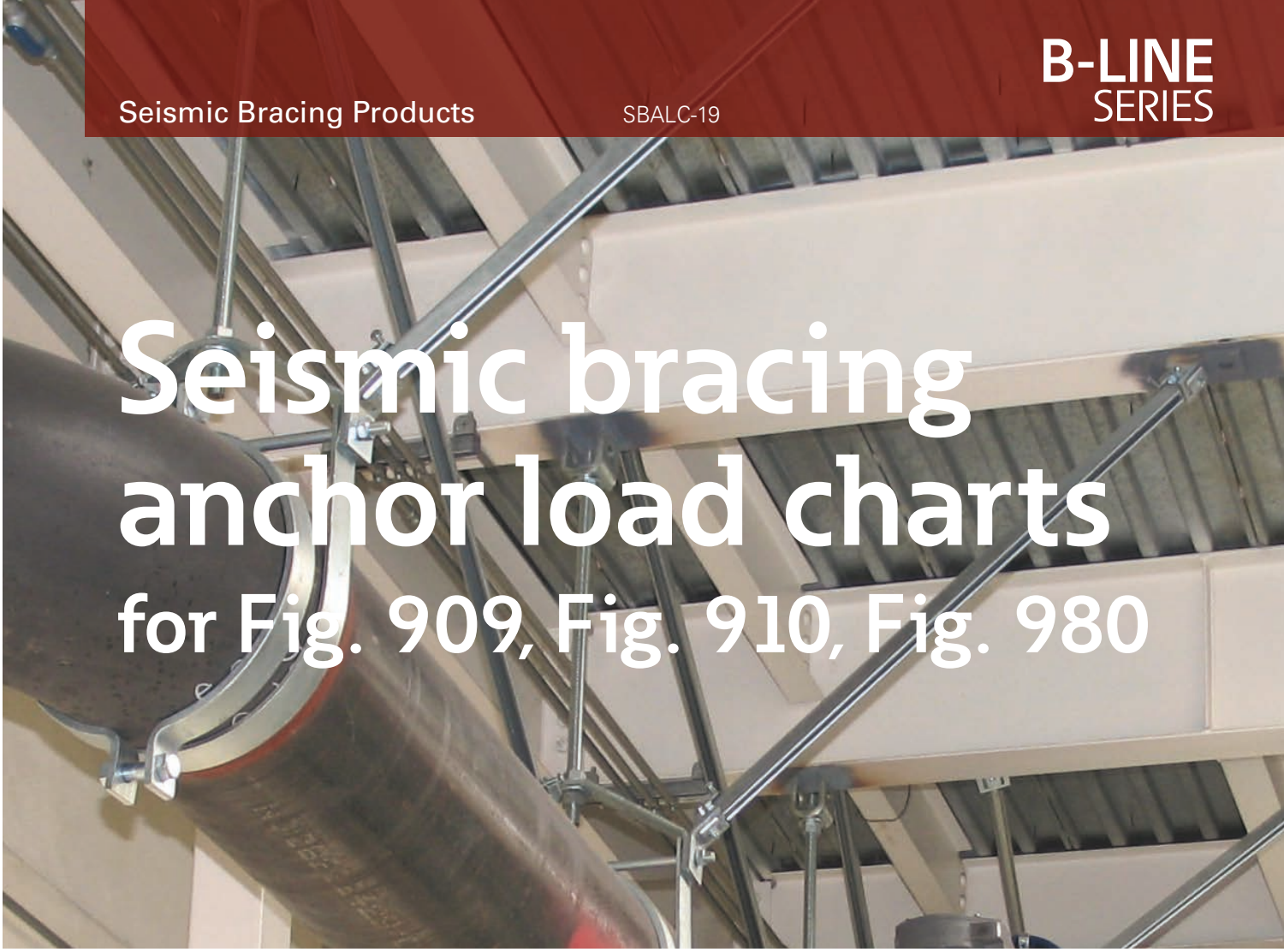


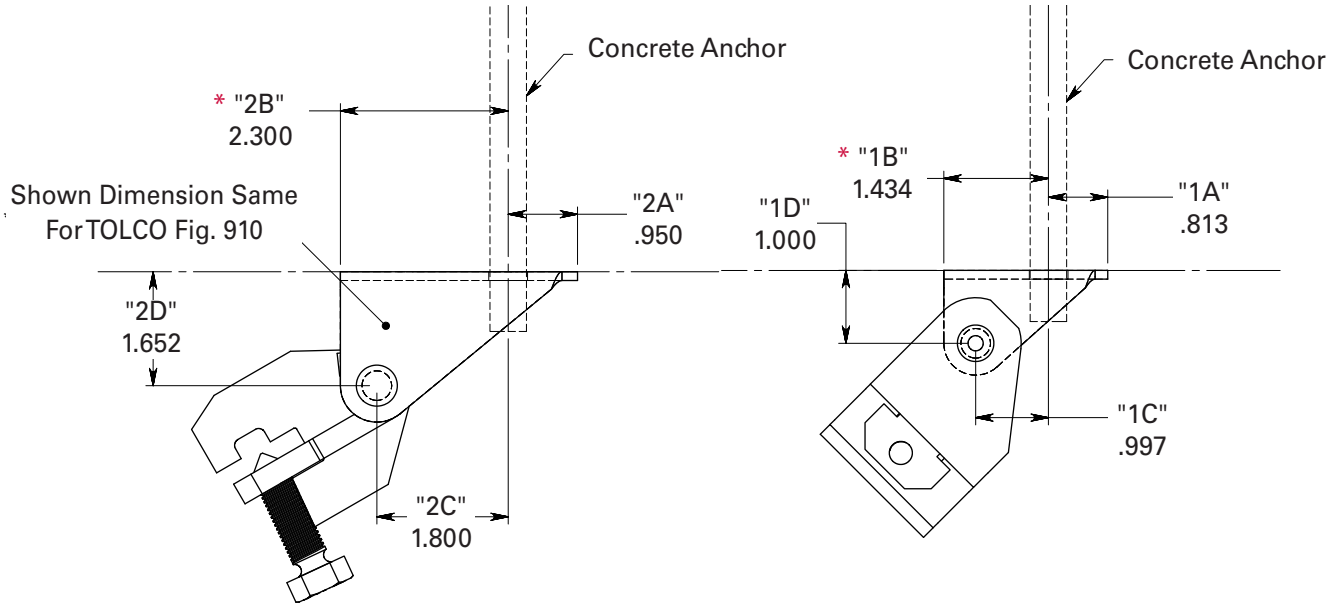
Seismic bracing anchor load charts

for Fig. 909, Fig. 910, Fig. 980

Powering Business Worldwide

Anchor Load Charts

Detail Per NFPA 13, 2013 Figures A.9.3.5.12.1 (a-c) and NFPA 13, 2016 Figures 9.3.5.12.2 (a-c) & Annex Section E.7.2



TOLCO™ Fig. 980 (shown) & Fig. 910

TOLCO™ Fig. 909

* When installed in concrete metal deck, "B" dimension would vary based on contact area and prying factors would need to be updated accordingly.

Prying Factors Per NFPA 13, 2016 Section 9.3.5.12

Tolco Figure 980 / 910								
A	B	C	D	E	F	G	H	I
P_r	P_r	P_r	P_r	P_r	P_r	P_r	P_r	P_r
3.275	1.156	1.739	1.461	1.850	2.895	3.478	2.459	2.008

Tolco Figure 909								
A	B	C	D	E	F	G	H	I
P_r	P_r	P_r	P_r	P_r	P_r	P_r	P_r	P_r
2.626	1.002	1.230	1.513	1.487	2.226	2.460	1.740	1.420

NFPA 13-16
AWSD / Powers Power-Stud+® SD2 Seismic Wedge Anchors
In 3000 psi Sand Lightweight Concrete

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Sand Lightweight Concrete (lbs.) [1,2]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	106	218	169	149	162	127	84	119	146
1/2	3 3/4	222	460	355	315	340	262	177	250	308
5/8	3 7/8	225	473	363	326	347	262	181	255	314
3/4	4 1/2	287	644	483	453	461	325	241	340	418

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Sand Lightweight Concrete (lbs.) [1,2]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2 3/8	126	236	210	146	187	161	105	147	182
1/2	3 3/4	264	499	444	310	394	337	221	311	384
5/8	3 7/8	268	514	455	320	403	341	227	320	394
3/4	4 1/2	350	706	618	443	542	423	309	434	535

