

Calculated Design Considering "Un-Cracked" Concrete

Concrete Anchor	Anchor Bolt Diameter	Concrete Strength	Effective Embedment Depth, h_{ef}	Minimum Fastener Spacing	Minimum Anchor Edge Distance	Nominal Tension Strength of Single Anchor in Tension N_n (lbs.)	Nominal Shear Strength of Single Anchor in Shear V_n (lbs.)
#P10R	3/4"	3000 PSI	5"	15"	7.5"	18371	13156
#P10R	3/4"	4000 PSI	5"	15"	7.5"	21213	15030 *
#P10R	3/4"	5000 PSI	5"	15"	7.5"	23717	15030 *
#P10R	3/4"	6000 PSI	5"	15"	7.5"	25981	15030 *

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#P10R	3/4"	3000 PSI	5"	15"	7.5"	14697	9397
#P10R	3/4"	4000 PSI	5"	15"	7.5"	16971	10851
#P10R	3/4"	5000 PSI	5"	15"	7.5"	18974	12131
#P10R	3/4"	6000 PSI	5"	15"	7.5"	20785	13289

Notes:

- Concrete must be normal-weight concrete as required for structural concrete in accordance with ACI-318-14.
- Nominal tension and shear strength values based on calculations per ACI-318-14, Appendix D.
- The strength reduction factors as governed by concrete strength shall be taken as 0.70 for both tension and shear loads. For tensile strengths governed by steel strength (Indicated by *), use a strength reduction factor of 0.75 and for shear strengths governed by steel strength (Indicated by *), use a strength reduction factor of 0.65.
- SPRINGBOLT CONCRETE ANCHOR installation requires periodic special inspections in accordance with the 2015 IBC, Sections 1705.1.1 and 1705.3. Installation shall be verified in accordance with the manufacturer's installation instructions and the applicable code provisions.
- Anchor Bolt Type shall be ASTM F 1554 Grade 55 or better.
- Minimum edge distance for concrete edge failure in shear is 7.5" parallel to load and 15" perpendicular to load.
- Design is based on a minimum concrete thickness of 10"

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#P12R	3/4"	3000 PSI	7"	21"	10.5"	25050 *	15030 *
#P12R	3/4"	4000 PSI	7"	21"	10.5"	25050 *	15030 *
#P12R	3/4"	5000 PSI	7"	21"	10.5"	25050 *	15030 *
#P12R	3/4"	6000 PSI	7"	21"	10.5"	25050 *	15030 *

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#P12R	3/4"	3000 PSI	7"	21"	10.5"	21864	15030 *
#P12R	3/4"	4000 PSI	7"	21"	10.5"	25050 *	15030 *
#P12R	3/4"	5000 PSI	7"	21"	10.5"	25050 *	15030 *
#P12R	3/4"	6000 PSI	7"	21"	10.5"	25050 *	15030 *

Notes:

- Concrete must be normal-weight concrete as required for structural concrete in accordance with ACI-318-14.
- Nominal tension and shear strength values based on calculations per ACI-318-14, Appendix D.
- The strength reduction factors as governed by concrete strength shall be taken as 0.70 for both tension and shear loads. For shear strengths governed by steel strength (indicated by *) use a strength reduction factor of 0.65.
- SPRINGBOLT CONCRETE ANCHOR installation requires periodic special inspections in accordance with the 2015 IBC, Sections 1705.1.1 and 1705.3. Installation shall be verified in accordance with the manufacturer's installation instructions and the applicable code provisions.
- Anchor Bolt Type shall be ASTM F 1554 Grade 55 or better.
- Minimum edge distance for concrete edge failure in shear is 10.5" parallel to load and 21" perpendicular to load.
- Design is based on a minimum concrete thickness of 12"