

SET-XP — High-Strength Epoxy Anchoring Adhesive

Material

Epoxy

Features & Benefits

- Seismic Rated as per ACI 355.4
- High Strength
- Non-shrink, high solids
- Long-term loading (creep) applications
- Non-sag formulation: good for vertical applications
- Suitable for over sized and core-drilled holes
- Suitable for use under static and seismic loading conditions in cracked and uncracked concrete and masonry
- Cure times: 24 hours at 21°C, 72 hours at 10°C
- Easy hole-cleaning — no power-brushing required
- Suitable for use in dry or water-saturated concrete
- For best results, store between 7°C and 32°C

Applications

- Rebar Dowelling
- Tension Zones
- Dry And Wet Concrete
- Threaded Rod Anchoring
- General Purpose Anchoring
- Overhead Anchoring (Tension Zones)
- Structural Steel
- Seismic Retrofit

Approvals

- Complies with AS5216
- Seismic testing per ACI 355.4
- ETA-11/0360 (OPTION 1)
- ICC-ES ESR-2508 (Concrete)
- IAPMO UES ER-265 (Masonry)
- NSF/ANSI Standard 61 (313 cm²/1000 L)
- Transport and Main Roads (QLD) product approval (Threaded rod and Reinforcing bar)

Working and Curing Time Schedule

Internal Concrete Temperature	Working Time	Curing Time (Dry Concrete)	Curing Time (Wet Concrete)
T _{anchorage base}	t _{gel}	t _{cure,dry}	t _{cure,wet}
≥ +10°C	60 min	72 h	144 h
≥ +21°C	45 min	24 h	48 h
≥ +32°C	20 min	24 h	48 h
≥ +43°C	12 min	24 h	48 h

*Let anchor fully cure without disturbing.



SET-XP650-AU (650 ml)
(Includes 2 mixing nozzle EMN22)

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Specifications - SET-XP & Accessories

Model No.	Description	Size	Box Qty
SET-XP650-AU	High-performance epoxy anchoring adhesive for cracked and uncracked concrete (Includes 2 mixing nozzles — EMN22i)	650ml	10
EDT22S	Manual dispensing tool for 650ml cartridges	—	1
EMN22i-RP10	Suit 650ml Epoxy Adhesives, Pack of 10	—	10

Complementing Items Specifications - Acrylic Screen Tube

Model No.	Description	Size	Box Qty
SH12050-RP10	Suits M8 diameter rod	12mm x 50mm	10
SH16085-RP6	Suits M8–M10 diameter rod	16mm x 85mm	6
SH16130-RP6	Suits M8–M10 diameter rod	16mm x 130mm	6
SH20085-RP4	Suits M12–M16 diameter rod	16mm x 130mm	6

Complementing Items Specifications - Hole Cleaning

Model No.	Description	Size	Box Qty
PUMP	Manual blow-out pump ideal for cleaning dust from drilled holes prior to applying anchoring adhesive or installing mechanical anchors	310mm x 70mm	1
ETB6	Suits 12mm – 20mm hole	406mm	1
ETB8	Suits 20mm – 24mm hole	406mm	1
ETB10	Suits 24mm – 28mm hole	736mm	1
ETB12	Suits 30mm – 35mm hole	864mm	1

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SET-XP® Extra Performance Anchoring Adhesive — Gr 8.8 Threaded Rod

Installation Data

Description	Symbol	Units	Threaded Rod Size (mm)				
			M12	M16	M20	M24	M27
Nominal Insert Diameter	d	mm	12	16	20	24	27
Drill Hole Diameter	d _o		14	18	24	28	30
Minimum Embedment Depth	h _{ef,min}		70	80	90	100	110
Maximum Embedment Depth	h _{ef,max}		240	320	400	480	540
Clearance Hole Diameter in Fixture	d _f		14	18	22	26	30
Installation Torque	T _{inst,max}	Nm	40	60	80	100	120

Concrete Thickness, Edge Distance and Spacing

Description	Symbol	Units	M12	M16	M20	M24	M27
Minimum Concrete Thickness	h _{min}	mm	h _{ef} + 30mm		h _{ef} + 2d _o		
Minimum Edge Distance	c _{min}		80	100	115	135	155
Minimum Spacing	s _{min}		45	60	70	80	90
Critical Edge Distance	c _{cr,N}		1.5 x h _{ef}				
Critical Spacing	s _{cr,N}		3 x h _{ef}				

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

Description	Symbol	Units	M12	M16	M20	M24	M27
Embedment Depth	h _{ef}	mm	110	140	180	220	240
Minimum Concrete Thickness			140	176	228	276	300
Uncracked Concrete							
TENSION	N _{Rd}	kN	33.6	33.5	53.9	71.1	67.9
SHEAR	V _{Rd}		27.2	50.4	78.4	113	147
Cracked Concrete							
TENSION	N _{Rd}	kN	11.9	15.1	16.2	23.7	29.1
SHEAR	V _{Rd}		27.2	42.2	45.2	66.4	81.4

