

ROLOK®

ROLOK®

PILOT HOLES

INCH

MATERIAL THICKNESS	INCH FRACTION GAUGE	.020-.078		.063-.140		.125-.266		.250-.328		.313-.500	
		DRILL SIZE	INCH	DRILL SIZE	INCH	DRILL SIZE	INCH	DRILL SIZE	INCH	DRILL SIZE	INCH
2-56	Steel	48	.076	47	.079	47	.079				
	Aluminum	48	.076	47	.079	47	.079				
3-48	Steel	44	.086	43	.089	2.35mm	.093				
	Aluminum	44	.086	43	.089	2.35mm	.091				
4-40	Steel	40	.098	38	.102	37	.104				
	Aluminum	40	.098	39	.100	38	.102				
5-40	Steel	34	.111	33	.113	32	.116				
	Aluminum	35	.110	34	.111	33	.113	33	.113		
6-32	Steel	31	.120	31	.120	1/8	.125	30	.128		
	Aluminum	31	.120	31	.120	1/8	.125	1/8	.125		
8-32	Steel	27	.144	26	.147	25	.150	23	.154		
	Aluminum	27	.144	26	.147	25	.150	24	.152		
10-24	Steel			19	.166	11/64	.172	16	.177		
	Aluminum			19	.166	19	.166	18	.170		
10-32	Steel			17	.173	16	.177	15	.180		
	Aluminum			17	.173	17	.173	16	.177		
12-24	Steel			4.9mm	.193	8	.199	13/64	.203		
	Aluminum			11	.191	9	.196	8	.199	13/64	.203
1/4-20	Steel			7/32	.219	5.7mm	.224	1	.228	A	.234
	Aluminum			7/32	.219	2	.221	5.7mm	.224	I	.228
5/16-18	Steel			9/32	.281	9/32	.281	7.25mm	.285	L	.290
	Aluminum			9/32	.281	9/32	.281	7.25mm	.285	7.3mm	.287
3/8-16	Steel					11/32	.344	S	.348	9.0mm	.354
	Aluminum					R	.339	11/32	.344	S	.348
7/16-14	Steel							Y	.404	13/32	.406
	Aluminum							X	.397	10.2mm	.402
1/2-13	Steel							11.8mm	.465	15/32	.469
	Aluminum							11.8mm	.465	11.8mm	.465

mm-Millimeters

Drill sizes represent nearest available size to decimal figure.