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Sand Lightweight Concrete (lbs.) [1,2]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	106	218	169	149	162	127	84	119	146
1/2	3 3/4	222	460	355	315	340	262	177	250	308
5/8	3 7/8	225	473	363	326	347	262	181	255	314
3/4	4 1/2	287	644	483	453	461	325	241	340	418

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

NFPA 13-16
AWSD / Powers Power-Stud+® SD2 Seismic Wedge Anchors
In 3000 psi Normal Weight Cracked Concrete

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	140	296	227	204	217	163	113	159	196
1/2	3 3/4	292	618	473	427	453	339	236	332	409
5/8	3 7/8	331	696	534	479	511	386	267	375	462
3/4	4 1/2	422	929	700	650	669	478	350	493	606

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2 3/8	167	322	285	201	252	211	142	200	247
1/2	3 3/4	348	672	595	419	526	440	297	417	515
5/8	3 7/8	394	756	670	471	594	501	335	470	580
3/4	4 1/2	509	1017	892	637	784	621	446	627	773

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	140	296	227	204	217	163	113	159	196
1/2	3 3/4	292	618	473	427	453	339	236	332	409
5/8	3 7/8	331	696	534	479	511	386	267	375	462
3/4	4 1/2	422	929	700	650	669	478	350	493	606

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

NFPA 13-16
AWSD / Powers Power-Stud+® SD2 Seismic Wedge Anchors
In 4000 psi Normal Weight Cracked Concrete

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 4000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	153	322	247	222	236	179	123	174	214
1/2	3 3/4	328	673	522	459	500	391	261	367	452
5/8	3 7/8	382	804	616	554	590	445	308	433	534
3/4	4 1/2	478	1018	777	704	743	552	388	546	673

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 4000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2 3/8	182	350	310	218	275	232	155	217	268
1/2	3 3/4	389	728	649	451	578	498	324	455	562
5/8	3 7/8	455	873	774	544	685	579	387	543	670
3/4	4 1/2	571	1108	979	691	865	717	489	688	848

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 4000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	153	322	247	222	236	179	123	174	214
1/2	3 3/4	328	673	522	459	500	391	261	367	452
5/8	3 7/8	382	804	616	554	590	445	308	433	534
3/4	4 1/2	478	1018	777	704	743	552	388	546	673

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

NFPA 13-16
AWSD / Powers Power-Stud+® SD2 Seismic Wedge Anchors
In 5000 psi Normal Weight Cracked Concrete

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 5000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	163	336	260	230	249	193	130	183	225
1/2	3 3/4	358	716	561	485	539	437	280	394	486
5/8	3 7/8	426	892	686	614	657	498	343	482	594
3/4	4 1/2	524	1088	839	747	804	617	419	590	727

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 5000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2 3/8	193	365	324	226	288	247	162	228	281
1/2	3 3/4	423	772	692	477	619	545	346	485	599
5/8	3 7/8	507	969	860	603	762	645	429	603	744
3/4	4 1/2	623	1181	1049	733	931	795	524	736	908

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 5000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	163	336	260	230	249	193	130	183	225
1/2	3 3/4	358	716	561	485	539	437	280	394	486
5/8	3 7/8	426	892	686	614	657	498	343	482	594
3/4	4 1/2	524	1088	839	747	804	617	419	590	727

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

NFPA 13-16
AWSD / Powers Power-Stud+® SD2 Seismic Wedge Anchors
In 6000 psi Normal Weight Cracked Concrete

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 6000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	171	348	271	237	260	205	135	190	234
1/2	3 3/4	384	752	595	505	572	474	297	418	515
5/8	3 7/8	458	941	730	643	700	545	365	513	632
3/4	4 1/2	563	1147	892	781	856	676	446	627	773

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 6000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2 3/8	202	377	336	233	300	260	168	236	291
1/2	3 3/4	451	808	727	497	654	586	363	510	630
5/8	3 7/8	544	1019	908	632	808	696	454	637	786
3/4	4 1/2	667	1240	1107	768	987	856	553	777	958

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 6000 psi Normal Weight Cracked Concrete (lbs.) [1,2]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	171	348	271	237	260	205	135	190	234
1/2	3 3/4	384	752	595	505	572	474	297	418	515
5/8	3 7/8	458	941	730	643	700	545	365	513	632
3/4	4 1/2	563	1147	892	781	856	676	446	627	773