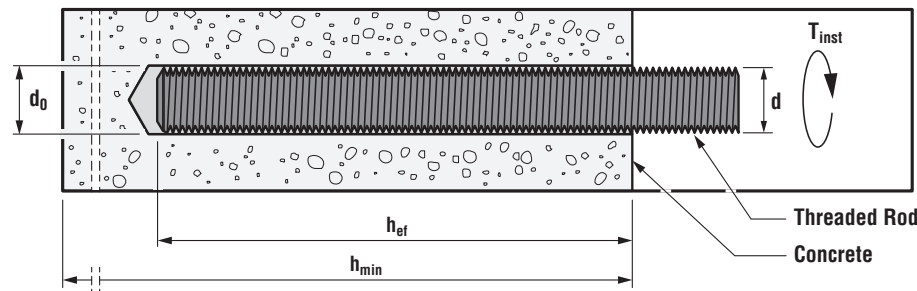
- Concrete strength is 30 MPa (cylinder) unreinforced, hole condition is "dry, damp or wet", and temperature range 24°C long-term/43°C short-term.
- Tabulated loads are valid at critical spacing and critical edge distance only.
- N_{Rd} and V_{Rd} is based on use of a Grade 8.8 threaded insert. Verify capacity if using a different steel grade.
- All design resistances are derived from the product's ETA (European Technical Assessment).

Steel Design Resistance (Tension)

Description	Symbol	Units	M12	M16	M20	M24	M27
Steel Grade 5.8	N _{Rd,s}	kN	28.0	52.7	82.0	118	153
Steel Grade 8.8			44.7	84.0	131	188	245
Stainless Steel A4			31.6	58.8	92.0	132	80.4

Steel Design Resistance (Shear)

Description	Symbol	Units	M12	M16	M20	M24	M27
Steel Grade 5.8	V _{Rd,s}	kN	16.8	31.2	48.8	70.4	92.0
Steel Grade 8.8			27.2	50.4	78.4	113	147
Stainless Steel A4			19.2	35.3	55.1	79.5	48.3



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SET-XP® Extra Performance Anchoring Adhesive — Rebar Grade B500 (DIN 488-2)

Installation Data

Description	Symbol	Units	Rebar Size (mm)				
			12	14	16	20	25
Drill Hole Diameter	d_o	mm	16	18	20	25	32
Minimum Embedment Depth	$h_{ef,min}$		70	75	80	90	100
Maximum Embedment Depth	$h_{ef,max}$		240	280	320	400	500

Concrete Thickness, Edge Distance and Spacing

Description	Symbol	Units	12	14	16	20	25
Minimum Concrete Thickness	h_{min}	mm	$h_{ef} + 30mm$	$h_{ef} + 2d_o$			
Minimum Edge Distance	c_{min}		80	90	100	115	135
Minimum Spacing	s_{min}		45	50	60	70	80
Critical Edge Distance	$c_{cr,N}$		$1.5 \times h_{ef}$				
Critical Spacing	$s_{cr,N}$		$3 \times h_{ef}$				

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

Description	Symbol	Units	12	14	16	20	25
Embedment Depth	h_{ef}	mm	110	130	140	180	220
Minimum Concrete Thickness			140	166	180	230	284
Uncracked Concrete							
TENSION	N_{Rd}	kN	31.1	25.4	31.3	44.0	52.8
SHEAR	V_{Rd}		20.7	28.0	36.7	57.3	90.0
Cracked Concrete							
TENSION	N_{Rd}	kN	11.5	11.1	9.8	15.7	24.0
SHEAR	V_{Rd}		20.7	26.7	23.5	37.7	57.6

Rebar Strength Tension

Description	Symbol	Units	12	14	16	20	25
Design Resistance	$N_{Rd,s}$	kN	44.3	60.7	79.3	124	193
Nominal Yield Strength	f_{yk}		56.5	77.0	101	157	243
Nominal Tensile Strength	f_{uk}		62.2	84.7	111	173	270

Rebar Strength Shear

Description	Symbol	Units	12	14	16	20	25
Design Resistance	$V_{Rd,s}$	kN	20.7	28.0	36.7	57	90.0

- Concrete strength is 30 MPa (cylinder) unreinforced, hole condition is "dry, damp or wet", and temperature range 24°C long-term/43°C short-term.
- 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).
- Nominal yield strength (f_{yk}) for Gr 500B Rebar is determined by the equation: $f_{yk} = 500 \text{ MPa} \times A_{nom}$
Nominal tensile strength (f_{uk}) for Gr 500B Rebar is determined by the equation: $f_{uk} = 550 \text{ MPa} \times A_{nom}$

