AT-HP BLUE — High-Performance Anchoring Adhesive

Material

Vinylester

Features & Benefits

- Styrene free, low odour for safe use in confined spaces
- New improved formulation and foil cartridge design provides more durability and temperature resistance
- New cartridge size and design allow for 35% easier dispensing
- Improved nozzle means less purging and less waste
- Improved colour curing; the cured colour is much closer to the real colour of concrete
- Usable in drinking water
- High Bond strength for Medium to Heavy loads
- Suitable for use in cracked and non-cracked concrete
- Use 300ml standard caulking gun, easy to dispense

Applications

- · Post-installed rebar applications
- Threaded Rod Anchoring
- Balconies
- Facade
- Structural Steel
- Dry and Wet Concrete

Base Material

- Normal and Lightweight Concrete¹
- Grout-filled and Hollow² Concrete Block
- Solid and Hollow² Brick
- ¹ Cracked and non-cracked concrete
- ² When used in conjunction with screen tubes

Approvals

- ETA-19/0265 (Rods Concrete)
- ETA-19/0418 (Rebar Concrete)
- Fire Rated R180
- Australia: National Construction Code 2019 Compliant: Meets testing requirements of AS5216.2018
- New Zealand: BRANZ APPRAISAL No. 983 (2018)

Specifications

AT-HP Anchoring Adhesive - Gr 8.8 Threaded Rod

Installation Data	Symbol	Units	Threaded Rod Size (mm)							
	Symbol		M8	M10	M12	M16	M20	M24		
Nominal Insert Diameter	d	-	8	10	12	16	20	24		
Drill Hole Diameter	d _o		10	12	14	18	24	28		
Minimum Embedment Depth	h _{ef,min}		60	60	70	80	90	100		
Maximum Embedment Depth	h _{ef,max}	mm	160	200	240	320	400	480		
Nominal Anchorage Depth	h _{nom}		80	90	110	125	170	210		
Clearance Hole Diameter in Fixture	df		9	12	14	18	22	26		
Installation Torque	T _{inst, max}	Nm	10	20	30	60	90	140		

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Concrete Thickness, Edge Distance and Spacing

Threaded Rod Size	Symbol	Units	M8	M10	M12	M16	M20	M24			
Minimum Concrete Thickness	h _{min}		h _{et}	+ 30mm (≥100)mm)		$h_{ef} + 2_{do}$				
Minimum Edge Distance	C _{min}	· · · · · · ·	40	50	60	80	100	120			
Minimum Spacing	S _{min}		40	50	60	80	100	120			
Critical Edge Distance for concrete cone failure	C _{cr,N}				1.5 ×	1.5 x h _{ef}					
Critical Spacing for concrete cone failure	S _{cr,N}				3 x	h _{ef}					
	C _{cr,sp}	mm	$h_{/}h_{ef} \ge 2.0$		1.0	h _{ef}	h/h _{ef}				
Critical Edge Distance for splitting failure			2.0 > h	n/h _{ef} >1.3	4.6h _{ef} - 1.8h		2,0				
			$h/h_{ef} \le 1.3$		2.26	h _{ef}	1,0.1	n _{ef} 2,26 h _{ef} c _{cr,}			
Critical Spacing for splitting failure	S _{cr,sp}				2c _c	r,sp					

Design Resistance - Single Anchor, No Concrete Edge or Spacing Influence

Symbol	Units	M8	M10	M12	M16	M20	M24					
h _{ef}	mm	70	80	110	140	180	220					
h _{min}		100	110	140	176	228	276					
Non-Cracked Concrete												
N _{Rd}	LNI	9.97	14.33	24.88	37.53	56.55	77.41					
V _{Rd}	KN	12	18.4	27.2	50.4	78.4	112.8					
	h _{ef} h _{min} N _{Rd}	h _{ef} mm h _{min} Mon-Crac	h _{ef} mm 70 h _{min} 100 100 Non-Cracked Concre 9.97 N _{Rd} kN 9.97	h _{ef} 70 80 h _{min} 100 110 Non-Cracked Concrete N _{Rd} 9.97 14.33	h _{ef} mm 70 80 110 h _{min} 100 110 140 Non-Cracked Concrete N _{Rd} 8.0 9.97 14.33 24.88	h _{ef} mm 70 80 110 140 h _{min} mm 100 110 140 176 Non-Cracked Concrete N _{Rd} 9.97 14.33 24.88 37.53	h _{ef} mm 70 80 110 140 180 h _{min} mm 100 110 140 176 228 Non-Cracked Concrete N _{Rd} 9.97 14.33 24.88 37.53 56.55					

Concrete strength is C20/25, 25 N/mm² unreinforced, hole condition is "dry", and temperature range 24°C long-term/40°C short-term.

2.

