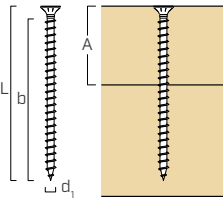
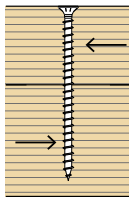
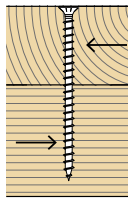
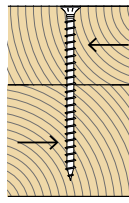
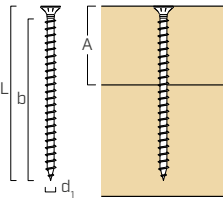
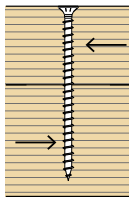
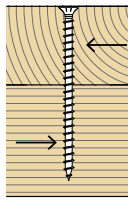
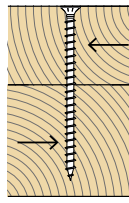


REFERENCE LATERAL DESIGN VALUES (Z) | WOOD-TO-WOOD

geometry					$Z_{ }$				$Z_{\perp/ }$				$Z_{\perp}$			
																
d_1	L		b	A	G				G				G			
					0.35	0.42	0.49	0.55	0.35	0.42	0.49	0.55	0.35	0.42	0.49	0.55
[mm] [in]	[mm]	[in]	[in]	[in]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]
9 0.36	100	4	3 1/2	1 15/16	154	216	286	345	123	173	229	276	123	173	229	276
	120	4 3/4	4 3/8	2 3/8	187	258	313	348	149	206	250	278	149	206	250	278
	140	5 1/2	5 1/8	2 3/4	219	272	313	348	175	217	250	278	175	217	250	278
	160	6 1/4	6	3 1/8	230	272	313	348	184	217	250	278	184	217	250	278
	180	7 1/8	6 3/4	3 1/2	230	272	313	348	184	217	250	278	184	217	250	278
	200	8	7 1/2	4	230	272	313	348	184	217	250	278	184	217	250	278
	220	8 5/8	8 1/4	4 3/8	230	272	313	348	184	217	250	278	184	217	250	278
	240	9 1/2	9 1/16	4 3/4	230	272	313	348	184	217	250	278	184	217	250	278
	260	10 1/4	10	5 1/8	230	272	313	348	184	217	250	278	184	217	250	278
	280	11	10 5/8	5 1/2	230	272	313	348	184	217	250	278	184	217	250	278
	300	11 3/4	11 7/16	6	230	272	313	348	184	217	250	278	184	217	250	278
	320	12 5/8	12 3/16	6 1/4	230	272	313	348	184	217	250	278	184	217	250	278
	340	13 3/8	13	6 3/4	230	272	313	348	184	217	250	278	184	217	250	278
	360	14 1/4	13 3/4	7 1/8	230	272	313	348	184	217	250	278	184	217	250	278
	380	15	14 9/16	7 1/2	230	272	313	348	184	217	250	278	184	217	250	278
	400	15 3/4	15 3/8	8	230	272	313	348	184	217	250	278	184	217	250	278
	440	17 1/4	16 15/16	8 5/8	230	272	313	348	184	217	250	278	184	217	250	278
	480	19	18 1/2	9 1/2	230	272	313	348	184	217	250	278	184	217	250	278
11 0.44	520	20 1/2	20 1/16	10 1/4	230	272	313	348	184	217	250	278	184	217	250	278
	560	22	21 5/8	11	230	272	313	348	184	217	250	278	184	217	250	278
	600	23 5/8	23 1/4	11 3/4	230	272	313	348	184	217	250	278	184	217	250	278
	80	3 1/8	2 3/4	1 9/16	173	207	242	271	112	140	169	194	92	120	150	177
	100	4	3 1/2	1 15/16	218	262	306	343	143	178	215	247	116	152	190	224
	125	4 15/16	4 1/2	2 3/8	276	331	372	394	182	227	273	299	147	191	239	283
	150	6	5 1/2	2 15/16	314	344	372	394	219	252	278	299	178	232	262	285
	175	6 7/8	6 1/2	3 3/8	314	344	372	394	225	252	278	299	205	234	262	285
	200	8	7 1/2	4	314	344	372	394	225	252	278	299	205	234	262	285
	225	8 7/8	8 7/16	4 3/8	314	344	372	394	225	252	278	299	205	234	262	285
	250	10	9 1/2	4 15/16	314	344	372	394	225	252	278	299	205	234	262	285
	275	10 7/8	10 7/16	5 5/16	314	344	372	394	225	252	278	299	205	234	262	285
	300	11 3/4	11 7/16	6	314	344	372	394	225	252	278	299	205	234	262	285
	325	12 3/4	12 3/8	6 1/4	314	344	372	394	225	252	278	299	205	234	262	285
	350	13 3/4	13 3/8	6 7/8	314	344	372	394	225	252	278	299	205	234	262	285
	375	14 3/4	14 3/8	7 1/4	314	344	372	394	225	252	278	299	205	234	262	285
	400	15 3/4	15 3/8	8	314	344	372	394	225	252	278	299	205	234	262	285
	425	16 3/4	16 5/16	8 1/4	314	344	372	394	225	252	278	299	205	234	262	285
	450	17 3/4	17 1/4	8 7/8	314	344	372	394	225	252	278	299	205	234	262	285
	475	18 11/16	18 5/16	9 1/4	314	344	372	394	225	252	278	299	205	234	262	285
	500	19 3/4	19 5/16	10	314	344	372	394	225	252	278	299	205	234	262	285
	525	20 11/16	20 1/4	10 1/4	314	344	372	394	225	252	278	299	205	234	262	285
	550	21 5/8	21 1/4	10 7/8	314	344	372	394	225	252	278	299	205	234	262	285
	575	22 5/8	22 1/4	11 1/4	314	344	372	394	225	252	278	299	205	234	262	285
	600	23 5/8	23 1/4	11 3/4	314	344	372	394	225	252	278	299	205	234	262	285
	650	25 9/16	24 13/16	12 3/4	314	344	372	394	225	252	278	299	205	234	262	285
	700	27 1/2	26 3/4	13 3/4	314	344	372	394	225	252	278	299	205	234	262	285
	750	29 1/2	26 3/4	14 3/4	314	344	372	394	225	252	278	299	205	234	262	285
	800	31 1/2	30 11/16	15 3/4	314	344	372	394	225	252	278	299	205	234	262	285
	850	33 7/16	32 11/16	16 3/4	314	344	372	394	225	252	278	299	205	234	262	285
	900	35 1/2	34 5/8	17 3/4	314	344	372	394	225	252	278	299	205	234	262	285
	950	37 3/8	36 5/8	18 11/16	314	344	372	394	225	252	278	299	205	234	262	285
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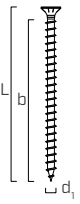
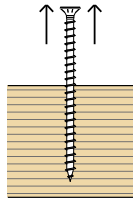
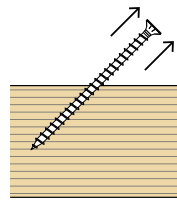
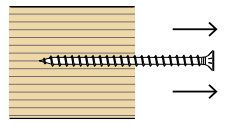
NOTES and GENERAL PRINCIPLES on page 205.