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 2502 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

NFPA 13-16
Wood-Knocker™ & Wood-Knocker II+™
In 3000 psi Sand Lightweight Concrete

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Sand Lightweight Concrete (lbs.) [1,2]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	156	303	240	203	231	193	120	169	208
1/2	2	169	358	274	247	263	197	137	193	237
5/8	2	169	358	274	247	263	197	137	193	237
3/4	2	169	358	274	247	263	197	137	193	237

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Sand Lightweight Concrete (lbs.) [1,2]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2	183	325	293	200	264	238	146	205	254
1/2	2	202	390	345	243	305	256	172	242	299
5/8	2	202	390	345	243	305	256	172	242	299
3/4	2	202	390	345	243	305	256	172	242	299

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Sand Lightweight Concrete (lbs.) [1,2]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	156	303	240	203	231	193	120	169	208
1/2	2	169	358	274	247	263	197	137	193	237
5/8	2	169	358	274	247	263	197	137	193	237
3/4	2	169	358	274	247	263	197	137	193	237

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

NFPA 13-16
Wood-Knocker™ & Wood-Knocker II+™
In 3000 psi Normal Weight Cracked Concrete

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Normal Weight Concrete (lbs.) [1,2]										
Tolco Figure 980										
		A	B	C	D	E	F	G	H	I
Dia. (in.)	Embedment (in.)	P_r 3.275	P_r 1.156	P_r 1.739	P_r 1.461	P_r 1.850	P_r 2.895	P_r 3.478	P_r 2.459	P_r 2.008
3/8	2	176	328	265	217	255	220	132	186	229
1/2	2	199	422	323	291	309	232	161	227	279
5/8	2	199	422	323	291	309	232	161	227	279
3/4	2	199	422	323	291	309	232	161	227	279

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Normal Weight Concrete (lbs.) [1,2]										
Tolco Figure 909										
		A	B	C	D	E	F	G	H	I
Dia. (in.)	Embedment (in.)	P_r 2.626	P_r 1.002	P_r 1.230	P_r 1.513	P_r 1.487	P_r 2.226	P_r 2.460	P_r 1.740	P_r 1.420
3/8	2	205	350	318	214	289	270	159	223	276
1/2	2	238	459	406	286	359	301	203	285	351
5/8	2	238	459	406	286	359	301	203	285	351
3/4	2	238	459	406	286	359	301	203	285	351

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Normal Weight Concrete (lbs.) [1,2]										
Tolco Figure 910										
		A	B	C	D	E	F	G	H	I
Dia. (in.)	Embedment (in.)	P_r 3.275	P_r 1.156	P_r 1.739	P_r 1.461	P_r 1.850	P_r 2.895	P_r 3.478	P_r 2.459	P_r 2.008
3/8	2	176	328	265	217	255	220	132	186	229
1/2	2	199	422	323	291	309	232	161	227	279
5/8	2	199	422	323	291	309	232	161	227	279
3/4	2	199	422	323	291	309	232	161	227	279

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

NFPA 13-16
Wood-Knocker™ & Wood-Knocker II+™
In 4000 psi Normal Weight Cracked Concrete

Wood-Knocker™ or Wood-Knocker II+™ in 4000 psi Normal Weight Concrete (lbs.) [1,2]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	194	350	287	229	277	247	143	201	248
1/2	2	226	470	362	322	347	267	181	255	314
5/8	2	230	487	373	336	357	267	186	262	323
3/4	2	230	487	373	336	357	267	186	262	323

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 4000 psi Normal Weight Concrete (lbs.) [1,2]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2	225	372	341	226	311	300	170	238	295
1/2	2	269	509	453	316	402	344	226	318	392
5/8	2	275	530	469	330	415	348	234	329	406
3/4	2	275	530	469	330	415	348	234	329	406

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 4000 psi Normal Weight Concrete (lbs.) [1,2]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	194	350	287	229	277	247	143	201	248
1/2	2	226	470	362	322	347	267	181	255	314
5/8	2	230	487	373	336	357	267	186	262	323
3/4	2	230	487	373	336	357	267	186	262	323

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

NFPA 13-16
Wood-Knocker™ & Wood-Knocker II+™
In 5000 psi Normal Weight Cracked Concrete

