ROLOK®

TOMORROW'S STANDARDS TODAY... THE ROLOK® PROFILE

The Rolok® standard material is a C-1022 or C-10B21 steel which is case hardened to a minimum of 135,000 PSI straight tensile strength. This rating is twice that of a standard machine screw at 60,000 PSI and 25% more than ANSI tapping screws at 107,000 PSI. Rolok® fasteners can also be manufactured from alloy steel for special orders with induction hardened points, providing tensile strength up to 180,000 PSI.

Rolok® fasteners are hardened to a core hardness of 28 to 38 Rc and have a minimum surface hardness of 45 Rc. Rolok® fasteners have also been successfully designed and engineered from 410 stainless steel and 300 series stainless. It's important to remember that the fastener must be harder than the nut material if it is to properly form threads.

Rolok® head specifications and tolerances follow ANSI B18.6.4 and B18.6.5 standards for slotted and recessed head styles. A variety of cold formed parts can be combined with the Rolok® design to provide special shoulder and/or unique head styles. Rolok® fasteners can also be fabricated with many types of sems washers and internal drive systems for greater customizing and convenience.

The Rolok® fastener provides optimum joint integrity with four full threads engaged, approximately one screw diameter, in punched and drilled holes. For cored holes or castings, the length of engagement should be increased to approximately two screw diameters. Hole diameters should be selected to provide 65% to 80% thread engagement. Engineering specifications are provided in this catalog to assist you in selecting the proper Rolok® hole diameter. The different values for hole sizes and torque requirements that appear in the "recommended" specification tables were obtained under laboratory conditions. Actual results may vary.

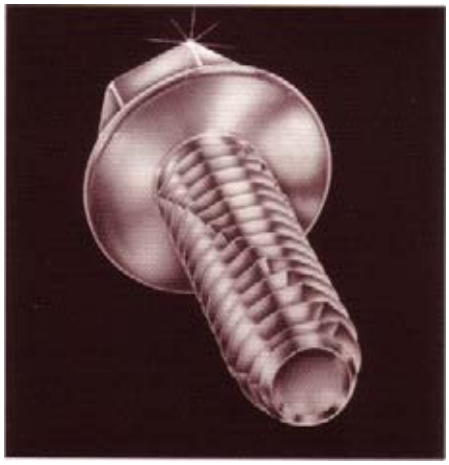
Rolok® fasteners can be supplied with all commercially available finishes and coatings. It is recommended that a wax lubricant be applied on high friction finishes, and all electro-plated parts be baked to relieve hydrogen embrittlement.

YOUR FUTURE BENEFITS

The overall benefits of the Rolok© line can be summed up with one clause... “Better Fastening at Lower In Place Costs.” The means by which this is accomplished can be broken down to six specific areas:

Assembly ease

Assembly time is dramatically reduced due to positive alignment in the pilot hole and by eliminating concern about paint clogged holes and weld splatter. Consistently low driving



torques and high failure torques provide high clamp loads; and low drive means low operator fatigue. The possibility of any cross-threading has also been eliminated.

Tapping cost eliminated

The Rolok® thread configuration eliminates the need to tap holes along with the associated costs of tapping machines, taps, associated labor, clean-up, etc., are all part of the cost savings and lower “In-place costs”. In addition to eliminating chips and burrs, in most applications, expensive drilling can be replaced by using simple punched or extruded holes or cored holes in cast metals.

Patented Vibration Resistant Feature

The Rolok® thread has greater holding power. The only thread rolling screw that was issued a patent as a “Vibration Resistant” thread rolling screw (unlike tri-roundular thread forming screws). The patented 360 degree asymmetric thread-forming lobes provide greater breakaway and back-out torques. As a result of this greater holding power, the Rolok® fastener system also needs fewer fasteners per assembly.

Stronger thread

Rolok® fasteners roll-form their own mating threads. The result is a stronger, more uniform thread. The 360 degree thread-forming lobes preserve the grain structure of the mating threads, rather than cutting them and in turn, weakening them. Of course, stronger mating threads also enhance overall fastener performance. All Rolok® fasteners are engineered at a minimum straight tensile strength of 135,000 PSI, which exceed grade 5 requirements.

Superior thread engagement

Rolok® fasteners form strong, smooth burnished threads in a nut member. These threads match perfectly with the threads of the screw. Rolok® fasteners can also be replaced with standard machine screws if lost during service in the field. By selecting the appropriate hole size, Rolok® screws are capable of providing as much as 90% thread engagement, which is more than double a standard class 2 fit.

