

HI-LO[®] FASTENERS

SCREWS FOR PLASTIC AND OTHER LOW DENSITY MATERIALS



THE HIGH PERFORMANCE FASTENER FOR PLASTICS, PARTICLE BOARD, MASONITE AND WOOD

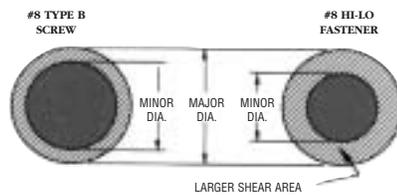
The Hi-Lo fastener, with its unique thread form, improves fastener performance in a broad range of low density materials such as plastics, wood, masonite and particle board.

This fastener is designed with a double lead, consisting of a high and a low thread. The **high thread** is sharper than a conventional thread, having a **30° included angle**. The **low thread** has the **60° included angle** and a height that is 40% to 50% of the high thread height.

REDUCED CRACKING, SPLITTING AND BOSS BREAKAGE

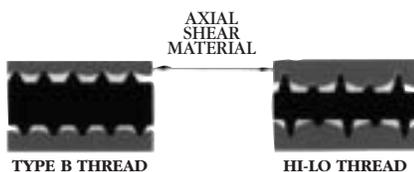
The superior performance of the Hi-Lo fastener increases product quality and decreases costs. The 30° included angle of the high thread form reduces radial or bursting pressure to one-half of that generated by the conventional 60° included angle thread form. Boss cracking in plastic is dramatically reduced and smaller diameter bosses can often be specified. In wood applications, even when driving close to the edge, splitting is greatly reduced due to this lower radial pressure.

INCREASED PULL-OUT STRENGTH



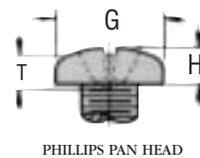
The Hi-Lo screw thread configuration has a smaller minor diameter than a conventional screw. The high threads make a deeper cut into the material between the threads. There is also a greater amount of material in contact with the high, sharp thread and the axial shear area is increased. All of this contributes to greater resistance to pullout and stronger fastening.

LOWER DRIVING, HIGHER STRIPPING TORQUES

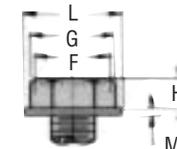


The 30° included angle of the high thread displaces less material when it is driven into plastic or wood and, therefore, requires lower driving torques. A greater amount of material remains between the high threads, increasing the stripping torque. Low driving torque and high stripping torque provide maximum protection against stripping problems.

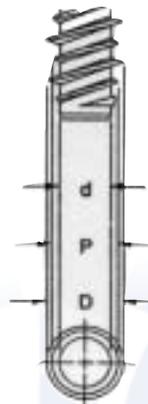
HI-LO FASTENER SPECIFICATIONS



PHILLIPS PAN HEAD



HEX WASHER HEAD



HI-LO FASTENERS

PHILLIPS PAN HEAD DIMENSIONS IN INCHES

SCREW SIZE		2/3	4	5	6	7/8	10	11/12	13	1/4 9/32
G	HEAD DIAMETER	MAX. .167	.193	.219	.254	.270	.322	.373	.425	.492
		MIN. .155	.180	.205	.240	.258	.306	.357	.407	.473
H	HEAD HEIGHT	MAX. .062	.071	.080	.097	.097	.115	.133	.151	.175
		MIN. .053	.062	.070	.087	.087	.105	.122	.139	.162
T	PENETRATION GAGING DEPTH	MAX. .052	.061	.071	.072	.080	.097	.113	.124	.144
		MIN. .034	.043	.053	.046	.055	.071	.089	.098	.118

INDENTED HEX WASHER HEAD DIMENSIONS IN INCHES

SCREW SIZE		2	3/4	5/6	7/8	10/11	12/13	1/4 9/32 5/16
L	WASHER DIAMETER	MAX. .167	.177	.260	.328	.348	.432	.520
		MIN. .154	.163	.240	.302	.322	.396	.480
G	ACROSS CORNERS	MIN. .134	.134	.202	.272	.272	.340	.409
	ACROSS FLATS	MAX. .125	.125	.187	.250	.250	.312	.375
F		MIN. .120	.120	.181	.244	.244	.305	.367
	HEAD HEIGHT	MAX. .050	.055	.070	.093	.110	.155	.190
M		MIN. .040	.044	.058	.080	.096	.139	.172
	WASHER THICKNESS	MAX. .016	.016	.025	.025	.031	.039	.050
		MIN. .010	.010	.015	.015	.019	.022	.030

HI-LO FASTENERS DIMENSIONS IN INCHES

SCREW SIZE	HIGH THREAD DIAMETER (D)		LOW THREAD DIAMETER (P)	POINT DIAMETER (d)	RECOMMENDED PILOT HOLE DIAMETER*
	MAX.	MIN.			
3-28	.105	.095	.078	.061	.078
4-24	.115	.105	.086	.066	.086
5-20	.125	.119	.100	.078	.099
6-19	.145	.135	.108	.085	.108
7-19	.158	.148	.030	.095	.125
8-18	.170	.160	.130	.100	.128
10-16	.195	.185	.145	.105	.144
11-16	.210	.198	.150	.119	.150
12-16	.220	.210	.176	.131	.166
13-16	.230	.220	.180	.133	.180
1/4-15	.260	.250	.200	.168	.200
5/16-14	.317	.307	.250	.206	.250

* These hole sizes are tentative and are provided as a guide only. Actual hole size could vary depending on type of plastic, boss diameter and length of thread engagement.

Note: Hi-Lo is a registered trademark of Illinois Tool Works Incorporated.