SET-3G[™] High-Strength Epoxy Adhesive

SET-3G Cure Schedule^{1,2}

Concrete Te	emperature	Gel Time	Cure Time
(°F)	(°C)	(minutes)	(hr.)
40	4	120	192
50	10	75	72
60	16	50	48
70	21	35	24
90	32	25	24
100	38	15	24

For SI: 1°F = (°C x %) + 32.

1. For water-saturated concrete, submerged concrete and water-filled holes, the cure times shall be doubled.

2. For installation of anchors in concrete where the temperature is below 70°F (21°C),

the adhesive must be conditioned to a minimum temperature of 70°F (21°C).

SET-3G Typical Properties

	Droportu	Class B	Class C	Test	
	Property	(40°–60°F)	(>60°F)	Method	
Consistency		Non-sag	Non-sag	ASTM C881	
	Hardened to Hardened Concrete, 2-Day Cure ¹	3,700 psi	3,300 psi		
Bond Strength, Slant Shear	Hardened to Hardened Concrete, 14-Day Cure ¹	3,850 psi	3,350 psi	ASTM C882	
	Fresh to Hardened Concrete, 14-Day Cure ²	2,750 psi	2,750 psi		
Compressive Yield Strength, 7-Day Cure ²		13,000 psi	15,350 psi	ASTM D695	
Compressive Modulus, 7-Day	Cure ²	650,000 psi	992,000 psi	ASTM D695	
Heat Deflection Temperature,	7-Day Cure ²	147°F	ASTM D648		
Glass Transition Temperature,	7-Day Cure ²	149°F	ASTM E1356		
Decomposition Temperature, 2	24-Hour Cure ²	500°F	(260°C)	ASTM E2550	
Water Absorption, 24-Hours, 7	7-Day Cure ²	0.1	3%	ASTM D570	
Shore D Hardness, 24-Hour C	lure ²	8	4	ASTM D2240	
Linear Coefficient of Shrinkag	e, 7-Day Cure ²	0.002	0.002 in./in.		
Coefficient of Thermal Expans	ion ²	2.3 x 10-	⁵ in./in.°F	ASTM C531	

1. Material and curing conditions: Class B at 40° \pm 2°F, Class C at 60° \pm 2°F.

2. Material and curing conditions: $73^{\circ} \pm 2^{\circ}$ F.

SET-3G Installation Information and Additional Data for Threaded Rod and Rebar¹

Characteristic	Symbol	Units	Nominal Anchor Diameter da (in.) / Rebar Size							
Gilaracteristic			3⁄8 / #3	1⁄2 / #4	⁵% / #5	3⁄4 / #6	7∕8 / # 7	1 / #8	1¼/#10	
		Installa	tion Information	ation						
Drill Bit Diameter for Threaded Rod	d _{hole}	in.	7⁄16	9⁄16	11/16	7⁄8	1	1 1⁄8	1 3⁄8	
Drill Bit Diameter for Rebar	d _{hole}	in.	1⁄2	5⁄8	3⁄4	7⁄8	1	1 1⁄8	1 3⁄8	
Maximum Tightening Torque	T _{inst}	ftlb.	15	30	60	100	125	150	200	
Minimum Embedment Depth	h _{ef, min}	in.	23⁄8	23⁄4	31⁄8	31⁄2	3¾	4	5	
Maximum Embedment Depth	h _{ef, max}	in.	71/2	10	12½	15	17½	20	25	
Minimum Concrete Thickness	h _{min}	in.	h _{ef} -	+ 1¼			h _{ef} + 2d _{hole}			
Critical Edge Distance	C _{ac}	in.	See footnote 2							
Minimum Edge Distance	C _{min}	in.		1¾						
Minimum Anchor Spacing	S _{min}	in.	1	21⁄2			3		6	

1. The information presented in this table is to be used in conjunction with the design criteria of ACI 318-19, ACI 318-14 and ACI 318-11.

