



TECHNICAL DATA SHEET

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

DAP® Anchoring Adhesive

PRODUCT DESCRIPTION

DAP® Anchoring Adhesive is a low odour, styrene free, 2-component adhesive with a cure time indicator. It applies blue & cures grey once fully cured. It has a unique cure time indicator informing you when the adhesive is gelled, and curing has begun. There is an extended working time of 15 minutes in temperatures from 10°C to 20°C (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	COLOUR	SKU	UPC
300 mL cartridge	Blue/Grey	7079872810	070798728103

KEY FEATURES & BENEFITS

- Non-sag, ideal for horizontal, vertical & overhead application
- 15 minutes working time 10°C to 20°C (50°F to 68°F)
- Medium to high load strength
- Anchoring without expansion forces
- Low odour, styrene free
- Interior/exterior applications



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SUGGESTED USES

USE FOR INSTALLING OR ANCHORING:

- 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 5°C to 30°C (40°F to 85°F).
- Do not apply when freezing temperatures are forecasted within 24 hours.
- Store in cool conditions 5°C to 25°C (41°F to 77°F) out of direct sunlight.

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 colour 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the material while slowly withdrawing the nozzle from the hole ensuring that there are no air voids as the nozzle is withdrawn.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 @ 20°C (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 5°C to 25°C (41°F to 77°F), out of direct sunlight.

Colour & Ratio

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



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PRODUCT SPECIFICATIONS

Physical Properties

Property		Unit	Value	Test Standard
Density		g/cm ³	1.7	ASTM D 1875 @ +20°C (68°F)
Compressive Strength	4 hours	N/mm ²	60	BS6319
	24 hours		60	ASTM D 695 @ +20°C (68°F)
	7 days		70	
Tensile Strength	24 hours	N/mm ²	11.5	ASTM D 638 @ +20°C (68°F)
	7 days		12.2	
Tensile Strength	24 hours	%	0.1	ASTM D 638 @ +20°C (68°F)
Elongation at break	7 days		0.1	
Tensile Modulus	24 hours	GN/m ²	3.4	ASTM D 638 @ +20°C (68°F)
	7 days		4.5	
Flexural Strength	7 days	N/mm ²	28.3	ASTM D 790 @ +20°C (68°F)
HDT	7 days	C	80.9	ASTM D 647 @ +20°C (68°F)

Installation Specification – Threaded Rods

Property	Symbol	Units					
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
Clean 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	h _{ef,max}	inch	4.5	6	7.5	9	12
Minimum Concrete Thickness	h _{min}	inch	h _{ef} + 1 - 1/4in ≥ 4in			h _{ef} + 2d _o	
Maximum Tightening Torque	T _{inst}	Ft.lb	15	25	55	80	120



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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	
	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 $N_{all} = 0.33 \times f_u \times$ nominal cross sectional area

*Allowable tension $V_{all} = 0.17 \times f_u \times$ nominal cross sectional area

Application Information

Cartridge Temperature	T Work	Based Material Temperature	T Load
Min 10°C (50°F)	30 minutes	Min 10°C (50°F)	5 hours
10°C to 20°C (50°F to 68°F)	15 minutes	10°C to 20°C (50°F to 68°F)	5 hours
20°C to 25°C (68°F to 77°F)	10 minutes	20°C to 25°C (68°F to 77°F)	145 minutes
25°C to 30°C (77°F to 86°F)	7.5 minutes	25°C to 30°C (77°F to 86°F)	85 minutes
30°C to 35°C (86°F to 95°F)	5 minutes	30°C to 35°C (86°F to 95°F)	50 minutes
35°C to 40°C (95°F to 104°F)	3.5 minutes	35°C to 40°C (95°F to 104°F)	40 minutes
40°C to 45°C (104°F to 113°F)	2.5 minutes	40°C to 45°C (104°F to 113°F)	35 minutes
45°C (113°F)	2.5 minutes	45°C (113°F)	12 minutes

*Cartridge temperature must be maintained at a minimum of 5°C (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 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 and 3.0 in flooded bore holes it is recommended to use safety factors a minimum of 5.0 for tension and 4.0 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 = 50°C (122°F); maximum short-term temperatures = 80°C (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	0.55 1	0.78 7		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
Odour	Low
Clean Up	Mineral Spirits
Freeze Thaw Stability (ASTM C1183)	Passes 5 cycles.
Shelf Life	12 months (unopened container)
Typical Application Properties	
Application Temperature Range	5°C to 30°C (40°F to 85°F)
Cure Time	Approximately 5 hours depending on temperature (refer to application information table above)
Typical Cured Performance Properties	
Service Temperature Range	4.4°C to 80°C (40°F to 176°F)

CLEAN UP & STORAGE

Clean tools immediately with damp rag. Cured materials must be cut or scraped away. Cartridges should be stored in their original packaging, the correct way up, in cool conditions 5°C to 25°C (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 by visiting our website at dap.ca or by calling 888-DAP-TIPS.

WARRANTY

If product fails to perform when used as directed, call 888-DAP-TIPS for replacement product or sales price refund. DAP Canada will not be responsible for incidental or consequential damages.



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COMPANY IDENTIFICATION

Manufactured for: DAP Canada, 475 Finchdene Square, Unit 5, Scarborough, ON, M1X 1B7

Usage Information: Call 888-DAP-TIPS or visit dap.ca & click on “Ask the Expert”

Order Information: 800-668-9397 or 416-321-1522

Fax Number: 416-321-3325

Also, visit the DAP website at dap.ca