REFERENCE LATERAL DESIGN VALUES (Z) | WOOD-TO-WOOD

geometry					$Z_{ }$				$Z_{\perp/ }$				$Z_{\perp}$			
																
d_1	L	b	A		G				G				G			
[mm] [in]	[mm]	[in]	[in]	[in]	0.35	0.42	0.49	0.55	0.35	0.42	0.49	0.55	0.35	0.42	0.49	0.55
13 0.52	80	3 1/8	2 3/4	1 9/16	207	248	289	325	127	159	192	221	100	130	163	193
	100	4	3 1/2	1 15/16	262	314	367	412	163	203	245	282	127	165	207	244
	150	6	5 1/2	2 15/16	402	482	532	564	251	313	377	416	195	253	317	375
	200	8	7 1/2	4	450	493	532	564	312	351	387	416	262	319	357	388
	250	10	9 1/2	4 15/16	450	493	532	564	312	351	387	416	280	319	357	388
	300	11 3/4	11	6	450	493	532	564	312	351	387	416	280	319	357	388
	350	13 3/4	13	6 7/8	450	493	532	564	312	351	387	416	280	319	357	388
	400	15 3/4	15	8	450	493	532	564	312	351	387	416	280	319	357	388
	450	17 3/4	16 15/16	8 7/8	450	493	532	564	312	351	387	416	280	319	357	388
	500	19 3/4	19	10	450	493	532	564	312	351	387	416	280	319	357	388
	550	21 5/8	20 7/8	10 7/8	450	493	532	564	312	351	387	416	280	319	357	388
	600	23 5/8	22 13/16	11 3/4	450	493	532	564	312	351	387	416	280	319	357	388
	650	25 9/16	24 13/16	12 3/4	450	493	532	564	312	351	387	416	280	319	357	388
	700	27 1/2	26 3/4	13 3/4	450	493	532	564	312	351	387	416	280	319	357	388
	750	29 1/2	28 3/4	14 3/4	450	493	532	564	312	351	387	416	280	319	357	388
	800	31 1/2	30 11/16	15 3/4	450	493	532	564	312	351	387	416	280	319	357	388
	850	33 7/16	32 11/16	16 3/4	450	493	532	564	312	351	387	416	280	319	357	388
	900	35 1/2	34 5/8	17 3/4	450	493	532	564	312	351	387	416	280	319	357	388
	950	37 3/8	36 5/8	18 11/16	450	493	532	564	312	351	387	416	280	319	357	388
	1000	39 3/8	38 9/16	19 3/4	450	493	532	564	312	351	387	416	280	319	357	388
15 0.60	1100	43 5/16	42 1/2	21 5/8	450	493	532	564	312	351	387	416	280	319	357	388
	1200	47 1/4	46 7/16	23 5/8	450	493	532	564	312	351	387	416	280	319	357	388
	1300	51 3/16	50 3/8	25 9/16	450	493	532	564	312	351	387	416	280	319	357	388
	1400	55 1/8	54 5/16	27 1/2	450	493	532	564	312	351	387	416	280	319	357	388
	1500	59 1/16	58 1/4	29 1/2	450	493	532	564	312	351	387	416	280	319	357	388
	600	23 5/8	22 13/16	11 3/4	521	571	617	653	355	399	441	474	315	359	402	437
	700	27 1/2	26 3/4	13 3/4	521	571	617	653	355	399	441	474	315	359	402	437
	800	31 1/2	30 11/16	15 3/4	521	571	617	653	355	399	441	474	315	359	402	437
	900	35 1/2	34 5/8	17 3/4	521	571	617	653	355	399	441	474	315	359	402	437
	1000	39 3/8	38 9/16	19 3/4	521	571	617	653	355	399	441	474	315	359	402	437
15 0.60	1200	47 1/4	42 1/2	23 5/8	521	571	617	653	355	399	441	474	315	359	402	437
	1400	55 1/8	54 5/16	27 1/2	521	571	617	653	355	399	441	474	315	359	402	437
	1600	63	62 3/16	31 1/2	521	571	617	653	355	399	441	474	315	359	402	437
	1800	70 7/8	70 1/16	35 1/2	521	571	617	653	355	399	441	474	315	359	402	437
	2000	78 3/4	77 15/16	39 3/8	521	571	617	653	355	399	441	474	315	359	402	437