 $[h/h_{ef}] \le 2.4$

 $\tau_{k,uncr}$ = the characteristic bond strength in uncracked concrete, given in the tables that follow $\leq k_{uncr} ((h_{ef} \times f_c)^{0.5} / (\pi \times d_a))$

h = the member thickness (inches)

 h_{ef} = the embedment depth (inches)

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IBC

^{2.} $C_{ac} = h_{ef} (\tau_{k,uncr} / 1,160)^{0.4} \times [3.1 - 0.7(h/h_{ef})]$, where:

SET-3G[™] Design Information — Concrete

SET-	3G Tension Strength Desig	gn Data for Threaded Rod ^{1,7}						IBC			
	Choract	riotio	Symbol	Unito			Nominal	Rod Diam	ieter (in.)		
	Ullalatio		Symbol		3⁄8	1⁄2	5⁄8	3⁄4	7⁄8	1	1¼
		Steel Streng	gth in Tensi	ion							
Mini	mum Tensile Stress Area		Ase	in.2	0.078	0.142	0.226	0.334	0.462	0.606	0.969
Tens	sion Resistance of Steel — ASTM F155	4, Grade 36			4,525	8,235	13,110	19,370	26,795	35,150	56,200
Tens	sion Resistance of Steel — ASTM F155	4, Grade 55			5,850	10,650	16,950	25,050	34,650	45,450	72,675
Tens	sion Resistance of Steel — ASTM A193	, Grade B7	N		9,750	17,750	28,250	41,750	57,750	75,750	121,125
Tens (Type	ion Resistance of Steel — Stainless Stee es 304 and 316)	I ASTM A193, Grade B8 and B8M	N _{sa}	. מו	4,445	8,095	12,880	19,040	26,335	34,540	55,235
Tens	sion Resistance of Steel — Stainless St	eel ASTM F593 CW (Types 304 and 316)			7,800	14,200	22,600	28,390	39,270	51,510	82,365
Tens	sion Resistance of Steel — Stainless St	eel ASTM A193, Grade B6 (Type 410)			8,580	15,620	24,860	36,740	50,820	66,660	106,590
Stre	ngth Reduction Factor for Tension — S	teel Failure	φ					0.755			
		Concrete Breakout Strength in Te	ension (2,5	00 psi :	≤ f' _C ≤ 8,0	00 psi)					
Effe	ctiveness Factor for Cracked Concrete		k _{c,cr}	—				17			
Effe	ctiveness Factor for Uncracked Concret	e	k _{c,uncr}					24			
Stre	ngth Reduction Factor — Concrete Bre	φ					0.655				
		Bond Strength in Tension (2,500 psi ≤	f' _C ≤ 8	,000 psi) ⁶						
Minimum Embedment				in.	23⁄8	2¾	31⁄8	31⁄2	3¾	4	5
Max	imum Embedment		h _{ef,max}	in.	71⁄2	10	121⁄2	15	17½	20	25
	Temperature Range A ^{2,4}	Characteristic Bond Strength in Cracked Concrete ⁸	τ _{k,cr}	psi	1,448	1,402	1,356	1,310	1,265	1,219	1,128
5		Characteristic Bond Strength in Uncracked Concrete ⁸	$ au_{k,uncr}$	psi	2,357	2,260	2,162	2,064	1,967	1,868	1,672
pectic	Tamparatura Ranga R ^{3,4}	Characteristic Bond Strength in Cracked Concrete ⁸	$ au_{k,cr}$	psi	1,201	1,163	1,125	1,087	1,050	1,012	936
us Ins	Temperature nange D	Characteristic Bond Strength in Uncracked Concrete ⁸	$ au_{k,uncr}$	psi	1,957	1,876	1,795	1,713	1,632	1,551	1,388
onu	Anchor Category	Dry Concrete	-					1			
ont	Strength Reduction Factor	Dry Concrete	$\phi_{dry,ci}$	—				0.655			
0	Anchor Category	Water-Saturated Concrete, Water-Filled Hole or Submerged Concrete	—	—		3			2		
	Strength Reduction Factor	Water-Saturated Concrete, Water-Filled Hole or Submerged Concrete	$\phi_{\textit{wet,ci}}$	—	0.4	155			0.555		
	Temperature Bange A ^{2,4}	Characteristic Bond Strength in Cracked Concrete ⁸	τ _{k,cr}	psi	1,346	1,304	1,356	1,310	1,265	1,219	1,128
_		Characteristic Bond Strength in Uncracked Concrete ⁸	$ au_{k,uncr}$	psi	2,192	2,102	2,162	2,064	1,967	1,868	1,672
ection	Temperature Range B ^{3,4}	Characteristic Bond Strength in Cracked Concrete ⁸	$ au_{k,cr}$	psi	1,117	1,082	1,125	1087	1,050	1,012	936
c Insp	temperature nange b	Characteristic Bond Strength in Uncracked Concrete ⁸	$ au_{k,uncr}$	psi	1,820	1,744	1,795	1,713	1,632	1,551	1,388
iodi	Anchor Category	Dry Concrete			1	2			1		
Per	Strength Reduction Factor	Dry Concrete	$\phi_{dry,pi}$		0.5	555			0.655		
	Anchor Category	Water-Saturated Concrete, Water-Filled Hole or Submerged Concrete		_				3			
	Strength Reduction Factor	Water-Saturated Concrete, Water-Filled Hole or Submerged Concrete	$\phi_{\mathit{wet,pi}}$	_				0.455			
Red	uction Factor for Seismic Tension		$lpha_{N,seis}{}^{g}$	-	1.0	0.9	1.0	1.0	1.0	1.0	1.0

