

## LAG SCREW DATA

### Notes:

1. ANSI/AF&PA NDS-1997 National Design Specification for Wood Construction; American Forest & Paper Association, 1997.
2. Data is for soft wood and engineered wood with a specific gravity of 0.35.
3. **Do not** install lag screws into the **end grain** of a piece of structural wood for seismic or wind applications!

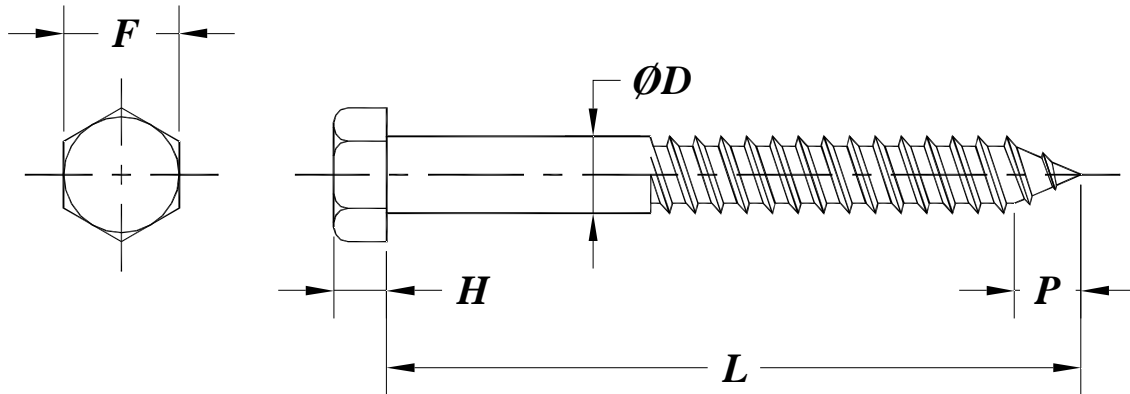


Figure A4.4-1; Typical Lag Screw

Table A4.4-1; Hex Head Lag Screw Dimensional Data – Figure A4.4-1

Lag Screw Size $\phi D$ (in)	Width Across Flats $F$ (in)	Head Height $H$ (in)	Point Length $P$ (in)
1/4	3/8	0.172	0.217
5/16	1/2	0.219	0.271
3/8	9/16	0.250	0.325
1/2	3/4	0.344	0.433
5/8	15/16	0.422	0.541
3/4	1-1/8	0.500	0.650

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Table A4.4-2; Lag Screw Installation Data – Figure A4.4-2

Lag Screw Size $\phi D$ (in)	Min. Spacing $S$ (in)	Min. End Dist. $E1$ (in)	Min. Edge Dist. $E2$ (in)	Embed. Depth $E3$ (in)	Mtg. Plate Thick. $T$ (in)	Screw Length $L$ (in)	Soft Wood Pilot Drill $\phi d$ (in)	Hard Wood Pilot Drill $\phi d$ (in)
1/4	1	1	3/8	2	1/8	2-1/2	1/8	5/32
					1/4	2-1/2		
					3/8	3		
					1/2	3		
5/16	1-1/4	1-1/4	15/32	2-1/2	1/8	3	9/32	13/64
					1/4	3-1/2		
					3/8	3-1/2		
					1/2	3-1/2		
3/8	1-1/2	1-1/2	9/16	3	1/8	3-1/2	3/16	1/4
					1/4	4		
					3/8	4		
					1/2	4		
1/2	2	2	3/4	4	1/8	5	15/64	21/64
					1/4	5		
					3/8	5		
					1/2	5		
5/8	2-1/2	2-1/2	15/16	5	1/8	6	19/64	13/32
					1/4	6		
					3/8	6		
					1/2	7		
3/4	3	3	1-1/8	6	1/8	7	23/64	31/64
					1/4	7		
					3/8	8		
					1/5	8		