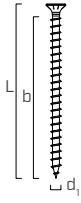
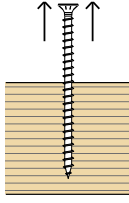
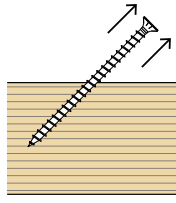
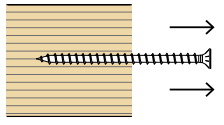
NOTES and GENERAL PRINCIPLES on page 205.

■ THREAD WITHDRAWAL (W) | WOOD

geometry				thread withdrawal $\alpha = 90^\circ$				thread withdrawal $\alpha = 45^\circ$				thread withdrawal $\alpha = 0^\circ$			
															
d ₁	L		b	G				G				G			
	[mm] [in]	[mm] [in]	[in]	0.35 [lbf]	0.42 [lbf]	0.49 [lbf]	0.55 [lbf]	0.35 [lbf]	0.42 [lbf]	0.49 [lbf]	0.55 [lbf]	0.35 [lbf]	0.42 [lbf]	0.49 [lbf]	0.55 [lbf]
9 0.36	100	4	3 1/2	612	702	813	893	557	638	740	813	184	210	244	268
	120	4 3/4	4 3/8	763	875	1014	1113	695	796	923	1013	229	262	304	334
	140	5 1/2	5 1/8	915	1048	1215	1334	832	954	1105	1214	274	314	364	400
	160	6 1/4	6	1066	1221	1416	1554	970	1111	1288	1414	320	366	425	466
	180	7 1/8	6 3/4	1217	1394	1616	1775	1107	1269	1471	1615	365	418	485	532
	200	8	7 1/2	1368	1568	1817	1995	1245	1427	1654	1816	410	470	545	599
	220	8 5/8	8 1/4	1519	1741	2018	2216	1383	1584	1836	2016	456	522	605	665
	240	9 1/2	9 1/16	1671	1914	2219	2436	1520	1742	2019	2217	501	574	666	731
	260	10 1/4	10	1822	2087	2419	2657	1658	1900	2202	2418	547	626	726	797
	280	11	10 5/8	1973	2261	2620	2877	1795	2057	2384	2618	592	678	786	863
	300	11 3/4	11 7/16	2124	2434	2821	3098	1933	2215	2567	2819	637	730	846	929
	320	12 5/8	12 3/16	2275	2607	3022	3318	2071	2372	2750	3019	683	782	907	995
	340	13 3/8	13	2426	2780	3223	3539	2208	2530	2933	3220	728	834	967	1062
	360	14 1/4	13 3/4	2578	2954	3423	3759	2346	2688	3115	3421	773	886	1027	1128
	380	15	14 9/16	2729	3127	3624	3980	2483	2845	3298	3621	819	938	1087	1194
	400	15 3/4	15 3/8	2880	3300	3825	4200	2621	3003	3481	3822	864	990	1148	1260
	440	17 1/4	16 15/16	3182	3646	4227	4641	2896	3318	3846	4223	955	1094	1268	1392
	480	19	18 1/2	3485	3993	4628	5082	3171	3634	4212	4625	1045	1198	1388	1525
520	20 1/2	20 1/16	3787	4339	5030	5523	3446	3949	4577	5026	1136	1302	1509	1657	
560	22	21 5/8	4089	4686	5431	5964	3721	4264	4942	5427	1227	1406	1629	1789	
600	23 5/8	23 1/4	4392	5032	5833	6405	3997	4579	5308	5828	1318	1510	1750	1921	
11 0.44	80	3 1/8 ⁽¹⁾	2 3/4	481	557	632	692	438	507	575	630	144	167	190	208
	100	4 ⁽²⁾	3 1/2	644	746	846	927	586	679	770	843	193	224	254	278
	125	4 15/16	4 1/2	848	983	1114	1220	771	894	1013	1110	254	295	334	366
	150	6	5 1/2	1051	1219	1381	1513	957	1109	1257	1377	315	366	414	454