Use with a variety of materials

Rolok® 360 degree thread-forming lobes function as a thread rolling tap and require a nut member of ductile material to form a mating thread. Steel, aluminum, both cast and rolled, bronze, brass and many stainless steels have sufficient ductility to form matching threads. Less ductile metals, such as cast iron and magnesium, may also be used, although they must be tested for performance evaluation.

Savings Over Tapping

The elimination of tapping saves the cost of:

- Direct labor
- Indirect labor
- Taps, jigs and fixtures
- Tapping lubricants
- Gauges
- Setup time of tapping equipment
- Downtime due to equipment or tap malfunctions
- Low machine efficiency due to loading, galling and binding of taps in gummy materials
- Loss or repair of assemblies due to undersize or oversize tapped threads
- Loss or repair of assemblies due to tap breakage or malfunction
- Moving, storage and scheduling of parts to and from the Tapping Dept.

The elimination of tapping avoids these problems:

- Cross threading of machine screws into pretapped holes
- Installing machine screws into tapped holes clogged with paint or other foreign material
- The need to maintain class of fit on assembled pieces
- The need to distort heads or threads to secure screw against looseness
- The need for locking type Nylok inserts and collars
- The need for lock nuts and lockwashers

The elimination of tapping makes possible the:

- Use of punched or cored holes
- Use of drilling and tapping stations for other needed operations
- Release of tapping machinery for other tapping requirements
- Threading directly into untapped, less expensive, tubular rivets and inserts
- Use of less expensive, plain, unthreaded weld bushings
- Use of punch-extruded holes - eliminates staked, weld and clinch nuts

Savings Over Self Threading

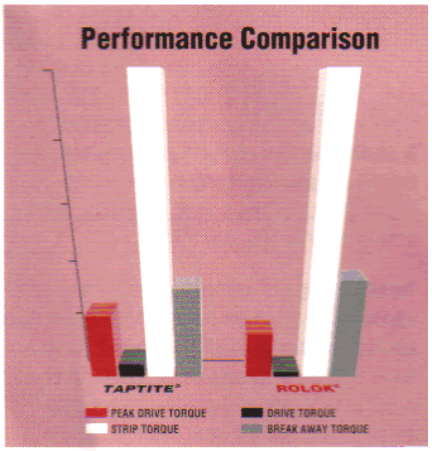
Rolok® screws roll-form smooth, high strength mating, 'no chip' threads, with lower uniform driving torque. This provides an expanded Strip-to-Drive Ratio. Save on all of these 'avoidable costs' common to use of self tapping screws:

- Eliminates cleaning of chips and burrs
- Eliminates chips or burrs that cause short circuits in electrical equipment
- Eliminates constant changing of driver clutches by providing uniformity of torque and greater range for driver clutch settings
- Eliminates scrap or repair by eliminating stripping of internal threads in assembled pieces
- Eliminates the need to use thread cutting screws in pre-tapped holes clogged with paint
- Reduces driver tool cost - lower driving torque means less tool wear
- Reduces field service costs and problems - maintains full sound threads in the threaded piece even after repeated disassemblies and reassemblies
- Speeds production - because lower driving torque minimizes operator fatigue - more screws driven per day
- Minimizes downtime on production line by providing uniform, trouble-free performance

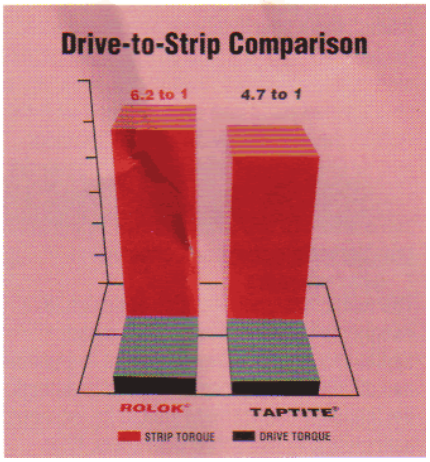
Savings Over All Types of Screws

Rolok® screws form threads and fasten quickly and easily. This provides users with the highest performance characteristics and the lowest In-place cost. Benefit from all of these savings areas which are unobtainable with other types of screws.

