

# FASTENER FORCE ONE

## RESOURCES

THREADED PRODUCTS FOR INDUSTRY



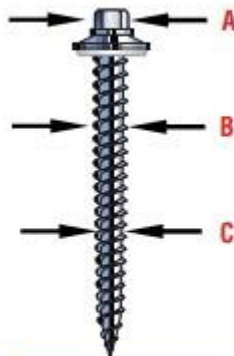
#14-10 Carbon Steel Master Gripper with JS1000 Coating

Material - Carbon Steel

Corrosion Protection - JS1000 – Enhanced Anti-Corrosion Protection  
Corrosion Resistance – 1000 hours salt spray life

### #14-10 MASTER GRIPPER

#### DIMENSIONAL PROPERTIES



<b>A</b>	Head Across Flats	.367" - .375"
<b>B</b>	Major Diameter	.248" - .254"
<b>C</b>	Minor Diameter	.178" - .185"
	Stress Area	.01781 in. <sup>2</sup>

#### STANDARD MECHANICAL REQUIREMENTS

FOR LELAND AVERAGE VALUES SEE PAGE 23

Minimum Tensile Strength	4300 lbs.
Minimum Torsional Strength	156 in.-lbs.
Minimum Shear Strength	2580 lbs.

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**Pull-Out Strength at 1" Effective Penetration Excluding Point\* Effect** (add safety factor for structural design)

WOOD				Pull-out force at 1" Effective Penetration (No Predrilled Hole)								
				#10 Master Gripper #10 Nylon MG #10 Pancake MG #10 mini Drill Point MG Carbon & Stainless Steel			#12 Master Gripper #12 Stitch MG #12 Truss Quadrex MDP #12 Diaphragm MG #12 Master One Steppers			#14 Master Gripper		
COMMON NAME	DENSITY APPROX (lbs/cu.ft)	SPECIFIC GRAVITY (kgs/litre)	REMARKS	POINT EFFECT (inch)	MIN. FORCE (lbs)	AVER. FORCE (lbs)	POINT EFFECT (inch)	MIN. FORCE (LBS)	AVER. FORCE (lbs)	POINT EFFECT (inch)	MIN. FORCE (lbs)	AVER. FORCE (lbs)
Douglas Fir	23	0.400	Kiln Dry Construction	0.37	600	670	0.30	650	725	0.33	575	660
Douglas Fir	35	0.560	Air Dry Structural	0.31	825	870	0.27	1060	1150	0.30	875	960
Douglas Fir	32	0.510	Kiln Dry Furniture	0.32	880	960	0.32	975	1080	0.40	1060	1160
Ponderosa Pine	35	0.560	CCA Pressure Treated	0.37	725	830	0.30	1150	1350	0.27	675	800
Spruce Fine Fir	25	0.400	S Dry Construction	0.29	625	660	0.30	900	960	0.29	700	790
Canadian SPF	30	0.480	S Dry Construction	0.29	730	820	0.30	910	990	0.32	820	930
Southern Yellow	33	0.530	CCA Pressure Treated	0.26	770	840	0.24	875	960	0.28	930	1030
Yellow Pine	47/37	0.750/600	Kiln Dry Furniture	0.22	1180	1320	0.28	1140	1270	0.35	1440	1510

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### Pull-Out Strength No Point Effect - Points are Cleared (add safety factor for structural design)

PLYWOOD / OSB *					Pull-out force at 1" Effective Penetration (No Predrilled Hole)									
					Master Gripper 10-12 Steel		Master Gripper Mini Drill Point 10-12 Steel		Master Gripper 14-10 Steel		Master One Stepper #12-Steel/Stainless Master Diaphragm 12-11 Steel		Master Gripper Mini Drill Point 12-14 Steel	
COMMON NAME	DENSITY APPROX. (lbs/cu.ft)	SPECIFIC GRAVITY (kgs/litre)	USE	THICK- NESS (INCH)	MIN. FORCE (lbs)	AVER. FORCE (lbs)	MIN. FORCE (lbs)	AVER. FORCE (lbs)	MIN. FORCE (lbs)	AVER. FORCE (lbs)	MIN. FORCE (lbs)	AVER. FORCE (lbs)	MIN. FORCE (lbs)	AVER. FORCE (lbs)
Canadian Spruce (4 plys)	29.21	0.468	Exterior	1/2	200	230			250	270	200	240		
Canadian Spruce (5 plys)	29.40	0.471	Exterior	5/8	300	340			350	420	350	380		
Canadian Spruce (6 plys)	30.80	0.493	Exterior	3/4	400	480	425	465	450	530	450	460		
Plywood USA (5 plys)	29.09	0.465	Interior	1/2	250	260			300	330	250	320		
Plywood - USA (5 plys)	31.37	0.502	Interior	3/4	400	510	400	340	450	570	500	530		
OSB *	32.77	0.524	Interior	1/4	125	170							100	140
OSB *	36.32	0.581	Interior	7/16	175	200							200	220
OSB *	37.85	0.606	Interior	19/32	225	245							275	310
OSB *	36.67	0.587	Interior	3/4	275	300	325		300	310	300	335	350	380