	175	6 7/8	6 1/2	1255	1455	1649	1807	1142	1324	1501	1644	377	437	495	542
	200	8	7 1/2	1459	1691	1917	2100	1327	1539	1744	1911	438	507	575	630
	225	8 7/8	8 7/16	1663	1928	2185	2393	1513	1754	1988	2178	499	578	655	718
	250	10	9 1/2	1866	2164	2452	2687	1698	1969	2232	2445	560	649	736	806
	275	10 7/8	10 7/16	2070	2400	2720	2980	1884	2184	2475	2712	621	720	816	894
	300	11 3/4	11 7/16	2274	2636	2988	3273	2069	2399	2719	2979	682	791	896	982
	325	12 3/4	12 3/8	2477	2872	3255	3567	2255	2614	2962	3246	743	862	977	1070
	350	13 3/4	13 3/8	2681	3109	3523	3860	2440	2829	3206	3513	804	933	1057	1158
	375	14 3/4	14 3/8	2885	3345	3791	4153	2625	3044	3450	3779	865	1003	1137	1246
	400	15 3/4	15 3/8	3089	3581	4059	4447	2811	3259	3693	4046	927	1074	1218	1334
	425	16 3/4	16 5/16	3292	3817	4326	4740	2996	3474	3937	4313	988	1145	1298	1422
	450	17 3/4	17 1/4	3496	4054	4594	5033	3182	3689	4181	4580	1049	1216	1378	1510
	475	18 11/16	18 5/16	3700	4290	4862	5326	3367	3904	4424	4847	1110	1287	1459	1598
	500	19 3/4	19 5/16	3904	4526	5129	5620	3552	4119	4668	5114	1171	1358	1539	1686
	525	20 11/16	20 1/4	4107	4762	5397	5913	3738	4334	4911	5381	1232	1429	1619	1774
	550	21 5/8	21 1/4	4311	4998	5665	6206	3923	4549	5155	5648	1293	1500	1699	1862
	575	22 5/8	22 1/4	4515	5235	5933	6500	4109	4764	5399	5915	1354	1570	1780	1950
	600	23 5/8	23 1/4	4719	5471	6200	6793	4294	4978	5642	6182	1416	1641	1860	2038
	650	25 9/16	24 13/16	5045	5849	6629	7262	4591	5322	6032	6609	1513	1755	1989	2179
	700	27 1/2	26 3/4	5452	6321	7164	7849	4961	5752	6519	7142	1636	1896	2149	2355
	750	29 1/2	26 3/4	5452	6321	7164	7849	4961	5752	6519	7142	1636	1896	2149	2355
	800	31 1/2	30 11/16	6267	7266	8235	9022	5703	6612	7494	8210	1880	2180	2470	2707
	850	33 7/16	32 11/16	6675	7739	8770	9609	6074	7042	7981	8744	2002	2322	2631	2883
900	35 1/2	34 5/8	7082	8211	9306	10195	6445	7472	8468	9278	2125	2463	2792	3059	
950	37 3/8	36 5/8	7489	8683	9841	10782	6815	7902	8956	9812	2247	2605	2952	3235	
1000	39 3/8	38 9/16	7897	9156	10377	11369	7186	8332	9443	10345	2369	2747	3113	3411	

NOTES and GENERAL PRINCIPLES on page 205.

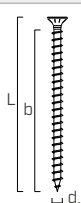
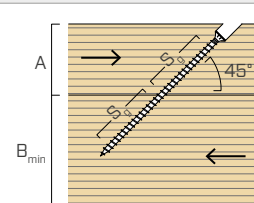
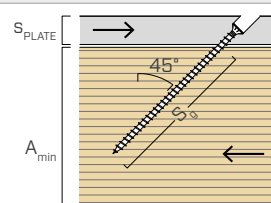
THREAD WITHDRAWAL (W) | WOOD

geometry				thread withdrawal $\alpha = 90^\circ$				thread withdrawal $\alpha = 45^\circ$				thread withdrawal $\alpha = 0^\circ$			
															