- Eliminates drilling - holes can be cored or punched
- Eliminates lockwashers and locking devices
- Fastening is stronger, thus providing higher quality in assembled parts
- Smaller diameter screws or fewer screws provides equivalent holding power
- Can easily be made captive without expensive secondary operations
- Permits greater use of die castings and other soft materials
- Permits shallower holes when length of holes is restricted
- Eliminates continual resetting of clutches on automatic drivers by providing uniformity of torque and greater range for driver clutch settings
- Avoids scrap or repair of assembled pieces by eliminating stripping of internal threads
- Provides lower assembly costs by improving assembly efficiency due to high stripping-to-driving ratio
- Minimizes production line downtime by providing trouble-free driving
- Speeds production with lower driving torque and minimal operator fatigue
- Reduces inventory and purchasing costs by permitting extensive standardization - one Rolok® screw can replace many other different types of screws



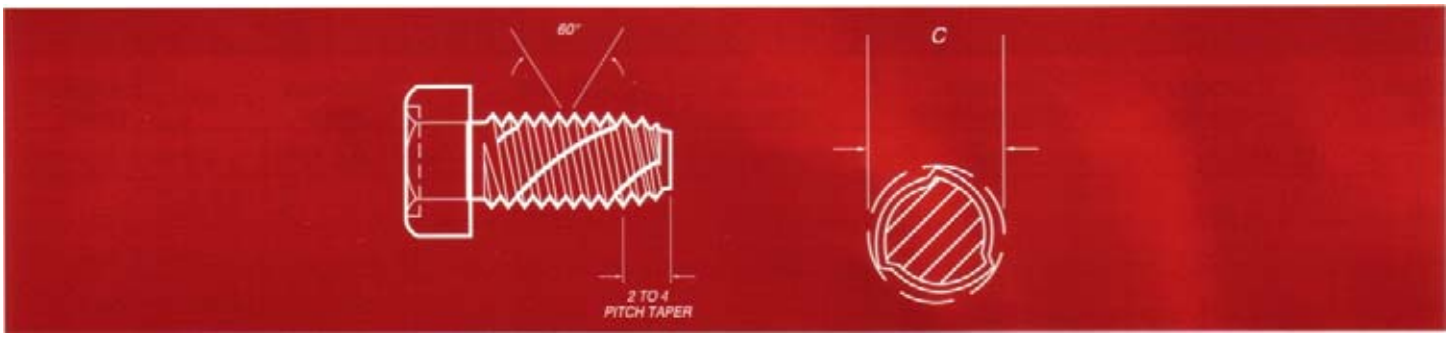
All tests performed with 3/8"-16 x 1" unslotted hex washer head under controlled laboratory conditions.



TOMORROW'S TECHNOLOGY IS WITHIN YOUR REACH TODAY

As you can see, the future of fastener technology is here. Unparalleled conveniences, unrivaled holding powers and strip-to-drive ratios, phenomenal cost savings and complete custom capabilities make the Rolok® design the obvious choice for all your future fastener needs. Catch the future wave of fastener engineering today with the Rolok® fastener.

DIMENSION STANDARDS



INCH

THREAD SIZE	(C) CIRCUMSCRIBING DIAMETER MAX.	MIN.	POINT DIAMETER (REF.)	MINIMUM TORSIONAL STRENGTH (IN-LB)
2-56	.0875	.0835	.065	6
3-48	.1010	.0970	.076	10
4-40	.1145	.1105	.085	14
5-40	.1275	.1235	.096	22
6-32	.1410	.1350	.103	24
8-32	.1670	.1610	.129	48
10-24	.1940	.1880	.144	65
10-32	.1930	.1870	.154	81
12-24	.2200	.2140	.170	105
1/4-20	.2550	.2490	.180	160
5/16-18	.3180	.3120	.253	340
3/8-16	.3810	.3750	.300	620
7/16-14	.4450	.4370	.356	950
1/2-13	.5080	.4990	.419	1450

Length tolerances: Up to 3/4" -+.000/-.030" • Over 3/4" to 1 1/2" -+.000/-.050" • Over 1 1/2" & up -+.000/-.060"
Heat Treatment: Case Hardened - Core 28 to 38 Rc • Surface 45 Rc (Min.)