METRIC

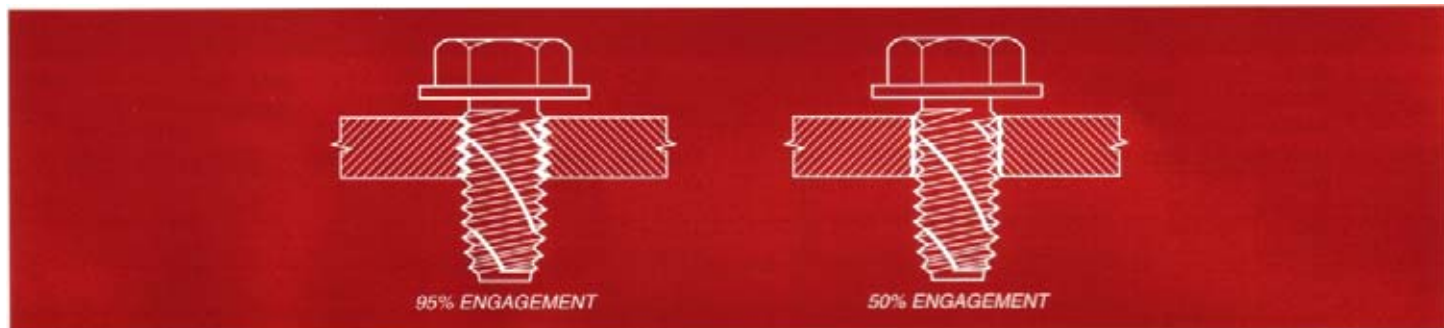
MATERIAL THICKNESS	mm FRACTION GAUGE	0.5-2.0		1.6-3.5		3.2-6.7		6.3-8.3		8.0-12.7	
		DRILL SIZE	mm	DRILL SIZE	mm	DRILL SIZE	mm	DRILL SIZE	mm	DRILL SIZE	mm
M2-0.4	Steel	1.95mm	1.95	2.0mm	2.00	2.05mm	2.05				
	Aluminum	1.95mm	1.95	2.0mm	2.00	2.05mm	2.05				
M2.5-0.45	Steel	2.25mm	2.25	2.3mm	2.30	42	2.37				
	Aluminum	2.25mm	2.25	2.3mm	2.30	2.35mm	2.35				
M3-0.5	Steel	36	2.71	2.8mm	2.80	34	2.82				
	Aluminum	36	2.71	7/64	2.78	2.8mm	2.80				
M3.5-0.6	Steel	1/8	3.18	3.2mm	3.20	30	3.26	3.3mm	3.30		
	Aluminum	1/8	3.18	3.2mm	3.20	3.2mm	3.20	30	3.26		
M4-0.7	Steel	28	3.57	27	3.66	3.7mm	3.70	26	3.73		
	Aluminum	28	3.57	27	3.66	3.7mm	3.70	3.7mm	3.70		
M4.5-0.75	Steel			21	4.04	4.2mm	4.20	4.25mm	4.25		
	Aluminum			21	4.04	4.1mm	4.10	4.2mm	4.20		
M5-0.8	Steel			15	4.57	4.7mm	4.70	3/16	4.76		
	Aluminum			15	4.57	15	4.57	4.7mm	4.70		
M6-1.0	Steel			5.4mm	5.40	5.5mm	5.50	7/32	5.56	5.7mm	5.70
	Aluminum			5.4mm	5.40	3	5.41	5.5mm	5.50	7/32	5.56
M7-1.0	Steel			6.4mm	6.40	6.5mm	6.50	F	6.53	G	6.63
	Aluminum			6.4mm	6.40	6.4mm	6.40	6.5mm	6.50	F	6.53
M8-1.25	Steel			7.3mm	7.30	L	7.37	7.4mm	7.40	7.5mm	7.50
	Aluminum			7.3mm	7.30	L	7.37	7.4mm	7.40	7.4mm	7.40
M10-1.5	Steel					9.2mm	9.20	U	9.35	3/8	9.53
	Aluminum					23/64	9.13	9.2mm	9.20	U	9.35
M12-1.75	Steel							11.0mm	11.00	7/16	11.11
	Aluminum							11.0mm	11.00	11.0mm	11.00

mm-Millimeters

Drill sizes represent nearest available size to decimal figure.

THREAD ROLLING ENGINEERING STANDARDS

THREAD ENGAGEMENT



HOLE DIAMETER (INCHES) FOR THREAD ENGAGEMENTS BY PERCENT

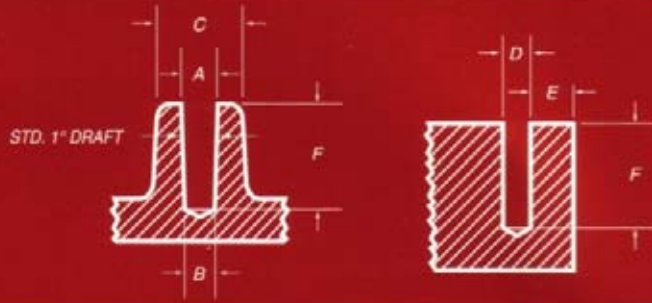
SCREW SIZE	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	45%	40%	35%
2-56	.0744	.0750	.0756	.0761	.0767	.0773	.0779	.0785	.0790	.0796	.0802	.0808	.0814	.0819
3-48	.0855	.0862	.0869	.0875	.0882	.0889	.0896	.0902	.0909	.0916	.0923	.0929	.0936	.0943
4-40	.0958	.0966	.0974	.0982	.0990	.0998	.1006	.1015	.1023	.1032	.1039	.1047	.1055	.1064
5-40	.1088	.1096	.1104	.1112	.1120	.1128	.1136	.1145	.1153	.1161	.1169	.1177	.1185	.1193
6-32	.1177	.1187	.1197	.1208	.1218	.1228	.1238	.1248	.1258	.1268	.1279	.1289	.1299	.1309
8-32	.1437	.1447	.1457	.1468	.1478	.1488	.1498	.1508	.1518	.1528	.1539	.1549	.1559	.1569
10-24	.1629	.1643	.1656	.1670	.1684	.1697	.1711	.1724	.1738	.1751	.1765	.1778	.1792	.1805
10-32	.1697	.1707	.1717	.1728	.1738	.1748	.1758	.1768	.1778	.1788	.1799	.1809	.1819	.1829
12-24	.1889	.1903	.1916	.1930	.1944	.1957	.1970	.1984	.1998	.2011	.2025	.2038	.2052	.2065
1/4-20	.2175	.2192	.2208	.2224	.2240	.2256	.2273	.2289	.2305	.2325	.2338	.2354	.2370	.2387
5/16-18	.2764	.2782	.2800	.2818	.2836	.2854	.2872	.2891	.2909	.2927	.2945	.2963	.2981	.2999
3/8-16	.3344	.3364	.3385	.3405	.3425	.3446	.3466	.3486	.3506	.3527	.3547	.3567	.3588	.3608
7/16-14	.3911	.3934	.3957	.3981	.4004	.4027	.4050	.4073	.4097	.4120	.4143	.4166	.4189	.4213
1/2-13	.4500	.4525	.4550	.4575	.4600	.4625	.4650	.4675	.4700	.4725	.4750	.4775	.4800	.4825