Wood-Knocker™ or Wood-Knocker II+™ in 5000 psi Normal Weight Concrete (lbs.) [1,2]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	210	367	304	238	295	269	152	213	263
1/2	2	247	501	391	340	375	299	195	274	338
5/8	2	258	544	417	376	399	299	208	293	361
3/4	2	258	544	417	376	399	299	208	293	361

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 5000 psi Normal Weight Concrete (lbs.) [1,2]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2	241	388	358	235	328	325	179	250	310
1/2	2	293	541	483	334	431	376	241	339	418
5/8	2	307	592	524	369	464	389	262	368	454
3/4	2	307	592	524	369	464	389	262	368	454

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 5000 psi Normal Weight Concrete (lbs.) [1,2]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	210	367	304	238	295	269	152	213	263
1/2	2	247	501	391	340	375	299	195	274	338
5/8	2	258	544	417	376	399	299	208	293	361
3/4	2	258	544	417	376	399	299	208	293	361

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

NFPA 13-16
Wood-Knocker™ & Wood-Knocker II+™
In 6000 psi Normal Weight Cracked Concrete

Wood-Knocker™ or Wood-Knocker II+™ in 6000 psi Normal Weight Concrete (lbs.) [1,2]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	222	381	318	245	309	287	159	223	276
1/2	2	265	526	414	355	398	327	207	291	359
5/8	2	282	596	457	412	437	327	228	321	395
3/4	2	282	596	457	412	437	327	228	321	395

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 6000 psi Normal Weight Concrete (lbs.) [1,2]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2	255	401	371	242	342	346	185	260	321
1/2	2	313	566	509	349	456	405	254	357	440
5/8	2	336	649	574	404	508	426	287	403	497
3/4	2	336	649	574	404	508	426	287	403	497

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 6000 psi Normal Weight Concrete (lbs.) [1,2]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	222	381	318	245	309	287	159	223	276
1/2	2	265	526	414	355	398	327	207	291	359
5/8	2	282	596	457	412	437	327	228	321	395
3/4	2	282	596	457	412	437	327	228	321	395

[1] Values calculated in accordance with NFPA 13-16 Annex E.7 See ICC-ESR 3657 for complete product installation information.
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

ASCE 7-10
AWSD / Powers Power-Stud+® SD2 Seismic Wedge Anchors
In 3000 psi Sand Lightweight Concrete

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Sand Lightweight Concrete (lbs.) [1,2,3]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	85	174	135	119	130	101	67	95	117
1/2	3 3/4	178	368	284	252	273	210	142	200	246
5/8	3 7/8	180	379	290	261	278	210	145	204	251
3/4	4 1/2	230	516	387	362	369	260	193	272	335

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Sand Lightweight Concrete (lbs.) [1,2,3]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2 3/8	101	189	168	117	150	129	84	118	146
1/2	3 3/4	211	400	355	248	315	270	177	249	307
5/8	3 7/8	214	412	365	256	323	273	182	256	316
3/4	4 1/2	280	566	495	355	434	338	247	348	428

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Sand Lightweight Concrete (lbs.) [1,2,3]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	85	174	135	119	130	101	67	95	117
1/2	3 3/4	178	368	284	252	273	210	142	200	246
5/8	3 7/8	180	379	290	261	278	210	145	204	251
3/4	4 1/2	230	516	387	362	369	260	193	272	335

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

ASCE 7-10
AWSD / Powers Power-Stud+® SD2 Seismic Wedge Anchors
In 3000 psi Normal Weight Cracked Concrete

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	112	237	181	164	174	130	90	127	157
1/2	3 3/4	234	495	378	341	362	271	189	266	328
5/8	3 7/8	265	557	427	384	409	309	213	300	370
3/4	4 1/2	338	744	561	520	536	383	280	394	486

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2 3/8	134	258	228	161	202	169	114	160	198
1/2	3 3/4	279	538	476	335	421	353	238	334	412
5/8	3 7/8	316	606	537	377	475	401	268	377	465
3/4	4 1/2	408	814	714	510	627	497	357	502	619

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	112	237	181	164	174	130	90	127	157
1/2	3 3/4	234	495	378	341	362	271	189	266	328
5/8	3 7/8	265	557	427	384	409	309	213	300	370
3/4	4 1/2	338	744	561	520	536	383	280	394	486