1. The information presented in this table is to be used in conjunction with the design criteria of ACI 318-19, ACI 318-14 and ACI 318-11.

2. Temperature Range A: Maximum short-term temperature = 160°F, Maximum long-term temperature = 110°F.

3. Temperature Range B: Maximum short-term temperature = 176°F, Maximum long-term temperature = 110°F.

4. Short-term concrete temperatures are those that occur over short intervals (diurnal cycling). Long-term temperatures are roughly constant over significant periods of time.

5. The tabulated value of ϕ applies when the load combinations from the IBC or ACI 318 are used and the requirements of ACI 318-19 17.5.3, ACI 318-14 17.3.3 or ACI 318-11 D.4.3, as applicable, are met. If the load combinations of ACI 318-11 Appendix C are used, refer to ACI 318-11 D.4.4 to determine the appropriate value of ϕ .

6. Bond strength values shown are for normal-weight concrete having a compressive strength of $f'_c = 2,500$ psi. For higher compressive strengths up to 8,000 psi, the tabulated characteristic bond strength may be increased by a factor of $(f'_c/2,500)^{0.35}$ for uncracked concrete and a factor of $(f'_c/2,500)^{0.24}$ for cracked concrete.

7. For lightweight concrete, the modification factor for bond strength shall be as given in ACI 318-19 17.2.4, ACI 318-14 17.2.6 or ACI 318-11 D.3.6, as applicable, where applicable.

8. Characteristic bond strength values are for sustained loads, including dead and live loads.

9. For anchors installed in regions assigned to Seismic Design Category C, D, E or F, the bond strength values must be multiplied by $\alpha_{N,seis}$.

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SET-3G[™] Design Information — Concrete