HOLE DIAMETER (METRIC) FOR THREAD ENGAGEMENTS BY PERCENT

SCREW SIZE	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	45%	40%	35%
M2-0.4	1.740	1.753	1.765	1.778	1.791	1.806	1.819	1.831	1.844	1.857	1.869	1.882	1.895	1.908
M2.5-0.45	2.208	2.222	2.238	2.250	2.266	2.281	2.296	2.309	2.324	2.339	2.355	2.367	2.383	2.398
M3-0.5	2.675	2.692	2.708	2.723	2.741	2.756	2.771	2.789	2.804	2.822	2.837	2.852	2.870	2.885
M3.5-0.6	3.110	3.129	3.147	3.167	3.188	3.208	3.226	3.246	3.266	3.284	3.305	3.325	3.343	3.363
M4-0.7	3.545	3.569	3.592	3.614	3.637	3.660	3.683	3.706	3.729	3.752	3.774	3.795	3.818	3.840
M4.5-0.75	4.013	4.039	4.061	4.087	4.110	4.135	4.161	4.183	4.209	4.232	4.257	4.282	4.305	4.331
M5-0.8	4.480	4.506	4.534	4.559	4.585	4.610	4.638	4.663	4.689	4.714	4.742	4.768	4.793	4.818
M6-1.0	5.350	5.382	5.415	5.446	5.479	5.512	5.545	5.578	5.608	5.641	5.674	5.707	5.740	5.771
M7-1.0	6.351	6.383	6.416	6.447	6.480	6.513	6.546	6.579	6.609	6.642	6.675	6.708	6.741	6.772
M8-1.25	7.180	7.229	7.269	7.310	7.351	7.391	7.432	7.473	7.513	7.554	7.595	7.635	7.676	7.717
M10-1.5	9.026	9.075	9.124	9.172	9.223	9.271	9.319	9.368	9.416	9.464	9.515	9.563	9.611	9.660
M12-1.75	10.863	10.919	10.978	11.034	11.090	11.148	11.204	11.260	11.318	11.374	11.433	11.488	11.544	11.603

All dimensions are in mm.

CASTING STANDARDS



INCH

SCREW SIZE	CAST HOLE DIAMETER**		MINIMUM BOSS DIAMETER C	DRILLED HOLE DIAMETER D	MINIMUM EDGE DISTANCE E	MINIMUM ENGAGEMENT LENGTH F
	A	B				
2-56	.081	.077	.197	.077	.046	.204
3-48	.093	.088	.208	.088	.054	.230
4-40	.105	.099	.220	.099	.065	.256
5-40	.118	.112	.232	.112	.065	.282
6-32	.128	.122	.242	.122	.081	.308
8-32	.155	.148	.272	.148	.081	.360
10-24	.177	.168	.315	.168	.108	.412
10-32	.182	.174	.315	.174	.081	.412
12-24	.203	.194	.359	.194	.108	.464
1/4-20	.235	.224	.415	.224	.130	.532
5/16-18	.297	.284	.519	.284	.144	.657
3/8-16	.359	.343	.623	.343	.162	.782
7/16-14	.419	.400	.726	.400	.186	.907
1/2-13	.481	.460	.830	.460	.200	1.032