d_1	L		b	G				G				G			
				0.35	0.42	0.49	0.55	0.35	0.42	0.49	0.55	0.35	0.42	0.49	0.55
[mm] [in]	[mm]	[in]	[in]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]	[lbf]
13 0.52	80	3 1/8	2 3/4	527	610	691	759	480	555	629	690	158	183	207	228
	100	4	3 1/2	712	825	934	1025	648	750	850	932	214	247	280	307
	150	6	5 1/2	1175	1360	1540	1690	1069	1238	1401	1538	353	408	462	507
	200	8	7 1/2	1638	1895	2146	2355	1490	1725	1953	2143	491	569	644	707
	250	10	9 1/2	2100	2431	2753	3021	1911	2212	2505	2749	630	729	826	906
	300	11 3/4	11	2470	2859	3238	3553	2248	2602	2946	3233	741	858	971	1066
	350	13 3/4	13	2933	3395	3844	4218	2669	3089	3498	3839	880	1018	1153	1266
	400	15 3/4	15	3395	3930	4450	4884	3090	3576	4050	4444	1019	1179	1335	1465
	450	17 3/4	16 15/16	3858	4466	5057	5549	3511	4064	4601	5050	1157	1340	1517	1665
	500	19 3/4	19	4321	5001	5663	6214	3932	4551	5153	5655	1296	1500	1699	1864
	550	21 5/8	20 7/8	4783	5536	6269	6880	4353	5038	5705	6261	1435	1661	1881	2064
	600	23 5/8	22 13/16	5246	6072	6875	7545	4774	5525	6257	6866	1574	1822	2063	2264
	650	25 9/16	24 13/16	5708	6607	7482	8210	5195	6013	6808	7472	1713	1982	2245	2463
	700	27 1/2	26 3/4	6171	7143	8088	8876	5616	6500	7360	8077	1851	2143	2426	2663
	750	29 1/2	28 3/4	6634	7678	8694	9541	6037	6987	7912	8682	1990	2303	2608	2862
	800	31 1/2	30 11/16	7096	8214	9301	10207	6458	7474	8464	9288	2129	2464	2790	3062
	850	33 7/16	32 11/16	7559	8749	9907	10872	6879	7962	9015	9893	2268	2625	2972	3262
	900	35 1/2	34 5/8	8021	9284	10513	11537	7300	8449	9567	10499	2406	2785	3154	3461
15 0.60	950	37 3/8	36 5/8	8484	9820	11120	12203	7720	8936	10119	11104	2545	2946	3336	3661
	1000	39 3/8	38 9/16	8947	10355	11726	12868	8141	9423	10671	11710	2684	3107	3518	3860
	1100	43 5/16	42 1/2	9872	11426	12938	14199	8983	10398	11774	12921	2962	3428	3882	4260
	1200	47 1/4	46 7/16	10797	12497	14151	15529	9825	11372	12877	14132	3239	3749	4245	4659
	1300	51 3/16	50 3/8	11722	13568	15364	16860	10667	12347	13981	15343	3517	4070	4609	5058
	1400	55 1/8	54 5/16	12647	14639	16576	18191	11509	13321	15084	16554	3794	4392	4973	5457
	1500	59 1/16	58 1/4	13573	15710	17789	19521	12351	14296	16188	17765	4072	4713	5337	5856
	600	23 5/8	22 13/16	5672	6563	7424	8143	5162	5972	6756	7410	1702	1969	2227	2443
	700	27 1/2	26 3/4	6676	7725	8738	9584	6075	7029	7952	8722	2003	2317	2622	2875
	800	31 1/2	30 11/16	7680	8886	10052	11026	6989	8086	9148	10033	2304	2666	3016	3308
	900	35 1/2	34 5/8	8684	10048	11366	12467	7902	9143	10343	11345	2605	3014	3410	3740
	1000	39 3/8	38 9/16	9688	11209	12680	13908	8816	10200	11539	12656	2906	3363	3804	4172
	1200	47 1/4	42 1/2	10692	12371	13995	15349	9730	11258	12735	13968	3208	3711	4198	4605
	1400	55 1/8	54 5/16	13704	15856	17937	19673	12470	14429	16322	17903	4111	4757	5381	5902
	1600	63	62 3/16	15712	18179	20565	22556	14298	16543	18714	20526	4713	5454	6169	6767
	1800	70 7/8	70 1/16	17719	20502	23193	25438	16125	18657	21105	23149	5316	6151	6958	7631
	2000	78 3/4	77 15/16	19727	22825	25821	28321	17952	20771	23497	25772	5918	6848	7746	8496

(1) The embedded thread length does not comply with the minimum requirement of ESR-4645 (6 times the outer thread diameter for screws installed at 90° to the grain and 8 times the outer thread diameter for screws installed at an angle $0^\circ \leq \alpha < 90^\circ$ to the grain).

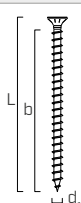
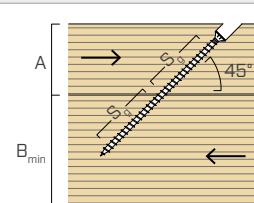
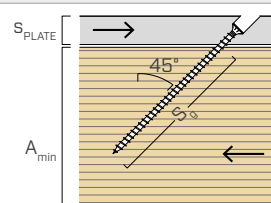
(2) The embedded thread length does not comply with the minimum requirement of ESR-4645 (8 times the outer thread diameter for screws installed at an angle $0^\circ \leq \alpha < 90^\circ$ to the grain).