Strong-Tie

SE	T-3G Tension Streng	gth Design Data for Rebar ^{1,7}						IBC			
		Obavastavistis	Cumhal	Unite			F	Rebar Size	e		
		Characteristic	Symbol	Units	#3	#4	#5	#6	#7	#8	#10
		Steel St	rength in Te	nsion							
M	inimum Tensile Stress Area		Ase	in. ²	0.11	0.20	0.31	0.44	0.60	0.79	1.27
Te	ension Resistance of Steel —	Rebar (ASTM A615 Grade 60)	N	lh	9,900	18,000	27,900	39,600	54,000	71,100	114,300
Te	ension Resistance of Steel —	Rebar (ASTM A706 Grade 60)	IN _{SA}	ID.	8,800	16,000	24,800	35,200	48,000	63,200	101,600
St	rength Reduction Factor for T	ension — Steel Failure	φ	—				0.755			
		Concrete Breakout Strength i	in Tension (2,500 psi	$i \le f'_{C} \le 8$	000 psi)					
Ef	fectiveness Factor for Cracke	d Concrete	k _{c,cr}	_				17			
Effectiveness Factor for Uncracked Concrete				_				24			
St	rength Reduction Factor — C	Concrete Breakout Failure in Tension	φ	_				0.655			
		Bond Strength in Tensi	on (2,500 p	si ≤ f' _c ≤	8,000 ps	i) ⁶					
M	inimum Embedment		h _{ef,min}	in.	2%	23⁄4	31⁄8	3½	3¾	4	5
M	aximum Embedment		h _{ef,max}	in.	71⁄2	10	12½	15	17½	20	25
	Temperature Bange Λ ^{2,4}	Characteristic Bond Strength in Cracked Concrete ⁸	τ _{k,cr}	psi	1,448	1,402	1,356	1,310	1,265	1,219	1,128
	iomporataro hango A	Characteristic Bond Strength in Uncracked Concrete ⁸	$ au_{k,uncr}$	psi	2,269	2,145	2,022	1,898	1,774	1,651	1,403
ection	Tomporatura Dango D34	Characteristic Bond Strength in Cracked Concrete ⁸	τ _{k,cr}	psi	1,201	1,163	1,125	1,087	1,050	1,012	936
ıs Insp	Temperature nange D-,-	Characteristic Bond Strength in Uncracked Concrete ⁸	$ au_{k,uncr}$	psi	1,883	1,781	1,678	1,575	1,473	1,370	1,165
nuor	Anchor Category	Dry Concrete	<u> </u>					1			
Conti	Strength Reduction Factor	Dry Concrete	φ _{dry,ci}	/				0.655			
	Anchor Category	Water-Saturated Concrete, Water-Filled Hole or Submerged Concrete	-	_	:	3			2		
	Strength Reduction Factor	Water-Saturated Concrete, Water-Filled Hole or Submerged Concrete	$\phi_{wet,ci}$	—	0.4	15⁵			0.555		
	Tomporatura Dapao A24	Characteristic Bond Strength in Cracked Concrete ⁸	$ au_{k,cr}$	psi	1,346	1,304	1,356	1,310	1,265	1,219	1,128
	Temperature nange A-,	Characteristic Bond Strength in Uncracked Concrete ⁸	τ _{k,uncr}	psi	2,110	1,995	2,022	1,898	1,774	1,651	1,403
ction	Tomporatura Dango D ³⁴	Characteristic Bond Strength in Cracked Concrete ⁸	τ _{k,cr}	psi	1,117	1,082	1,125	1,087	1,050	1,012	936
lnspe	Temperature nange b	Characteristic Bond Strength in Uncracked Concrete ⁸	$ au_{k,uncr}$	psi	1,751	1,656	1,678	1,575	1,473	1,370	1,165
iodic	Anchor Category	Dry Concrete	_	_		2			1		
Per	Strength Reduction Factor	Dry Concrete	$\phi_{dry,pi}$	_	0.5	55 ⁵			0.655		
	Anchor Category	Water-Saturated Concrete, Water-Filled Hole or Submerged Concrete	_	_				3			
	Strength Reduction Factor	Water-Saturated Concrete, Water-Filled Hole or Submerged Concrete	$\phi_{wet,pi}$	_				0.455			
R	eduction Factor for Seismic Te	ension	$\alpha_{N,seis}^{9}$	_	1.0	1.0	1.0	1.0	1.0	1.0	1.0

1. The information presented in this table is to be used in conjunction with the design criteria of ACI 318-19, ACI 318-14 and ACI 318-11.

2. Temperature Range A: Maximum short-term temperature = 160°F, Maximum long-term temperature = 110°F.

3. Temperature Range B: Maximum short-term temperature = 176°F, Maximum long-term temperature = 110°F.

4. Short-term concrete temperatures are those that occur over short intervals (diurnal cycling). Long-term temperatures are roughly constant over significant periods of time.

