

Allowable loads of single anchors with large spacing and large edge distance											
Allowable values ¹⁾											
FBS IN HW (zp) (carbon steel, zinc-plated)			Ø3/8 "		Ø1/2 "			Ø5/8 "	Ø3/4 "		
Nominal embedment depth	h_{nom}	[in]	1 5/8 "	2 1/2 "	2 1/4 "	3 "	4 1/4 "	3 1/4 "	4 "	5 1/2 "	6 1/4 "
Effective embedment depth	h_{ef}	[in]	1.21	1.98	1.66	2.30	3.37	2.54	3.14	4.41	5.05
Uncracked concrete											
Tension	2,500 psi	N_{allow}	[lb]	613	1,313	954	1,529	2,759	2,133	2,791	4,130
	8,000 psi	N_{allow}	[lb]	1,096	2,349	1,706	2,736	4,935	3,816	4,993	7,388
Shear	≥ 2,500 psi	V_{allow}	[lb]	755	1,277	1,214	1,980	2,734	4,101	6,105	6,105
Cracked concrete											
Tension	2,500 psi	N_{allow}	[lb]	316	771	502	1,037	1,931	1,372	1,637	2,724
	8,000 psi	N_{allow}	[lb]	566	1,379	897	1,855	3,454	2,186	2,928	4,873
Shear	≥ 2,500 psi	V_{allow}	[lb]	535	1,120	860	1,402	2,734	3,255	6,105	6,105

Allowable loads of single anchors with large spacing and large edge distance											
Allowable values ^{1,2)}											
FBS IN I (zp) (carbon steel, zinc-plated)			Ø1/4 "								
Nominal embedment depth	h_{nom}	[in]	1 5/8 "	2 1/2 "							
Effective embedment depth	h_{ef}	[in]	1.24	2.01							
Uncracked concrete											
Tension	2,500 psi	N_{allow}	[lb]	504	1,271						
	8,000 psi	N_{allow}	[lb]	901	2,014						
Shear	≥ 2,500 psi	V_{allow}	[lb]	547	547						
Cracked concrete											
Tension	2,500 psi	N_{allow}	[lb]	184	401						
	8,000 psi	N_{allow}	[lb]	293	639						
Shear	≥ 2,500 psi	V_{allow}	[lb]	547	547						

¹⁾ Above values base on ESR-5456 and ACI 318-19 and apply for following requirements:
 - Allowable loads consider a partial safety factor for action load of $\alpha = (1.2) D + (1.6) L = (1.2) (0.30) + (1.6) (0.70) = 1.48$

²⁾ Above values for FBS IN I (Hex coupler) do not consider the steel insert element used and resulting values might be lower depending on the steel grade of the used steel insert element.