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

ASCE 7-10
AWSD / Powers Power-Stud+® SD2 Seismic Wedge Anchors
In 4000 psi Normal Weight Cracked Concrete

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	122	258	198	177	189	143	99	139	171
1/2	3 3/4	262	539	418	368	401	313	209	294	362
5/8	3 7/8	306	643	494	443	473	356	247	347	427
3/4	4 1/2	383	815	622	564	595	442	311	437	539

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2 3/8	146	280	248	174	220	186	124	174	215
1/2	3 3/4	311	583	520	361	463	399	259	364	450
5/8	3 7/8	364	699	620	435	549	463	309	435	536
3/4	4 1/2	457	887	784	553	693	574	392	550	679

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	122	258	198	177	189	143	99	139	171
1/2	3 3/4	262	539	418	368	401	313	209	294	362
5/8	3 7/8	306	643	494	443	473	356	247	347	427
3/4	4 1/2	383	815	622	564	595	442	311	437	539

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

ASCE 7-10
AWSD / Powers Power-Stud+® SD2 Seismic Wedge Anchors
In 5000 psi Normal Weight Cracked Concrete

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 5000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	130	269	208	184	199	154	104	146	180
1/2	3 3/4	286	573	449	388	432	350	224	316	389
5/8	3 7/8	341	714	549	492	526	398	274	386	475
3/4	4 1/2	419	871	672	598	644	494	336	472	582

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 5000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2 3/8	155	292	260	181	231	198	130	182	225
1/2	3 3/4	338	618	554	382	496	437	277	388	480
5/8	3 7/8	406	776	688	483	610	517	344	483	596
3/4	4 1/2	499	945	840	587	746	636	420	589	727

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 5000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	130	269	208	184	199	154	104	146	180
1/2	3 3/4	286	573	449	388	432	350	224	316	389
5/8	3 7/8	341	714	549	492	526	398	274	386	475
3/4	4 1/2	419	871	672	598	644	494	336	472	582

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Power-Stud+® is a registered trademark used by Power® Fasteners, Inc.

ASCE 7-10
AWSD / Powers Power-Stud+® SD2 Seismic Wedge Anchors
In 6000 psi Normal Weight Cracked Concrete

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 6000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	136	279	217	190	208	164	108	152	188
1/2	3 3/4	307	602	476	404	458	380	238	334	412
5/8	3 7/8	367	754	584	515	560	437	292	410	506
3/4	4 1/2	451	918	715	625	686	541	357	502	619

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 6000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2 3/8	162	302	269	187	240	208	134	189	233
1/2	3 3/4	361	647	582	398	523	469	291	408	504
5/8	3 7/8	435	816	727	506	647	557	363	510	629
3/4	4 1/2	534	993	886	615	790	686	443	622	767

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

AWSD (Powers Power-Stud+® SD2) Seismic Wedge Anchor in 6000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2 3/8	136	279	217	190	208	164	108	152	188
1/2	3 3/4	307	602	476	404	458	380	238	334	412
5/8	3 7/8	367	754	584	515	560	437	292	410	506
3/4	4 1/2	451	918	715	625	686	541	357	502	619

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 2502 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Power-Stud+® is a registered trademark used by Power® Fasteners, Inc.

ASCE 7-10
Wood-Knocker™ & Wood-Knocker II+™
In 3000 psi Sand Lightweight Concrete

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Sand Lightweight Concrete (lbs.) [1,2,3]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	125	242	192	162	185	155	96	135	167
1/2	2	136	287	219	198	210	158	110	154	190
5/8	2	136	287	219	198	210	158	110	154	190
3/4	2	136	287	219	198	210	158	110	154	190

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Sand Lightweight Concrete (lbs.) [1,2,3]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2	146	260	235	160	211	191	117	164	203
1/2	2	162	312	276	194	244	205	138	194	239
5/8	2	162	312	276	194	244	205	138	194	239
3/4	2	162	312	276	194	244	205	138	194	239

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Sand Lightweight Concrete (lbs.) [1,2,3]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	125	242	192	162	185	155	96	135	167
1/2	2	136	287	219	198	210	158	110	154	190
5/8	2	136	287	219	198	210	158	110	154	190
3/4	2	136	287	219	198	210	158	110	154	190

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

ASCE 7-10
Wood-Knocker™ & Wood-Knocker II+™
In 3000 psi Normal Weight Cracked Concrete

