

HIGH STRENGTH, MOISTURE INSENSITIVE ANCHORING ADHESIVE

DESCRIPTION

A 2 part 100% solids moisture insensitive heavy duty epoxy adhesive prepackaged in dual component cartridges for ease of application. **Condur Anchor** conforms to ASTM C881 standard specifications for Type I, II, IV, & V, Grade 3, Class B & C.

USES & ADVANTAGES

Uses include setting starter bars, dowels, holding down bolts and anchoring in general where a permanent high strength application is required. Suitable for anchoring close to concrete edges, where vibration or anchor abrasion may be a problem. It may be used in damp environments and is suitable for use with a variety of anchor rods including threaded rod and rods of different composition including galvanized, stainless steel, brass and zinc plated.

Advantages include the following:-

- Shrinkage free hardening.
- Can be used on moist concrete.
- Non-sag ideal for vertical application & overhead.
- Provides corrosion protection to bolts or reinforced bars.
- Solvent free.
- No styrene content.
- Low odor.
- Tough and durable.
- Can be used in solid concrete, cavity walls or light weight concrete, and natural stone when used in conjunction with sleeves, anchor rods, starter bars, etc.
- Chemically bonded to concrete.
- No expansion force in base concrete suitable to use in narrow spacing and edge distance application.
- Easy, fast & economical to use.
- Unaffected by wide range of acids, alkalis and industrial chemicals.
- Early development of strength.
- 2 Pack colour coding gives visual check on correct mixing.
- No site mixing inconsistencies.

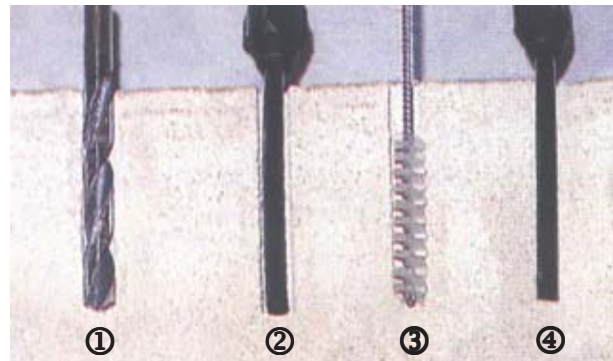
PROPERTIES

Colour :	Part A	Black
	Part B	White
	Mixed Adhesive	Light grey

Form :	Gunable	
Mixed Density :	1.50 ± 0.05 kg/ltr	
ASTM C905		
Working Time :	30 - 40 mins	
ASTM C881		
Compressive Strength :	1 Day	≥80 N/mm ²
ASTM D695	7 Days	≥95 N/mm ²
Tensile Strength :	7 Days	≥50 N/mm ²
ASTM D638		
Slant Shear Bond Strength :	2 Days	≥14 N/mm ²
ASTM C882	14 Days	≥31 N/mm ²
Water Absorption :	< 0.15%	
ASTM D570		
Application Temperature :	+5 to 40°C	
Service Temperature :	+5 to 80°C	

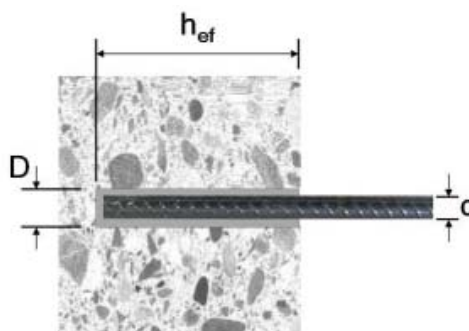
Data quoted is typical for this product and does not constitute a specification. To obtain performance characteristics stated in this data sheet the mixing ratio must be maintained.

HOLE PREPARATION



- 1) Drill hole to diameter and length specified
- 2) Blow dust out from the hole commencing from the bottom.
- 3) Clean the hole out with a nylon brush.
- 4) Blow dust out from the hole once again commencing from the bottom.

LOADING CAPACITY WITH REBAR FIXING



- Anchor characteristic tensile load is the minimum of characteristic tensile values between concrete $[N_{cb}]$, bond $[N_b]$, and steel $[N_s]$.
- Concrete: C20/25, Compressive Strength $[f_c] = 20 \text{ N/mm}^2$ - Cylinder
- Steel Grade: SD40, Yield Strength $[f_y] = 400 \text{ N/mm}^2$