**Hole diameters have +.000/-.003" tolerance.

METRIC

SCREW SIZE	CAST HOLE DIAMETER**		MINIMUM BOSS DIAMETER C	DRILLED HOLE DIAMETER D	MINIMUM EDGE DISTANCE E	MINIMUM ENGAGEMENT LENGTH F
	A	B				
M2-0.4	1.91	1.81	3.32	1.81	1.04	4.81
M2.5-0.45	2.39	2.28	4.15	2.28	1.17	5.81
M3-0.5	2.90	2.76	4.98	2.76	1.30	6.81
M3.5-0.6	3.31	3.21	5.81	3.21	1.56	7.81
M4-0.7	3.82	3.64	6.64	3.64	1.82	8.81
M4.5-0.75	4.31	4.11	7.47	4.11	1.95	9.81
M5-0.8	4.80	4.58	8.30	4.58	2.08	10.81
M6-1.0	5.74	5.48	9.96	5.48	2.60	12.81
M7-1.0	6.78	6.48	11.62	6.48	2.60	14.81
M8-1.25	7.69	7.35	13.28	7.35	3.25	16.81
M10-1.5	9.64	9.22	16.60	9.22	3.90	20.81
M12-1.75	11.59	11.09	19.92	11.09	4.55	24.81

All dimensions are in mm.

**Hole diameters have +0.00/-0.08 mm tolerance.

THREAD ROLLING ENGINEERING STANDARDS

EXTRUSION HOLE SIZES



INCH

SCREW SIZE	A - RECOMMENDED HOLE SIZE											
2-56	.075	.076	.077									
3-48	.086	.087	.088									
4-40	.096	.097	.098									
5-40	.109	.110	.111	.112								
6-32	.119	.120	.121	.122	.124							
8-32	.145	.146	.147	.148	.149	.150						
10-24	.164	.165	.166	.167	.168	.171						
10-32	.171	.172	.173	.174	.175	.176						
12-24	.190	.191	.192	.193	.194	.195	.198	.201				
1/4-20			.219	.220	.221	.223	.226	.229	.231	.233		
5/16-18				.278	.279	.280	.282	.283	.286	.288		
3/8-16						.336	.337	.339	.340	.344	.347	
7/16-14							.394	.396	.398	.400	.403	.407
1/2-13								.452	.454	.456	.458	.462
T - THICKNESS	.02	.03	.04	.06	.09	.13	.16	.19	.22	.25	.31	.38

Example: In a .090" thick material, with a .195" diameter extruded hole, A #12-24 Rolok is required. From the extrusion dimensions chart, the extrusion height, H, will be .090" with a radius, R, of .015". The total engagement length will be .180"