5. The tabulated value of ϕ applies when the load combinations from the IBC or ACI 318 are used and the requirements of ACI 318-19 17.5.3, ACI 318-14 17.3.3 or ACI 318-11 D.4.3, as applicable, are met. If the load combinations of ACI 318-11 Appendix C are used, refer to ACI 318-11 D.4.4 to determine the appropriate value of ϕ .

6. Bond strength values shown are for normal-weight concrete having a compressive strength of fr_c = 2,500 psi. For higher compressive strengths up to 8,000 psi, the tabulated characteristic bond strength may be increased by a factor of (fr_c/2,500)^{0.35} for uncracked concrete and a factor of (fr_c/2,500)^{0.24} for cracked concrete.

7. For lightweight concrete, the modification factor for bond strength shall be as given in ACI 318-19 17.2.4, ACI 318-14 17.2.6 or ACI 318-11 D.3.6, as applicable, where applicable.

8. Characteristic bond strength values are for sustained loads, including dead and live loads.

9. For anchors installed in regions assigned to Seismic Design Category C, D, E or F, the bond strength values must be multiplied by and seismic Design Category C, D, E or F, the bond strength values must be multiplied by and seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, the bond strength values must be multiplied by any seismic Design Category C, D, E or F, th

SET-3G[™] Design Information — Concrete

SET-3G Shear Strength Design Data for Threaded Rod¹

Observe stands the	0h.el	ubol Unite	Nominal Rod Diameter (in.)							
Characteristic	Symbol	Units	3⁄8	1⁄2	5⁄8	3⁄4	7⁄8	1	1¼	
	Steel S	trength in Sh	iear		•	•				
Minimum Shear Stress Area	Ase	in.2	0.078	0.142	0.226	0.334	0.462	0.606	0.969	
Shear Resistance of Steel — ASTM F1554, Grade 36			2,715	4,940	7,865	11,625	16,080	21,090	33,720	
Shear Resistance of Steel — ASTM F1554, Grade 55	V _{sa}	lb.	3,510	6,390	10,170	15,030	20,790	27,270	43,605	
Shear Resistance of Steel — ASTM A193, Grade B7			5,850	10,650	16,950	25,050	34,650	45,450	72,675	
Reduction factor for Seismic Shear — Carbon Streel	$\alpha_{V,seis^3}$	-			0.75			1	.0	
Shear Resistance of Steel — Stainless Steel ASTM A193, Grade B8 and B8M (Types 304 and 316)			2,665	4,855	7,730	11,425	15,800	20,725	33,140	
Shear Resistance of Steel — Stainless Steel ASTM F593 CW (Types 304 and 316)	V _{sa}	lb.	4,680	8,520	13,560	17,035	23,560	30,905	49,420	
Shear Resistance of Steel — Stainless Steel ASTM A193, Grade B6 (Type 410)			5,150	9,370	14,915	22,040	30,490	40,000	63,955	
Reduction factor for Seismic Shear — Stainless Steel	$\alpha_{V,seis^3}$	_	0.	80		0.75		1	.0	
Strength Reduction Factor for Shear — Steel Failure	φ	_				0.65 ²				
(Concrete Brea	kout Strengt	th in Shear							
Outside Diameter of Anchor	da	in.	0.375	0.5	0.625	0.75	0.875	1	1.25	
Load-Bearing Length of Anchor in Shear	l _e	in.	Min. of h_{ef} and 8 times anchor diameter							
Strength Reduction Factor for Shear — Breakout Failure	φ	_	0.702							
	Concrete Pry	out Strength	in Shear							
Coefficient for Pryout Strength	k _{cp}	in.		1.	0 for <i>h_{ef} < 2</i>	2.50"; 2.0 f	for $h_{ef} \ge 2.5$	0"		
Strength Reduction Factor for Shear — Breakout Failure	φ	_				0.70 ²				

1. The information presented in this table is to be used in conjunction with the design criteria of ACI 318-19, ACI 318-14 and ACI 318-11.