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Characteristic Load Table

Rebar Size [d], mm	Drill Bit [D], mm	Characteristic Steel Resistance (kN)	Characteristic Resistance in Tension Loading, kN															Depth to Exceed Steel Limits, mm			
			$N_k = \text{Min} \{N_s, N_{cb}, N_a\}$																		
10	13	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	80	
12	16	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	96
16	20	80.4	75.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	128
20	25	125.7	117.6	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	167
25	30	196.3	164.4	194.4	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	227
28	35	246.3	196.2	229.8	246.3	246.3	246.3	246.3	246.3	246.3	246.3	246.3	246.3	246.3	246.3	246.3	246.3	246.3	246.3	246.3	262
32	40	321.7	272.3	302.0	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	321.7	313
Embedment depth [h _{ef}], mm			80	100	120	140	160	180	200	225	250	280	300	320	350	400	450	550			

Recommended Load Table

Rebar Size [d], mm	Drill Bit [D], mm	Recommended Steel Resistance (kN)	Recommended Tensile Load, kN															Depth to Exceed Steel Limits, mm				
			$N_{rec} = \text{Min} \{N_s/\gamma_s, N_{cb}/\gamma_{cb}, N_a/\gamma_a\} * (1/\gamma)$																			
10	13	19.5	12.5	15.6	18.7	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	125	
12	16	28.1	18.7	22.4	26.2	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	150
16	20	50.0	29.9	34.9	39.9	44.9	49.9	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	200	
20	25	78.1	49.9	56.1	62.3	70.1	77.9	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	250	
25	30	122.0	77.9	87.7	97.4	109.1	116.9	122.0	122.0	122.0	122.0	122.0	122.0	122.0	122.0	122.0	122.0	122.0	122.0	122.0	356	
28	35	153.0	86.4	96.0	107.5	115.2	122.9	134.4	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	398	
32	40	199.8	122.9	131.6	140.4	153.6	175.5	197.5	199.8	199.8	199.8	199.8	199.8	199.8	199.8	199.8	199.8	199.8	199.8	199.8	455	
Embedment depth [h _{ef}], mm			80	100	120	140	160	180	200	225	250	280	300	320	350	400	450	550				

Partial Safety Factor

Steel [γ_s] = 1.15

Bond Pullout [γ_p] = 1.8

Concrete Breakout [γ_{cb}] = 1.5

Safety factor for action load [γ] = 1.4

- 1) All load values are based on performance of individual anchor without influence of spacing and, edge distance.
- 2) Please consult Cormix Technical Service Department for different calculation from above.

CONSUMPTION RATES

Rebar Size [d], mm	Drill Bit [D], mm	Approximate Consumption per hole (ml)															
		6	8	9	11	12	14	15	17	19	21	23	24	27	30	34	42
10	13	6	8	9	11	12	14	15	17	19	21	23	24	27	30	34	42
12	16	12	15	17	20	22	25	28	31	34	37	39	43	49	55	68	
16	20	19	22	25	29	32	36	40	44	48	51	55	63	71	87		
20	25	40	45	50	56	62	69	74	79	87	99	111	136				
25	30	61	68	76	85	91	97	106	121	136	166						
28	35	109	121	136	146	155	170	194	218	267							
32	40	177	190	203	222	253	285	348									
Hole depth [h _{ef}], mm		80	100	120	140	160	180	200	225	250	280	300	320	350	400	450	550

- Approximated volume per trigger pull is 10 ml. Trials are recommended.

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LOADING CAPACITY FOR THREADED STUD FIXING

- Concrete: C20/25, Compressive Strength [f_c] = 20 N/mm² - Cylinder
- Steel Grade: 5.8, Yield Strength [f_y] = 400 N/mm²

Characteristic Resistance Table

Anchor size	M8	M10	M12	M16	M20	M24	M27	M30
Tensile [N_k], kN	17.1	27.2	39.6	74.9	117.0	168.5	216.1	269.9
Shear [V_k], kN	10.2	16.3	23.8	44.9	70.2	101.1	133.2	161.9

Design Resistance Table

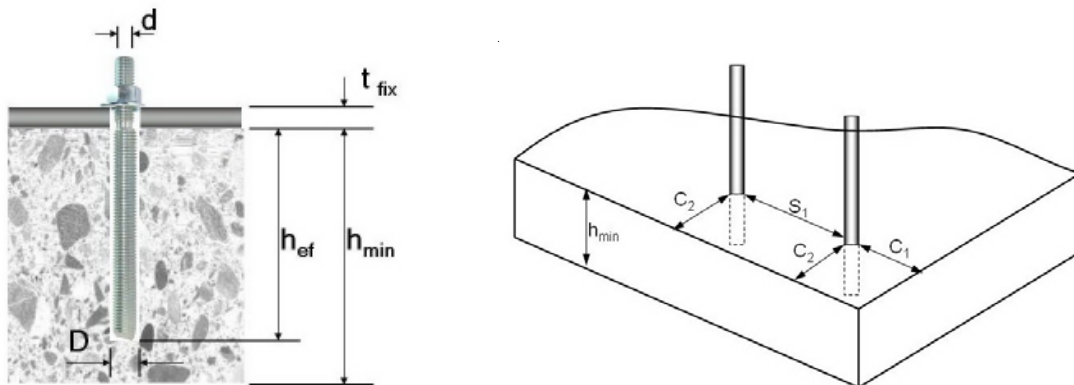
Anchor size	M8	M10	M12	M16	M20	M24	M27	M30
Tensile [N_d], kN	14.0	19.6	28.8	43.6	74.2	110.0	124.4	161.3
Shear [V_d], kN	8.9	14.2	20.7	39.1	61.0	87.9	115.8	140.8

