Titen HD® Rod Coupler

Titen HD Rod Coupler Installation Information and Additional Data[1]

Characteristic	Symbol	Units	Model No.	
			THD37634RC	THD50934RC
Installation Information				
Nominal Diameter	d_a	in.	⅜	½
Drill Bit Diameter	d_{bit}	in.	⅜	½
Internal Thread Diameter	d_{rh}	—	⅜	½
Maximum Installation Torque[2]	$T_{inst,max}$	ft.-lbf	50	65
Maximum Impact Wrench Torque Rating	$T_{impact,max}$	ft.-lbf	150	340
Minimum Hole Depth	h_{hole}	in.	3½	4½
Nominal Embedment Depth	h_{nom}	in.	3¼	4
Effective Embedment Depth	h_{ef}	in.	2.40	2.99
Critical Edge Distance	c_{ac}	in.	3⅝	4½
Minimum Edge Distance	c_{min}	in.	1¾	
Minimum Spacing	s_{min}	in.	3	
Minimum Concrete Thickness	h_{min}	in.	5	6¼
Anchor Data				
Yield Strength	f_{ya}	psi	97,000	
Tensile Strength	f_{uta}	psi	110,000	
Minimum Tensile Stress Area	A_{se}	in.^{2}	0.099	0.183
Axial Stiffness in Service Load Range — Uncracked Concrete	β_{uncr}	lb./in.	672,000	
Axial Stiffness in Service Load Range — Cracked Concrete	β_{cr}	lb./in.	345,000	

1. The information presented in this table is to be used in conjunction with the design criteria of ACI 318-19 Chapter 17, ACI 318-14 Chapter 17 or ACI 318-11 Appendix D, as applicable.
2. $T_{inst,max}$ applies to installations using a calibrated torque wrench.

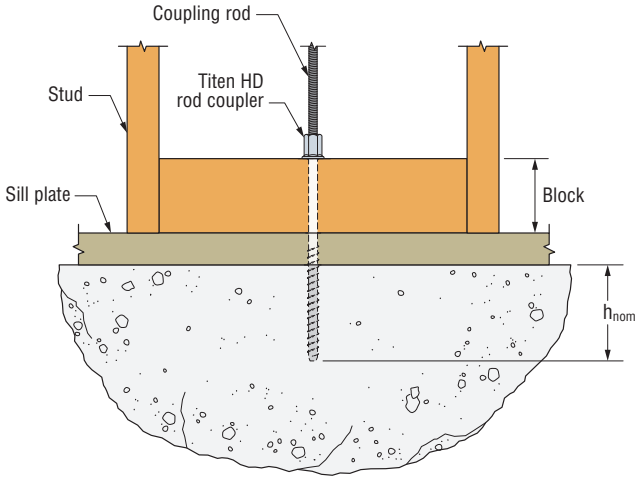

Figure 1.
Typical Titen HD Rod Coupler Installation Through Blocking and Sill Plate

Titen HD Rod Coupler Block Height Requirement

Model No.	Shank Length (in.)	Nominal Embedment Depth (in.)	Sill Plate Thickness	Block Height (in.)
THD37634RC	6¾	3¼	2x	2
			3x	1
THD50934RC	9¾	4	2x	4¼
			3x	3¼

**See p. 14 for an explanation of the load table icons.*

Titen HD Rod Coupler Tension Strength Design Data[1]

IBC LW*

Characteristic	Symbol	Units	Model No.	
			THD37634RC	THD50934RC
Anchor Category	1, 2 or 3	—	1	
Nominal Embedment Depth	h_{nom}	in.	3¼	4
Steel Strength in Tension (ACI 318-19 17.6.1, ACI 318-14 17.4.1 or ACI 318-11 Section D.5.1)				
Tension Resistance of Steel	N_{sa}	lbf	10,890	20,130
Strength Reduction Factor — Steel Failure[2]	ϕ_{sa}	—	0.65	
Concrete Breakout Strength in Tension (ACI 318-19 17.6.2, ACI 318-14 17.4.2 or ACI 318 Section D.5.2)				
Effective Embedment Depth	h_{ef}	in.	2.4	2.99
Critical Edge Distance	c_{ac}	in.	3⅝	4½
Effectiveness Factor — Uncracked Concrete	k_{uncr}	—	24	
Effectiveness Factor — Cracked Concrete	k_{cr}	—	17	
Modification factor	$\Psi_{c,N}$	—	1	
Strength Reduction Factor — Concrete Breakout Failure[2]	ϕ_{cb}	—	0.65	
Pullout Strength in Tension (ACI 318-19 17.6.3, ACI 318-14 17.4.3 or ACI 318-11 Section D.5.3)				
Pullout Resistance Uncracked Concrete (f'_c = 2,500 psi)	$N_{p,uncr}$	lbf	N/A[3]	N/A[3]
Pullout Resistance Cracked Concrete (f'_c = 2,500 psi)	$N_{p,cr}$	lbf	2,700[4]	N/A[3]
Strength Reduction Factor — Pullout Failure[2]	ϕ_p	—	0.65	
Tension Strength for Seismic Applications (ACI 318-19 17.10.3, ACI 318-14 17.2.3.3 or ACI 318-11 Section D.3.3.3)				
Nominal Pullout Strength for Seismic Loads (f'_c = 2,500 psi)	$N_{p,eq}$	lbf	2,700[4]	N/A[3]
Strength Reduction Factor for Pullout Failure[2]	ϕ_{eq}	—	0.65	

1. The information presented in this table is to be used in conjunction with the design criteria of ACI 318-19 Chapter 17, ACI 318-14 Chapter 17 or ACI 318-11 Appendix D, as applicable.
2. The strength reduction factor 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, the appropriate strength reduction factor must be determined in accordance with ACI 318-11 D.4.4.
3. N/A denotes that pullout resistance does not govern and does not need to be considered.
4. The characteristic pullout resistance for greater compressive strengths may be increased by multiplying the tabular value by $(f'_c/2{,}500)^{0.5}$.

*See p. 14 for an explanation of the load table icons.