2. The tabulated value of ϕ applies when the load combinations from the IBC or ACI 318 are used and the requirements of ACI 318-19 17.5.3, ACI 318-14 17.3.3 or ACI 318-11 D.4.3, as applicable, are met. If the load combinations of ACI 318-11 Appendix C are used, refer to ACI 318-11 D.4.4 to determine the appropriate value of $\phi.$

3. The values of V_{sa} are applicable for both cracked concrete and uncracked concrete. For anchors installed in regions assigned to Seismic Design Category C, D, E or F, Vsa must be multiplied by avsa for the corresponding anchor steel type.

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Adhesive Anchors

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LW

IBC

SET-3G[™] Design Information — Concrete

SET-3G Shear Strength Design Data for Rebar¹

Characteristic		Unito	Rebar Size							
Characteristic	Symbol	Units	#3	#4	#5	#6	#7	#8	#10	
Stee	el Strength	in Shear	r							
Minimum Shear Stress Area	Ase	in.2	0.110	0.200	0.310	0.440	0.600	0.790	1.270	
Shear Resistance of Steel — Rebar (ASTM A615 Grade 60)	near Resistance of Steel — Rebar (ASTM A615 Grade 60)		5,940	10,800	16,740	23,760	32,400	42,660	68,580	
Shear Resistance of Steel — Rebar (ASTM A706 Grade 60)	Vsa	ID.	5,280	9,600	14,880	21,120	28,800	37,920	60,960	
Reduction Factor for Seismic Shear — Rebar (ASTM A615 Grade 60)	n Factor for Seismic Shear — Rebar (ASTM A615 Grade 60)			0.60				0	0.8	
Reduction Factor for Seismic Shear — Rebar (ASTM A706 Grade 60)	$\alpha_{V,seis}$				0.60			0	.8	
Strength Reduction Factor for Shear — Steel Failure	φ	_				0.65 ²				
Concrete E	Breakout St	rength ir	n Shear							
Outside Diameter of Anchor	da	in.	0.375	0.5	0.625	0.75	0.875	1	1.25	
Load-Bearing Length of Anchor in Shear	I _e	in.	Min. of <i>h_{ef}</i> and 8 times anchor diameter							
Strength Reduction Factor for Shear — Breakout Failure	φ	_				0.70 ²				
Concrete Pryout Strength in Shear										
Coefficient for Pryout Strength	k _{cp}	in.	1.0 for $h_{ef} < 2.50$ "; 2.0 for $h_{ef} \ge 2.50$ "							
Strength Reduction Factor for Shear — Breakout Failure	φ	_				0.70 ²				

1. The information presented in this table is to be used in conjunction with the design criteria of ACI 318-19, ACI 318-14 and ACI 318-11.

2. The tabulated value of ϕ applies when the load combinations from the IBC or ACI 318 are used and the requirements of ACI 318-19 17.5.3, ACI 318-14 17.3.3 or ACI 318-11 D.4.3, as applicable, are met. If the load combinations of ACI 318-11 Appendix C are used, refer to

ACI 318-11 D.4.4 to determine the appropriate value of ϕ .

3. The values of V_{sa} are applicable for both cracked concrete and uncracked concrete. For anchors installed in regions assigned to Seismic Design Category C, D, E or F, V_{sa} must be multiplied by α_{Vseis} for the corresponding anchor steel type.

For additional load tables, visit strongtie.com/set3g.



Anchor Designer[™] Software for ACI 318, ETAG and CSA

Simpson Strong-Tie[®] Anchor Designer software accurately analyzes existing design or suggests anchor solutions based on user-defined design elements in cracked and uncracked concrete conditions.