METRIC

THREAD SIZE	(C) CIRCUMSCRIBING DIAMETER MAX.	MIN.	POINT DIAMETER (REF.)	MINIMUM TORSIONAL STRENGTH (N-m)
M2-0.4	2.06	1.98	1.52	0.6
M2.5-0.45	2.57	2.46	2.01	1.2
M3-0.50	3.07	2.97	2.41	2.2
M3.5-0.6	3.58	3.43	2.79	3.5
M4-0.7	4.09	3.93	3.18	5.2
M4.5-0.75	4.60	4.44	3.56	7.5
M5-0.8	5.09	4.93	3.94	10.5
M6-1.0	6.10	5.94	4.62	17.7
M7-1.0	7.13	6.97	5.84	31
M8-1.25	8.13	7.98	6.48	43
MI0-1.5	10.15	9.99	8.13	87
M12-1.75	12.18	11.95	9.93	152

Length tolerances: Up to 20 mm - +0.0/-0.8 mm • Over 20 mm to 40 mm -+0.0/-1.2 mm • 40 mm & over -+0.0/-1.5 mm
Heat Treatment: Case Hardened - Core 28 to 38 Rc • Surface 45 Rc (Min.)

TORQUE VALUES

INCH TORQUE REQUIREMENTS FOR STEEL (RB 75-90)

SCREW SIZE	OPTIMUM HOLE SIZE	OPTIMUM METAL THICKNESS	DRIVING TORQUE	FAILING TORQUE	TIGHTENING TORQUE	LOOSENING TORQUE
2-56	.079	3/32	1-2	11-14	5	4-5
3-48	.090	1 /8	3-6	15-16	7	5-7
4-40	.102	1 /8	3-5	20-25	10	7-10
5-40	.115	1 /8	5-8	24-31	16	8-11
6-32	.125	1 /8	7-10	26-33	20	10-13
8-32	.150	3/16	8-11	75-85	36	18-22
10-24	.173	3/16	15-18	100-120	51	25-32
10-32	.177	3/16	14-18	105-120	59	30-37
12-24	.200	1 /4	24-30	155-175	81	40-52
1/4-20	.229	1 /4	29-35	210-250	123	63-78
5/16-18	.290	5/16	110-130	450-600	253	150-185
3/8-16	.350	3/8	95-125	950-1150	450	230-320
7/16-14	.408	7/16	230-280	1500-1800	736	340-390
1/2-13	.469	1/2	270-360	1950-2250	1000	500-570

All torque values are in IN-LBS.
The above values are only approximations to be used as guidelines.
Actual assembly conditions may vary.
Optimum thread engagement and joint integrity is achieved at four full threads, or approximately one screw diameter.
Values for sizes not listed can be made available upon request.

METRIC TORQUE REQUIREMENTS FOR STEEL (RB 75-90)

SCREW SIZE	OPTIMUM HOLE SIZE	OPTIMUM METAL THICKNESS	DRIVING TORQUE	FAILING TORQUE	TIGHTENING TORQUE	LOOSENING TORQUE
M3-0.5	2.79	3	.40-.75	2.3-3.7	1.6	0.8-1.4
M4-0.7	3.70	4	1.0-1.5	6.8-10.2	3.7	1.7-2.3
M5-0.8	4.66	5	1.9-3.1	10.2-14.7	7.6	4.0-5.1
M6-1.0	5.58	6	3.3-4.5	17.5-24.3	12.7	6.8-8.5
M8-1.25	7.47	8	5.6-10.7	54.2-65.5	31.7	17.5-21.5
M10-1.5	9.37	10	13.6-20.3	91.0-103.4	62.6	31.6-39.5
M12-1.75	11.26	12	27.1-36.2	172.9-202.2	110.9	55.4-63.3

All torque values are in N-m.
The above values are only approximations to be used as guidelines.
Actual assembly conditions may vary.
Optimum thread engagement and joint integrity is achieved at four full threads, or approximately one screw diameter.
Values for sizes not listed can be made available upon request.