Recommended Load Table

Anchor size	M8	M10	M12	M16	M20	M24	M27	M30
Tensile [N_{rec}], kN	10.0	14.0	20.6	31.2	53.0	78.5	88.9	115.2
Shear [V_{rec}], kN	6.4	10.1	14.8	27.9	43.6	62.8	82.7	100.6

- All load values are based on performance of individual anchor without influence of spacing and, edge distance.
- Please consult Cormix Technical Service Department for anchoring design and specifications.

SETTING DETAILS WITH THREADED STUD



Anchor Fixing Details

Anchor size	M8	M10	M12	M16	M20	M24	M27	M30
Hole Diameter [D], mm	10	12	14	18	24	28	30	35
Embedment Depth [h_{ef}], mm	80	90	110	125	170	210	240	280
Minimum Concrete Thickness [h_{min}], mm	110	120	150	180	230	280	320	370
Maximum Fixture Thickness [t_{fix}], mm	15	20	30	40	50	55	60	70
Minimum Edge Distance [C_{min}], mm	40	45	55	63	85	105	120	140
Minimum Spacing [S_{min}], mm	40	45	55	63	85	105	120	140
Tightening Torque [T_{inst}], Nm	15	30	50	100	160	240	270	300
Approx. Volume per Hole, ml	3	4	6	9	33	48	61	100
No. of Fixing per Cartridge	167	122	84	57	16	11	9	5

- Embedment depths are only suggested based on standard anchor studs, deeper embedment depth can be adopted to suit the application and the length of anchor used.
- Approximated volume per trigger pull is 10 ml. Trials are recommended.

Condur Anchor[®]



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MIXING

Attach mixing nozzle with included mixing thread inside, dispense small amount of **Condur Anchor** mixed material aside until uniform grey colour is observed.

IMPORTANT NOTE

Attach static mixer nozzle to cartridge. Dispense a small amount to one side until the extruded material is a uniform grey colour. Then proceed with installation.

ANCHORING & FIXING

- 1) Insert the static mixing nozzle to the bottom of the hole. Fill the hole with material to approximately half the depth whilst withdrawing the static mixing nozzle slowly.



- 2) Insert the threaded rod or dowel all the way to the bottom of the hole. Twist the bolt to ensure it engages with the material. The bolt should not be tightened until the minimum bolt up cure time has been achieved.



CURING

Full curing time of the material is based on the ambient temperature or the surrounding temperature. As a guideline full cure at 30°C is 24 hrs.

CLEANING

Clean tools & equipments immediately with Condur Solvent.

HEALTH & SAFETY

Prolonged and repeated skin contact with epoxy resins and curing agents may cause dermatitis in persons sensitive to these products. Gloves, barrier creams, protective clothing and eye protection should be worn when handling these

products. If poisoning occurs, contact a doctor or Poisons Information Centre. If swallowed, do **NOT** induce vomiting-give a glass of water. If in eyes, hold eyes open, flood with water for at least 15 minutes. If skin contact occurs, remove contaminated clothing and wash skin thoroughly.

ANCHORING ACCESSORIES



Condur Anchor in 600 ml Hard Shell Cartridge and static mixer



Condur Anchor Caulking Gun

- Material Retaining Plugs are excellent for use in overhead and horizontal anchoring and dowelling. The retaining plugs keep the material and anchor in place while the material cures.
- Nylon brushes are ideal for cleaning drilled holes in concrete or masonry. Wire brushes should not be used as they may smooth and polish the holes interior and create additional dust.

PACKAGING

Condur Anchor is available in 600 ml. dual component cartridges.

STORAGE & SHELF LIFE

Condur Anchor has a shelf life of 12 months when stored in a dry place below 35°C in unopened containers.

TECHNICAL SERVICE

The Cormix International Technical Service Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

QUALITY ASSURANCE

ISO 9001 : 2008 verified by TUV Nord

CONTACT DETAILS

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