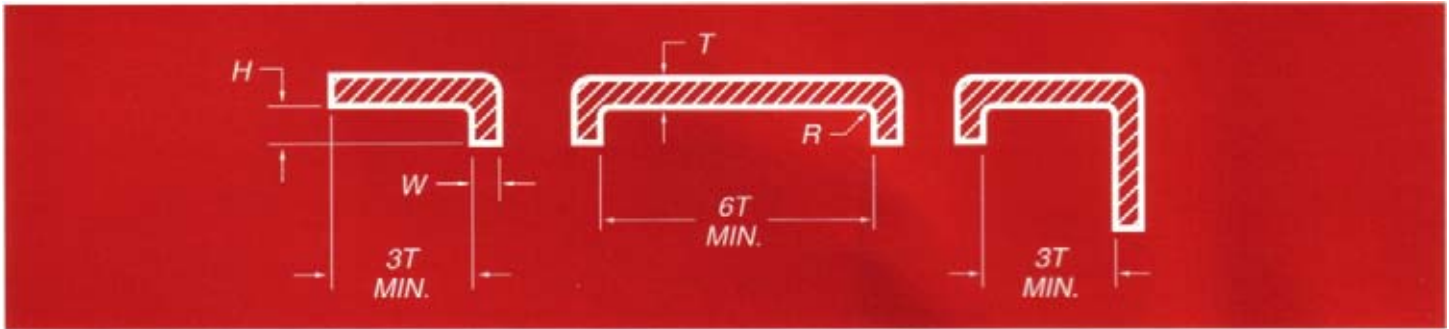
METRIC

SCREW SIZE	A - RECOMMENDED HOLE SIZE											
M2.5-0.45	2.23	2.24	2.27	2.29								
M3-0.5	2.70	2.73	2.76	2.79	2.82							
M3.5-0.6	3.13	3.16	3.19	3.22	3.27	3.30						
M4-0.7		3.57	3.60	3.63	3.66	3.71						
M4.5-0.75		4.04	4.07	4.10	4.13	4.18						
M5-0.8			4.51	4.54	4.57	4.60						
M6-1.0			5.39	5.45	5.45	5.48	5.53					
M7-1.0			6.39	6.44	6.49	6.54	6.59	6.67	6.75			
M8-1.25				7.23	7.27	7.29	7.34	7.39	7.47	7.55		
M10-1.50				9.08	9.14	9.18	9.22	9.31	9.39	9.47	9.55	
M12-1.75					10.92	10.97	11.02	11.07	11.15	11.23	11.31	11.39
T - THICKNESS	.48	.79	1.11	1.58	2.38	3.57	4.36	4.76	5.55	6.35	7.87	9.65

All dimensions are in mm.

Example: In a 2.38mm thick material, with a 5.50mm diameter extruded hole, A M6-1.0 Rolok is required. From the extrusion dimensions chart, the extrusion height, H, will be 2.29mm with a radius, R, of 0.38mm the total engagement length will be 4.67mm.

EXTRUSION DIMENSIONS



INCH

HOLE SIZE	H	R	H	R	H	R	H	R	H	R	H	R
.08-.10	.040	.010	.040	.010	.040	.011	.043	.015				
.10-.13	.047	.010	.047	.010	.047	.011	.052	.015	.054	.015		
.13-.15	.053	.010	.053	.010	.053	.011	.060	.015	.063	.015	.072	.018
.15-.18			.060	.010	.061	.011	.070	.015	.075	.015	.087	.018
.18-.22			.070	.010	.070	.011	.090	.015	.095	.015	.104	.018
.22-.26					.075	.011	.100	.015	.105	.015	.120	.018
.26-.30					.083	.011	.116	.015	.125	.015	.140	.018
.30-.34							.130	.015	.140	.015	.164	.018
.34-.38							.140	.015	.155	.015	.170	.018
.38-.43							.150	.015	.170	.015	.184	.018
T - THICKNESS	.030		.045		.060		.090		.106		.122	

Tolerances: R = +.000/-0.005
 H = +.040/-0.000
 $W_{MAX} = 0.60T$
 $W_{MIN} = 0.50T$

METRIC

HOLE SIZE	H	R	H	R	H	R	H	R	H	R	H	R
2.03-2.54	1.02	0.26	1.02	0.26	1.02	0.28	1.09	0.38				
2.54-3.30	1.19	0.26	1.19	0.26	1.19	0.28	1.32	0.38	1.37	0.38		
3.30-3.81	1.35	0.26	1.35	0.26	1.35	0.28	1.52	0.38	1.60	0.38	1.83	0.46
3.81-4.57			1.52	0.26	1.55	0.28	1.78	0.38	1.91	0.38	2.21	0.46
4.57-5.59			1.78	0.26	1.78	0.28	2.29	0.38	2.41	0.38	2.64	0.46
5.59-6.60					1.91	0.28	2.54	0.38	2.67	0.38	3.05	0.46
6.60-7.62					2.11	0.28	2.95	0.38	3.18	0.38	3.56	0.46
7.62-8.64							3.30	0.38	3.56	0.38	4.17	0.46
8.64-9.65							3.56	0.38	3.94	0.38	4.32	0.46
9.65-10.92							3.81	0.38	4.32	0.38	4.67	0.46
T - THICKNESS	0.76		1.15		1.52		2.29		2.69		3.10	

All dimensions are in mm.

Tolerances: R = +0.00/-0.13mm
 H = +1.02/-0.00mm
 $W_{MAX} = 0.60T$
 $W_{MIN} = 0.50T$