PILOT HOLES

INCH

MATERIAL THICKNESS	INCH	.020-.078		.063-.140		.125-.266		.250-.328		.313-.500	
	FRACTION	1/32-5/64		1/16-9/64		1/8-17/64		1/4-11/32		5/16-1/2	
	GAUGE	26-14		16-10		11-2		3-(2.0)		(1.0)-(7.0)	
SCREW SIZE	MATERIAL	DRILL SIZE	INCH	DRILL SIZE	INCH	DRILL SIZE	INCH	DRILL SIZE	INCH	DRILL SIZE	INCH
	Steel	48	.076	47	.079	47	.079				
2-56	Aluminum	48	.076	47	.079	47	.079				
	Steel	44	.086	43	.089	2.35mm	.093				
3-48	Aluminum	44	.086	43	.089	2.35mm	.091				
	Steel	40	.098	38	.102	37	.104				
4-40	Aluminum	40	.098	39	.100	38	.102				
	Steel	34	.111	33	.113	32	.116				
5-40	Aluminum	35	.110	34	.111	33	.113	33	.113		
	Steel	31	.120	31	.120	1/8	.125	30	.128		
6-32	Aluminum	31	.120	31	.120	1/8	.125	1/8	.125		
	Steel	27	.144	26	.147	25	.150	23	.154		
8-32	Aluminum	27	.144	26	.147	25	.150	24	.152		
	Steel			19	.166	11/64	.172	16	.177		
10-24	Aluminum			19	.166	19	.166	18	.170		
	Steel			17	.173	16	.177	15	.180		
10-32	Aluminum			17	.173	17	.173	16	.177		
	Steel			4.9mm	.193	8	.199	13/64	.203		
12-24	Aluminum			11	.191	9	.196	8	.199	13/64	.203
	Steel			7/32	.219	5.7mm	.224	1	.228	A	.234
1/4-20	Aluminum			7/32	.219	2	.221	5.7mm	.224	I	.228
	Steel			9/32	.281	9/32	.281	7.25mm	.285	L	.290
5/16-18	Aluminum			9/32	.281	9/32	.281	7.25mm	.285	7.3mm	.287
	Steel					11/32	.344	S	.348	9.0mm	.354
3/8-16	Aluminum					R	.339	11/32	.344	S	.348
	Steel							Y	.404	13/32	.406
7/16-14	Aluminum							X	.397	10.2mm	.402
	Steel							11.8mm	.465	15/32	.469
1/2-13	Aluminum							11.8mm	.465	11.8mm	.465

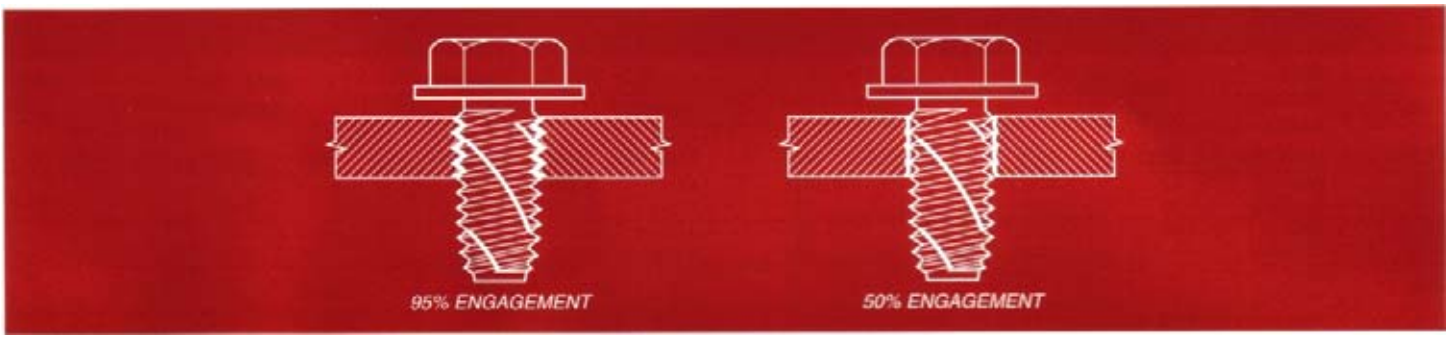
mm-Millimeters
Drill sizes represent nearest available size to decimal figure.