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]										
Tolco Figure 980										
		A	B	C	D	E	F	G	H	I
Dia. (in.)	Embedment (in.)	P_r 3.275	P_r 1.156	P_r 1.739	P_r 1.461	P_r 1.850	P_r 2.895	P_r 3.478	P_r 2.459	P_r 2.008
3/8	2	141	263	212	174	204	176	106	149	183
1/2	2	160	338	258	233	247	185	129	182	224
5/8	2	160	338	258	233	247	185	129	182	224
3/4	2	160	338	258	233	247	185	129	182	224

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]										
Tolco Figure 909										
		A	B	C	D	E	F	G	H	I
Dia. (in.)	Embedment (in.)	P_r 2.626	P_r 1.002	P_r 1.230	P_r 1.513	P_r 1.487	P_r 2.226	P_r 2.460	P_r 1.740	P_r 1.420
3/8	2	164	280	255	171	231	216	127	178	221
1/2	2	190	367	325	229	287	241	162	228	281
5/8	2	190	367	325	229	287	241	162	228	281
3/4	2	190	367	325	229	287	241	162	228	281

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 3000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]										
Tolco Figure 910										
		A	B	C	D	E	F	G	H	I
Dia. (in.)	Embedment (in.)	P_r 3.275	P_r 1.156	P_r 1.739	P_r 1.461	P_r 1.850	P_r 2.895	P_r 3.478	P_r 2.459	P_r 2.008
3/8	2	141	263	212	174	204	176	106	149	183
1/2	2	160	338	258	233	247	185	129	182	224
5/8	2	160	338	258	233	247	185	129	182	224
3/4	2	160	338	258	233	247	185	129	182	224

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

ASCE 7-10
Wood-Knocker™ & Wood-Knocker II+™
In 4000 psi Normal Weight Cracked Concrete

Wood-Knocker™ or Wood-Knocker II+™ in 4000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	155	280	230	183	222	197	115	161	199
1/2	2	181	376	290	258	278	214	145	204	251
5/8	2	184	390	298	269	286	214	149	210	258
3/4	2	184	390	298	269	286	214	149	210	258

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 4000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2	180	298	273	181	249	240	136	191	236
1/2	2	215	408	362	253	322	275	181	254	314
5/8	2	220	424	375	264	332	278	187	263	325
3/4	2	220	424	375	264	332	278	187	263	325

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 4000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	155	280	230	183	222	197	115	161	199
1/2	2	181	376	290	258	278	214	145	204	251
5/8	2	184	390	298	269	286	214	149	210	258
3/4	2	184	390	298	269	286	214	149	210	258

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

ASCE 7-10
Wood-Knocker™ & Wood-Knocker II+™
In 5000 psi Normal Weight Cracked Concrete

Wood-Knocker™ or Wood-Knocker II+™ in 5000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	168	294	243	191	236	215	121	171	211
1/2	2	198	401	313	272	300	239	156	220	271
5/8	2	206	436	334	301	319	239	167	235	289
3/4	2	206	436	334	301	319	239	167	235	289

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 5000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2	193	311	286	188	263	260	143	200	248
1/2	2	234	433	387	268	345	301	193	271	335
5/8	2	246	474	420	295	371	311	210	295	363
3/4	2	246	474	420	295	371	311	210	295	363

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 5000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	168	294	243	191	236	215	121	171	211
1/2	2	198	401	313	272	300	239	156	220	271
5/8	2	206	436	334	301	319	239	167	235	289
3/4	2	206	436	334	301	319	239	167	235	289

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

ASCE 7-10
Wood-Knocker™ & Wood-Knocker II+™
In 6000 psi Normal Weight Cracked Concrete

Wood-Knocker™ or Wood-Knocker II+™ in 6000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 980

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	178	305	255	196	247	230	127	178	221
1/2	2	212	421	332	284	319	262	166	233	287
5/8	2	226	477	365	330	350	262	182	257	316
3/4	2	226	477	365	330	350	262	182	257	316

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Wood-Knocker™ or Wood-Knocker II+™ in 6000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

Tolco Figure 909

Dia. (in.)	Embedment (in.)	A P_r 2.626	B P_r 1.002	C P_r 1.230	D P_r 1.513	E P_r 1.487	F P_r 2.226	G P_r 2.460	H P_r 1.740	I P_r 1.420
3/8	2	204	321	297	194	274	277	148	208	257
1/2	2	250	453	407	280	365	324	203	285	353
5/8	2	269	519	460	324	407	341	230	323	398
3/4	2	269	519	460	324	407	341	230	323	398