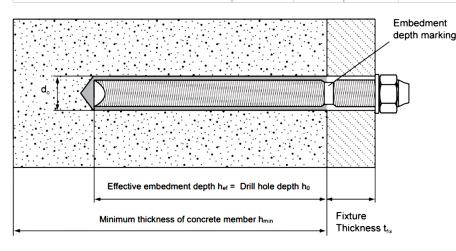
Concrete strength is C2025, $f_{e,obs} = 25$ M/mm' unreinforced, hole condition is "dry", and temperature range 24°C long-term/40°C short-term. Tabulated loads are valid at critical spacing and critical edge distance only. N_{Pa} and V_{Pa} is based on use of a Grade 8.8 threaded insert. Verify capacity if using a different steel grade. All design resistances are derived from the product's ETA (European Technical Assessment ETA-190265 of 09/07/2019). For combined tension and shear loads or anchor groups, spacing and edge distance influence, a calculation per EAD 330499 shall be done. 3. 4. Simpson Strong-Tie® Anchor DesignerTM Software used for analysis.

Steel Design Resistance (Tension)

Threaded Rod Size	Symbol	Units	M8	M10	M12	M16	M20	M24
Steel Grade 5.8			12.0	19.3	28.0	52.7	82.0	118.0
Steel Grade 8.8	$N_{\text{Rd,s}}$	kN	19.3	30.7	44.7	84.0	130.7	188.0
Stainless Steel A4-70			13.9	21.9	31.6	58.8	92.0	132.1

Steel Design Resistance (Shear without lever arm)

Threaded Rod Size	Symbol	Units	M8	M10	M12	M16	M20	M24
Steel Grade 5.8			7.2	12.0	16.8	31.2	48.8	70.4
Steel Grade 8.8	V _{Rd,s}	kN	12.0	18.4	27.2	50.4	78.4	112.8
Stainless Steel A4-70			8.3	12.8	19.2	35.3	55.1	79.5



Simpson Strong-Tie® (New Zealand) Ltd Call 09 477 4440 www.strongtie.co.nz

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Specifications

AT-HP Anchoring Adhesive - REBAR Grade B500B (DIN 488)

Installation Data	Querran	Units	REBAR Size (mm)								
	Symbol		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25		
Drill Hole Diameter	d _o		12	14	16	18	20	25	32		
Minimum Effective Embedment Depth	h _{ef,min}	mm	60	60	70	75	80	90	100		
Maximum Effective Embedment Depth	h _{ef,max}		160	200	240	280	320	400	500		

Concrete Thickness, Edge Distance and Spacing

REBAR Size	Symbol	Units	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25
Minimum Concrete Thickness	h _{min}		h _{ef} +	30mm (≥10	Omm)		h _{ef} +	· 2 _{do}	
Minimum Edge Distance	C _{min}	mm -	40	50	60	70	80	100	125
Minimum Spacing	S _{min}		40	50	60	70	80	100	125
Critical Edge Distance	C _{cr,sp}		$h/h_{ef} \ge 2.0$ $2.0 > h/h_{ef} > 1.3$			h _{ef} - 1.8h	h/h _{ef} 2,0 1,3		
			h/h _{ef} ≤ 1.3 2.2		6 h _{ef}		1,0 [.] h _{ef} 2,2	6·h _{ef} c _{cr,}	
Critical Spacing	S _{cr,sp}					2c _{cr,sp}			

Design Resistance - Single Rebar, No Concrete Edge or Spacing Influence

REBAR Size	Symbol	Units	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25			
Embedment Depth	h _{ef}	mm	80	90	110	130	160	180	220			
Minimum Concrete Thickness	h _{min}		110	120	140	166	200	230	284			
Non-Cracked Concrete												
TENSION	N _{Rd}	kN	7.0	11.2	16.1	22.2	29.0	40.8	57.6			
SHEAR	V _{Rd}		9.3	14.7	20.7	28.0	36.7	57.3	90.0			

Rebar Design Resistance (Tension)

REBAR Size	Symbol	Units	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25
Design Resistance	N _{Rd,s}		20.0	30.7	44.3	61	79	123.6	192.9
Nominal Yield Strength	f _{yk}	kN	25.1	39.3	56.6	77.0	100.6	157.1	245.5
Nominal Tensile Strength	f _{uk}		27.6	43.2	62.2	84.7	110.6	172.8	270.0

Rebar Design Resistance (Shear)

REBAR Size	Symbol	Units	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25
Design Resistance	V _{Rd,s}	kN	9.3	14.7	20.7	28	36.7	57.3	90.0
1. Concrete strength is C2025, fck,cube = 25 N/mm ² unreinforced, hole condition is "dry", and temperature range 24°C long-term/40°C									

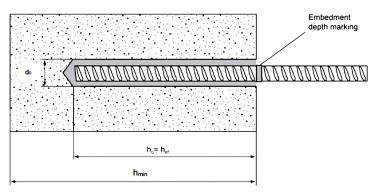
short-term.

2

Tabulated loads are valid at critical spacing and critical edge distance only. All design resistances are derived from the product's ETA (European Technical Assessment ETA-**190265** of 09/07/2019). З.

4.

Nominal vield strength (f_{u}) for Gr 500B Rebar is determined by the equation: $f_{uc} = 500$ MPa x A_{nom} Nominal tensile strength (f_{uc}) for Gr 500B Rebar is determined by the equation: $f_{uc} = 550$ MPa x A_{nom} For combined tension and shear loads or anchor groups, spacing and edge distance influence, a calculation per EAD 330499 shall be done. Simpson Strong-Tie[®] Anchor DesignerTM Software used for analysis.



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