not be responsible for incidental or consequential damages.

COMPANY IDENTIFICATION

Manufacturer: DAP Global Inc., 2400 Boston Street, Baltimore, Maryland 21224

Usage Information: Call 888-DAP-TIPS or visit dap.com & click on "Ask the Expert"

Order Information: 800-327-3339 or orders@dap.com

Fax Number: 410-558-1068

Also, visit the DAP website at dap.com