METRIC

MATERIAL THICKNESS	mm	0.5-2.0		1.6-3.5		3.2-6.7		6.3-8.3		8.0-12.7	
	FRACTION	1/32-5/64		1/16-9/64		1/8-17/64		1/4-11/32		5/1 6-1/2	
	GAUGE	26-14		16-10		11-2		3-(2.0)		(1.0)-(7.0)	
SCREW SIZE	MATERIAL	DRILL SIZE	mm	DRILL SIZE	mm	DRILL SIZE	mm	DRILL SIZE	mm	DRILL SIZE	mm
	Steel	1.95mm	1.95	2.0mm	2.00	2.05mm	2.05				
M2-0.4	Aluminum	1.95mm	1.95	2.0mm	2.00	2.05mm	2.05				
	Steel	2.25mm	2.25	2.3mm	2.30	42	2.37				
M2.5-0.45	Aluminum	2.25mm	2.25	2.3mm	2.30	2.35mm	2.35				
	Steel	36	2.71	2.8mm	2.80	34	2.82				
M3-0.5	Aluminum	36	2.71	7/64	2.78	2.8mm	2.80				
	Steel	1/8	3.18	3.2mm	3.20	30	3.26	3.3mm	3.30		
M3.5-0.6	Aluminum	1/8	3.18	3.2mm	3.20	3.2mm	3.20	30	3.26		
	Steel	28	3.57	27	3.66	3.7mm	3.70	26	3.73		
M4-0.7	Aluminum	28	3.57	27	3.66	3.7mm	3.70	3.7mm	3.70		
	Steel			21	4.04	4.2mm	4.20	4.25mm	4.25		
M4.5-0.75	Aluminum			21	4.04	4.1mm	4.10	4.2mm	4.20		
	Steel			15	4.57	4.7mm	4.70	3/16	4.76		
M5-0.8	Aluminum			15	4.57	15	4.57	4.7mm	4.70		
	Steel			5.4mm	5.40	5.5mm	5.50	7/32	5.56	5.7mm	5.70
M6-1.0	Aluminum			5.4mm	5.40	3	5.41	5.5mm	5.50	7/32	5.56
	Steel			6.4mm	6.40	6.5mm	6.50	F	6.53	G	6.63
M7-1.0	Aluminum			6.4mm	6.40	6.4mm	6.40	6.5mm	6.50	F	6.53
	Steel			7.3mm	7.30	L	7.37	7.4mm	7.40	7.5mm	7.50
M8-1.25	Aluminum			7.3mm	7.30	L	7.37	7.4mm	7.40	7.4mm	7.40
	Steel					9.2mm	9.20	U	9.35	3/8	9.53
M10-1.5	Aluminum					23/64	9.13	9.2mm	9.20	U	9.35
	Steel							11.0mm	11.00	7/16	11.11
M12-1.75	Aluminum							11.0mm	11.00	11.0mm	11.00

mm-Millimeters
Drill sizes represent nearest available size to decimal figure.

THREAD ENGAGEMENT



HOLE DIAMETER (INCHES) FOR THREAD ENGAGEMENTS BY PERCENT

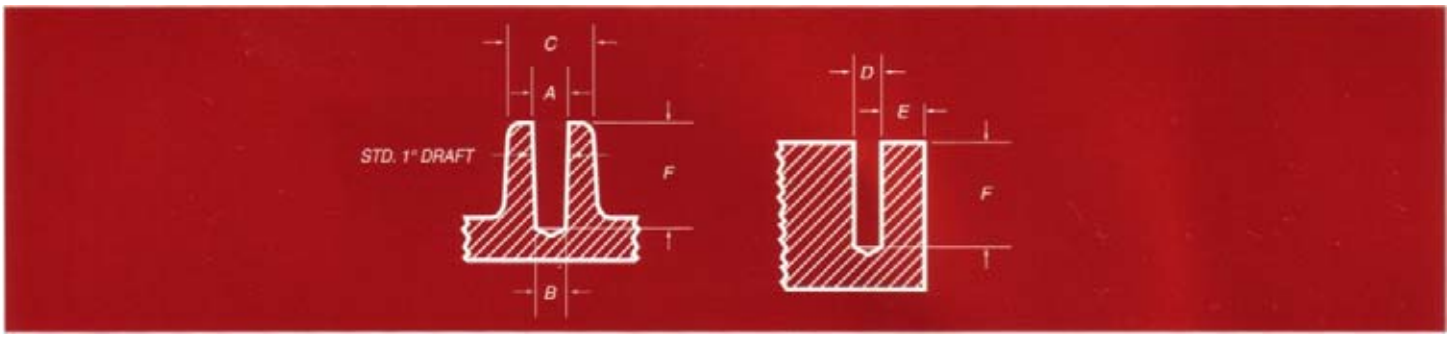
SCREW SIZE	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	45%	40%	35%
2-56	.0744	.0750	.0756	.0761	.0767	.0773	.0779	.0785	.0790	.0796	.0802	.0808	.0814	.0819
3-48	.0855	.0862	.0869	.0875	.0882	.0889	.0896	.0902	.0909	.0916	.0923	.0929	.0936	.0943
4-40	.0958	.0966	.0974	.0982	.0990	.0998	.1006	.1015	.1023	.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** A	B	MINIMUM BOSS DIAMETER C	DRILLED HOLE DIAMETER D	MINIMUM EDGE DISTANCE E	MINIMUM ENGAGEMENT LENGTH F
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