SET-3G[™] Design Information — Concrete

Adhesive Anchors



SET-3G Development Length for Rebar Dowel

	Drill Bit	Clear Cover			Development Length, in. (mm)		
Rebar Size	Diameter (in.)	in. (mm)	f' _c = 2,500 psi (17.2 MPa) Concrete	f' _c = 3,000 psi (20.7 MPa) Concrete	f' _c = 4,000 psi (27.6 MPa) Concrete	f' _c = 6,000 psi (41.4 MPa) Concrete	f' _c = 8,000 psi (55.2 MPa) Concrete
#3	1⁄2	1.125 (29)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)
#4	5⁄8	1.125 (29)	14.4 (366)	14 (356)	12 (305)	12 (305)	12 (305)
#5	3⁄4	1.125 (29)	18 (457)	17 (432)	14.2 (361)	12 (305)	12 (305)
#6	7⁄8	1.125 (29)	21.6 (549)	20 (508)	17.1 (434)	14 (356)	13 (330)
#7	1	2.30 (58)	31.5 (800)	29 (737)	25 (635)	21 (533)	18 (457)
#8	11/8	2.30 (58)	36 (914)	33 (838)	28.5 (724)	24 (610)	21 (533)
#9	1%	2.30 (58)	40.5 (1,029)	38 (965)	32 (813)	27 (686)	23 (584)
#10	13⁄8	2.30 (58)	45 (1,143)	42 (1,067)	35.6 (904)	30 (762)	26 (660)
#11	1¾	2.30 (58)	51 (1,295)	47 (1,194)	41 (1,041)	33 (838)	29 (737)

 Tabulated development lengths are for static, wind and seismic load cases in Seismic Design Category A and B. Development lengths in Seismic Design Category C through F must comply with ACI 318-19 and ACI 318-14 Chapter 18 or ACI 318-11 Chapter 21, as applicable.

2. Rebar is assumed to be ASTM A615 Grade 60 or A706 ($f_y = 60,000$ psi). For rebar with a higher yield strength, multiply tabulated values by $f_y/60,000$ psi.

3. Concrete is assumed to be normal-weight concrete. For lightweight concrete, multiply tabulated values by 1.33.

4. Tabulated values assume bottom cover less that 12" cast below rebars ($\Psi_1 = 1.0$).

5. Uncoated rebar must be used.

6. The value of Ktr is assumed to be 0. Refer to ACI 318-19 Section 25.4.2.4, ACI 319-14 Section 25.4.2.3 or ACI 318-11 Section 12.2.3.

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SET-3G[™] Design Information — Masonry

SET-3G Epoxy Anchor Installation Information — Fully Grouted CMU Construction — Face of Wall

Installation Information	Symbol	Unito	Nominal Rod Diameter / Rebar Size						
instanation information	Symbol	UIIIIS	³‰" / #3	1⁄2" / #4	5%" / #5	3⁄4" / #6			
Drill Bit Diameter — Threaded Rod	d _o	in.	7⁄16	9⁄16	11/16	7⁄8			
Drill Bit Diameter — Rebar	do	in.	1/2	5⁄8	3⁄4	7⁄8			
Minimum Embedment Depth	h _{ef,min}	in.	3	3	3	3			

SET-3G Epoxy Anchor Installation Information — Fully Grouted CMU Construction — Top of Wall

Installation Information	Symbol	Unito	Nominal Rod Diameter / Rebar Size					
	Symbol	UTITIES	1⁄2" / #4	% " / #5	7⁄8"			
Drill Bit Diameter — Threaded Rod	do	in.	9⁄16	11/16	1			
Drill Bit Diameter — Rebar	d _o	in.	5/8	3⁄4	_			
Minimum Embedment Depth	h _{ef,min}	in.	3	3	3			

SET-3G Epoxy Anchor Installation Information — Ungrouted CMU Construction

Installation Information	Symbol	Unito	Nominal Rod Diameter					
instanation information	Symbol	UTIILS	3⁄8"	1⁄2"	5⁄8"			
Drill Bit Diameter	do	in.	9⁄16	3⁄4	7⁄8			
Embedment Depth	h _{ef,min}	in.	31⁄2	31⁄2	31⁄2			

Please see the SET-3G product page at **strongtie.com** and ICC-ES ESR Report for load data.

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