SLIDING RESISTANCE (R_v) | WOOD

geometry				R_v								R_v							
																			
d_1	L	b		S_g	A	B_{min}	G					S_{plate}	S_g	A_{min}	G				
[mm] [in]	[mm] [in]	[in]	[in]	[in]	[in]	[in]	0.35 [lbf]	0.42 [lbf]	0.49 [lbf]	0.55 [lbf]		[in]	[in]	[in]	0.35 [lbf]	0.42 [lbf]	0.49 [lbf]	0.55 [lbf]	
9 0.36	100	4 ⁽¹⁾	3 1/2	1 3/8	1 9/16	2 1/8	170	195	226	248	5/8		2 9/16	3 1/2	317	363	420	462	
	120	4 3/4 ⁽¹⁾	4 3/8	1 3/4	1 13/16	2 3/8	216	248	287	315			3 3/8	4 1/8	417	478	554	608	
	140	5 1/2 ⁽¹⁾	5 1/8	2 3/16	2 1/8	2 11/16	270	310	359	394			4 1/8	4 5/8	510	584	677	743	
	160	6 1/4 ⁽¹⁾	6	2 9/16	2 3/8	3	317	363	420	462			4 15/16	5 3/16	610	699	810	890	
	180	7 1/8	6 3/4	2 15/16	2 11/16	3 1/4	363	416	482	529			5 11/16	5 3/4	703	805	933	1025	
	200	8	7 1/2	3 3/8	2 15/16	3 1/2	417	478	554	608			6 1/2	6 1/4	803	920	1067	1171	
	220	8 5/8	8 1/4	3 3/4	3 1/4	3 13/16	463	531	615	676			7 1/4	6 7/8	896	1026	1190	1306	
	240	9 1/2	9 1/16	4 1/8	3 1/2	4 1/8	510	584	677	743			8 1/16	7 7/16	996	1141	1323	1453	
	260	10 1/4	10	4 1/2	3 3/4	4 3/8	556	637	738	811			8 7/8	8 1/16	1096	1256	1456	1599	
	280	11	10 5/8	4 15/16	4 1/16	4 5/8	610	699	810	890			9 5/8	8 5/8	1189	1363	1579	1734	
	300	11 3/4	11 7/16	5 5/16	4 3/8	4 15/16	656	752	872	957			10 7/16	9 1/4	1290	1478	1713	1881	
	320	12 5/8	12 3/16	5 11/16	4 5/8	5 3/16	703	805	933	1025			11 1/4	9 5/8	1390	1593	1846	2027	
	340	13 3/8	13	6 1/8	4 7/8	5 1/2	757	867	1005	1104			12	10 1/4	1483	1699	1969	2162	
	360	14 1/4	13 3/4	6 1/2	5 3/16	5 3/4	803	920	1067	1171			12 3/4	10 7/8	1575	1805	2092	2297	
	380	15	14 9/16	6 7/8	5 7/16	6	849	973	1128	1239			13 9/16	11 7/16	1676	1920	2225	2444	
	400	15 3/4	15 3/8	7 1/4	5 11/16	6 1/4	896	1026	1190	1306			14 3/8	12	1776	2035	2359	2590	
	440	17 1/4	16 15/16	8 1/16	6 1/4	6 7/8	996	1141	1323	1453			15 15/16	13	1969	2256	2615	2871	
	480	19	18 1/2	8 7/8	6 7/8	7 7/16	1096	1256	1456	1599			17 1/2	14 1/4	2162	2477	2871	3153	
	520	20 1/2	20 1/16	9 5/8	7 3/8	8 1/16	1189	1363	1579	1734			19 1/8	15 3/8	2363	2707	3138	3446	
11 0.44	560	22	21 5/8	10 7/16	8 1/16	8 5/8	1290	1478	1713	1881	3/4		20 11/16	16 5/16	2556	2929	3394	3727	
	600	23 5/8	23 1/4	11 1/4	8 5/8	9 1/4	1390	1593	1846	2027			22 1/4	17 1/2	2749	3150	3651	4009	
	80	3 1/8 ⁽¹⁾	2 3/4	1	1 1/4	1 7/8	133	154	175	192			1 9/16	3	208	241	273	300	
	100	4 ⁽¹⁾	3 1/2	1 3/8	1 9/16	2 1/8	183	212	241	264			2 3/8	3 1/2	316	367	416	455	