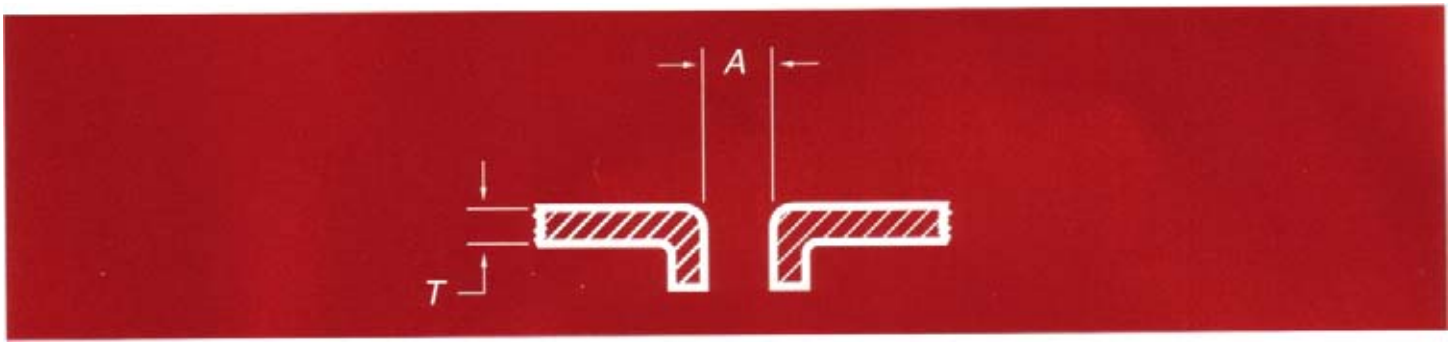
**Hole diameters have +.000/-.003" tolerance.

METRIC

SCREW SIZE	CAST HOLE DIAMETER** A	B	MINIMUM BOSS DIAMETER C	DRILLED HOLE DIAMETER D	MINIMUM EDGE DISTANCE E	MINIMUM ENGAGEMENT LENGTH F
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
MI0-1.5	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.

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"

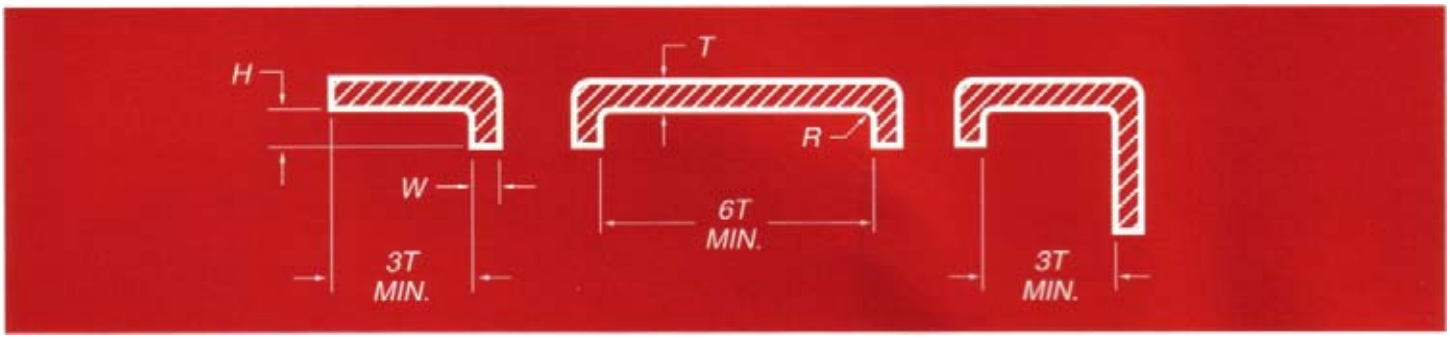
METRIC

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/-.005
H = +.040/-.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