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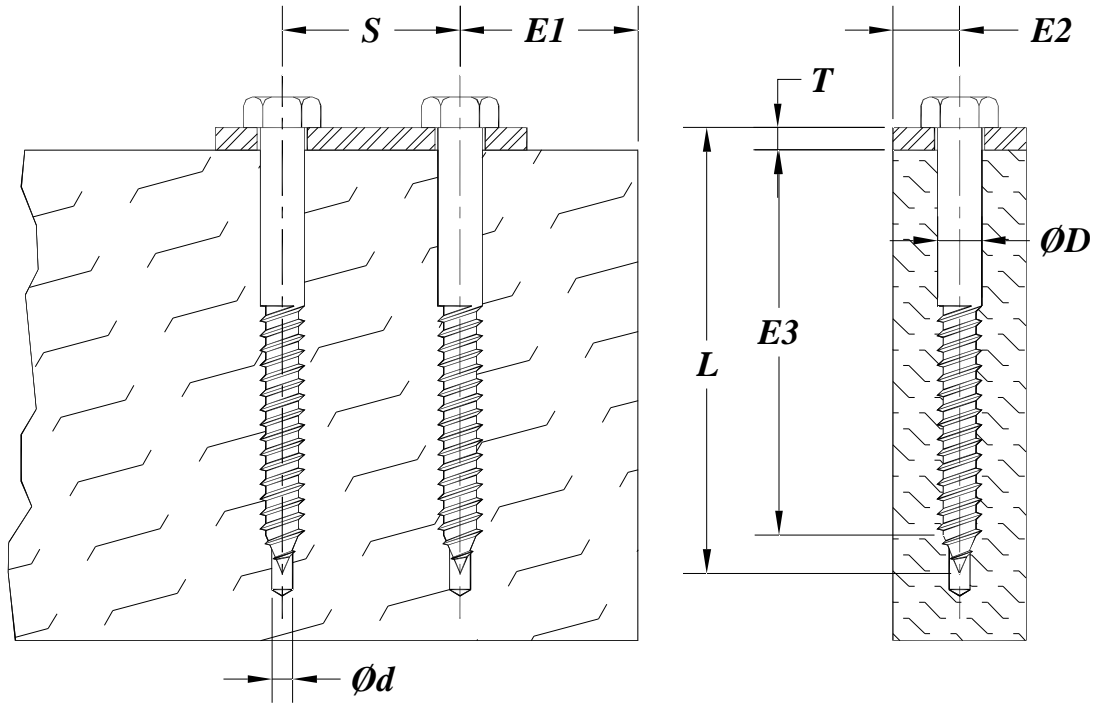


Figure A4.4-2; Typical Lag Screw Installation Dimensions

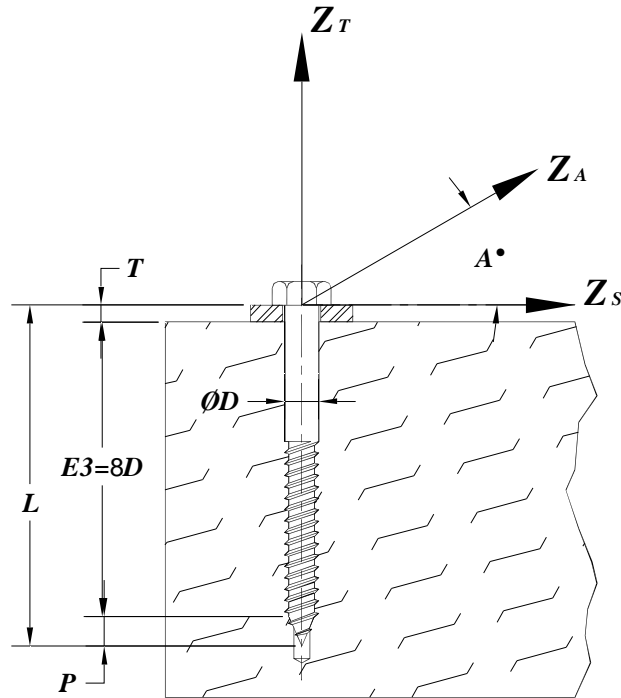


Figure A4.4-3; Lag Screw Loading Diagram

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Table A4.4-3; Allowable Seismic and Wind Loads for Lag Screws – 1/4” Thick Side Plate

Lag Screw Size $\Phi D$ (in)	Embed. Depth $E3=8D$ (in)	Allow. Tensile Load $Z_T$ (ASD) (lbs)	Allow. Shear Load $Z_S$ (ASD) (lbs)	Load Angle $A$ (deg)	Allow. Comb. Load $Z_A$ (ASD) (lbs)
1/4	2	422	272	0	272
				30	299
				45	331
				60	371
5/16	2 1/2	624	352	0	352
				30	395
				45	450
				60	523
3/8	3	859	416	0	416
				30	478
				45	561
				60	678
1/2	4	1,421	624	0	624
				30	726
				45	867
				60	1,077
5/8	5	2,096	864	0	864
				30	1,013
				45	1,224
				60	1,545
3/4	6	2,880	1,152	0	1,152
				30	1,355
				45	1,646
				60	2,095

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