	125	4 15/16 ⁽¹⁾	4 1/2	1 7/8	1 7/8	2 1/2	250	290	328	360			3 3/8	4 3/16	450	521	591	647	
	150	6 ⁽¹⁾	5 1/2	2 3/8	2 1/4	2 13/16	316	367	416	455			4 3/8	4 15/16	583	676	766	839	
	175	6 7/8 ⁽¹⁾	6 1/2	2 13/16	2 5/8	3 3/16	375	434	492	539			5 5/16	5 5/8	708	820	930	1019	
	200	8 ⁽¹⁾	7 1/2	3 3/8	2 15/16	3 1/2	450	521	591	647			6 1/4	6 1/4	832	965	1094	1198	
	225	8 7/8	8 7/16	3 13/16	3 5/16	3 7/8	508	589	667	731			7 1/4	7	966	1120	1269	1390	
	250	10	9 1/2	4 3/8	3 5/8	4 3/16	583	676	766	839			8 1/4	7 11/16	1099	1274	1444	1582	
	275	10 7/8	10 7/16	4 13/16	4	4 9/16	641	743	842	923			9 1/4	8 7/16	1232	1428	1619	1774	
	300	11 3/4	11 7/16	5 5/16	4 3/8	4 15/16	708	820	930	1019			10 1/4	9 1/4	1365	1583	1794	1965	
	325	12 3/4	12 3/8	5 13/16	4 11/16	5 1/4	774	898	1017	1115			11 1/4	10	1498	1737	1969	2157	
	350	13 3/4	13 3/8	6 1/4	5 1/16	5 5/8	832	965	1094	1198			12 3/16	10 5/8	1623	1882	2133	2337	
	375	14 3/4	14 3/8	6 3/4	5 3/8	6	899	1042	1181	1294			13 3/16	11 1/4	1757	2037	2308	2529	
	400	15 3/4	15 3/8	7 1/4	5 11/16	6 1/4	966	1120	1269	1390			14 1/4	12	1898	2201	2494	2732	
	425	16 3/4	16 5/16	7 3/4	6 1/16	6 5/8	1032	1197	1356	1486			15 3/16	12 5/8	2023	2345	2658	2912	
	450	17 3/4	17 1/4	8 1/4	6 7/16	7	1099	1274	1444	1582			16 1/8	13 3/8	2148	2490	2822	3092	
	475	18 11/16	18 5/16	8 5/8	6 3/4	7 3/8	1149	1332	1510	1654			17 1/8	14	2281	2645	2997	3284	
	500	19 3/4	19 5/16	9 1/4	7 1/8	7 11/16	1232	1428	1619	1774			18 1/8	14 3/4	2414	2799	3172	3476	
	525	20 11/16	20 1/4	9 5/8	7 1/2	8 1/16	1282	1486	1685	1846			19 1/8	15 3/8	2547	2954	3347	3667	
	550	21 5/8	21 1/4	10 1/4	7 13/16	8 7/16	1365	1583	1794	1965			20 1/16	16 1/8	2672	3098	3511	3847	
	575	22 5/8	22 1/4	10 5/8	8 1/4	8 7/8	1415	1641	1860	2037			21 1/16	16 15/16	2805	3253	3686	4039	
	600	23 5/8	23 1/4	11 1/4	8 5/8	9 1/4	1498	1737	1969	2157			22	17 1/2	2930	3398	3851	4219	
	650	25 9/16	24 13/16	11 3/4	9 1/4	10	1565	1815	2057	2253			-	-	-	-	-	-	
	700	27 1/2	26 3/4	12 3/4	10 1/16	10 5/8	1698	1969	2232	2445			-	-	-	-	-	-	
	750	29 1/2	26 3/4	13 3/4	10 5/8	11 1/4	1831	2123	2407	2637			-	-	-	-	-	-	
	800	31 1/2	30 11/16	14 3/4	11 7/16	12	1965	2278	2582	2828			-	-	-	-	-	-	
	850	33 7/16	32 11/16	15 3/4	12	12 5/8	2098	2432	2757	3020			-	-	-	-	-	-	
	900	35 1/2	34 5/8	16 3/4	12 3/4	13 3/8	2231	2587	2932	3212			-	-	-	-	-	-	
	950	37 3/8	36 5/8	17 3/4	13 3/8	14	2364	2741	3107	3404			-	-	-	-	-	-	
	1000	39 3/8	38 9/16	18 11/16	14 1/4	14 3/4	2489	2886	3271	3583			-	-	-	-	-	-	