[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

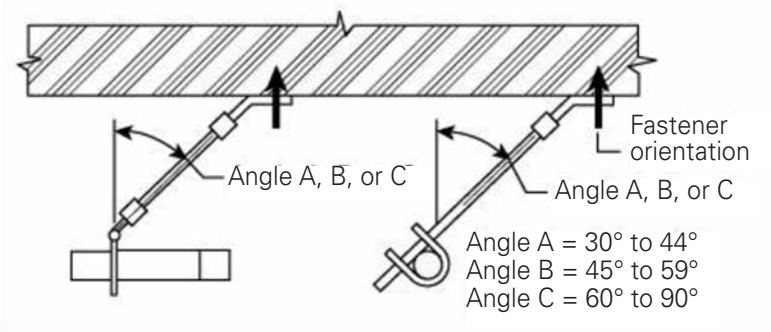
Wood-Knocker™ or Wood-Knocker II+™ in 6000 psi Normal Weight Cracked Concrete (lbs.) [1,2,3]

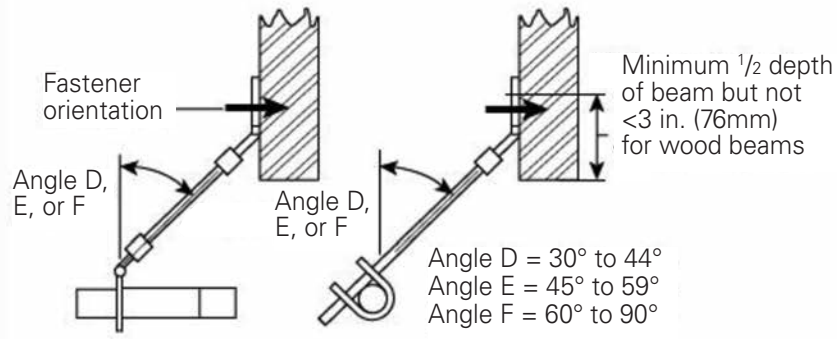
Tolco Figure 910

Dia. (in.)	Embedment (in.)	A P_r 3.275	B P_r 1.156	C P_r 1.739	D P_r 1.461	E P_r 1.850	F P_r 2.895	G P_r 3.478	H P_r 2.459	I P_r 2.008
3/8	2	178	305	255	196	247	230	127	178	221
1/2	2	212	421	332	284	319	262	166	233	287
5/8	2	226	477	365	330	350	262	182	257	316
3/4	2	226	477	365	330	350	262	182	257	316

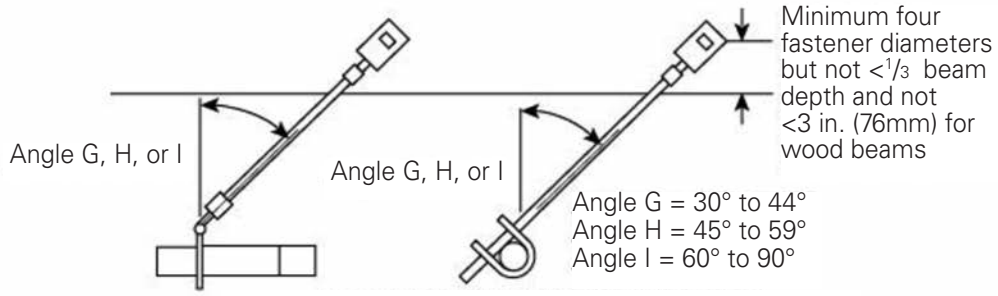
[1] Values calculated in accordance with ASCE 7-10 See ICC-ESR 3657 for complete product installation information
[2] Contact Eaton B-Line for design assumptions used in developing the above table.
[3] Anchor capacities increased by a factor of 1.2 per ASCE 7-10 Section 12.4.3.3
A thru I corresponds to fastener orientation (shown on page AL21) from Table Figure 9.3.5.12.1 NFPA 13 2016.

Figure 9.3.5.12.1
NFPA 13 2016





Load Perpendicular to Structural Member



Load Parallel to Structural Member

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