NOTES and GENERAL PRINCIPLES on page 205.

SLIDING RESISTANCE (R_v) | WOOD

geometry				R_v								R_v							
																			
d_1	L	b		S_g	A	B_{min}	G					S_{PLATE}	S_g	A_{min}	G				
[mm] [in]	[mm] [in]	[in]	[in]	[in]	[in]	[in]	0.35 [lbf]	0.42 [lbf]	0.49 [lbf]	0.55 [lbf]		[in]	[in]	[in]	0.35 [lbf]	0.42 [lbf]	0.49 [lbf]	0.55 [lbf]	
13 0.52	80	3 1/8 ⁽¹⁾	2 3/4	1	1 1/4	1 7/8	151	175	198	217	7/8		1 3/8	3	208	241	273	299	
	100	4 ⁽¹⁾	3 1/2	1 3/8	1 9/16	2 1/8	208	241	273	299			2 3/16	3 1/2	331	383	434	476	
	150	6 ⁽¹⁾	5 1/2	2 3/8	2 1/4	2 13/16	359	416	471	517			4 1/8	4 15/16	624	722	818	897	
	200	8 ⁽¹⁾	7 1/2	3 3/8	2 15/16	3 1/2	510	591	669	734			6 1/8	6 1/4	926	1072	1214	1332	
	250	10	9 1/2	4 3/8	3 5/8	4 3/16	662	766	867	952			8 1/16	7 11/16	1219	1411	1598	1754	
	300	11 3/4	11	5 5/16	4 3/8	4 15/16	803	930	1053	1155			10 1/16	9 1/4	1522	1761	1994	2189	
	350	13 3/4	13	6 1/4	5 1/16	5 5/8	945	1094	1239	1359			12	10 5/8	1815	2100	2378	2610	
	400	15 3/4	15	7 1/4	5 11/16	6 1/4	1096	1269	1437	1577			14	12	2117	2450	2775	3045	
	450	17 3/4	16 15/16	8 1/4	6 7/16	7	1248	1444	1635	1794			15 15/16	13 3/8	2410	2789	3159	3466	
	500	19 3/4	19	9 1/4	7 1/8	7 11/16	1399	1619	1833	2012			17 15/16	14 3/4	2712	3139	3555	3901	
	550	21 5/8	20 7/8	10 1/4	7 13/16	8 7/16	1550	1794	2031	2229			19 7/8	16 1/8	3005	3479	3939	4323	
	600	23 5/8	22 13/16	11 1/4	8 5/8	9 1/4	1701	1969	2230	2447			21 7/8	17 1/2	3308	3829	4335	4758	
	650	25 9/16	24 13/16	11 3/4	9 1/4	10	1777	2057	2329	2556			-	-	-	-	-	-	
	700	27 1/2	26 3/4	12 3/4	10 1/16	10 5/8	1928	2232	2527	2773			-	-	-	-	-	-	
	750	29 1/2	28 3/4	13 3/4	10 5/8	11 1/4	2079	2407	2725	2991			-	-	-	-	-	-	
	800	31 1/2	30 11/16	14 3/4	11 7/16	12	2230	2582	2923	3208			-	-	-	-	-	-	
	850	33 7/16	32 11/16	15 3/4	12	12 5/8	2382	2757	3121	3425			-	-	-	-	-	-	
	900	35 1/2	34 5/8	16 3/4	12 3/4	13 3/8	2533	2932	3320	3643			-	-	-	-	-	-	
	950	37 3/8	36 5/8	17 3/4	13 3/8	14	2684	3107	3518	3860			-	-	-	-	-	-	
15 0.60	1000	39 3/8	38 9/16	18 11/16	14 1/4	14 3/4	2826	3271	3704	4064	-		-	-	-	-	-	-	
	1100	43 5/16	42 1/2	20 11/16	15 9/16	16 1/8	3128	3621	4100	4499			-	-	-	-	-	-	
	1200	47 1/4	46 7/16	22 5/8	16 15/16	17 1/2	3421	3960	4484	4921			-	-	-	-	-	-	
	1300	51 3/16	50 3/8	24 5/8	18 5/16	19	3724	4310	4880	5356			-	-	-	-	-	-	
	1400	55 1/8	54 5/16	26 9/16	19 3/4	20 1/4	4017	4649	5264	5777			-	-	-	-	-	-	
	1500	59 1/16	58 1/4	28 9/16	21 1/16	21 5/8	4319	4999	5661	6212			-	-	-	-	-	-	
	600	23 5/8	22 13/16	11 1/4	8 5/8	9 1/4	1846	2136	2416	2650			-	-	-	-	-	-	
	700	27 1/2	26 3/4	12 3/4	10 1/16	10 5/8	2092	2421	2738	3003			-	-	-	-	-	-	
	800	31 1/2	30 11/16	14 3/4	11 7/16	12	2420	2800	3168	3475			-	-	-	-	-	-	
	900	35 1/2	34 5/8	16 3/4	12 3/4	13 3/8	2748	3180	3597	3946			-	-	-	-	-	-	
	1000	39 3/8	38 9/16	18 11/16	14 1/4	14 3/4	3066	3548	4013	4402			-	-	-	-	-	-	
	1200	47 1/4	42 1/2	22 5/8	16 15/16	17 1/2	3712	4295	4859	5330			-	-	-	-	-	-	
	1400	55 1/8	54 5/16	26 9/16	19 3/4	20 1/4	4358	5043	5705	6257			-	-	-	-	-	-	
	1600	63	62 3/16	30 1/2	22 7/16	23 1/16	5005	5790	6550	7185			-	-	-	-	-	-	
	1800	70 7/8	70 1/16	34 7/16	25 3/16	25 13/16	5651	6538	7396	8112			-	-	-	-	-	-	
	2000	78 3/4	77 15/16	38 3/8	28 1/8	28 3/4	6297	7286	8242	9040			-	-	-	-	-	-	

⁽¹⁾ The embedded thread length does not comply with the minimum requirement of ESR-4645 (8 times the outer thread diameter for screws installed at an angle $0^\circ \leq \alpha < 90^\circ$ to the grain).