

PoleEnforcer®

PATENT NO. 5,383,749

Canadian 

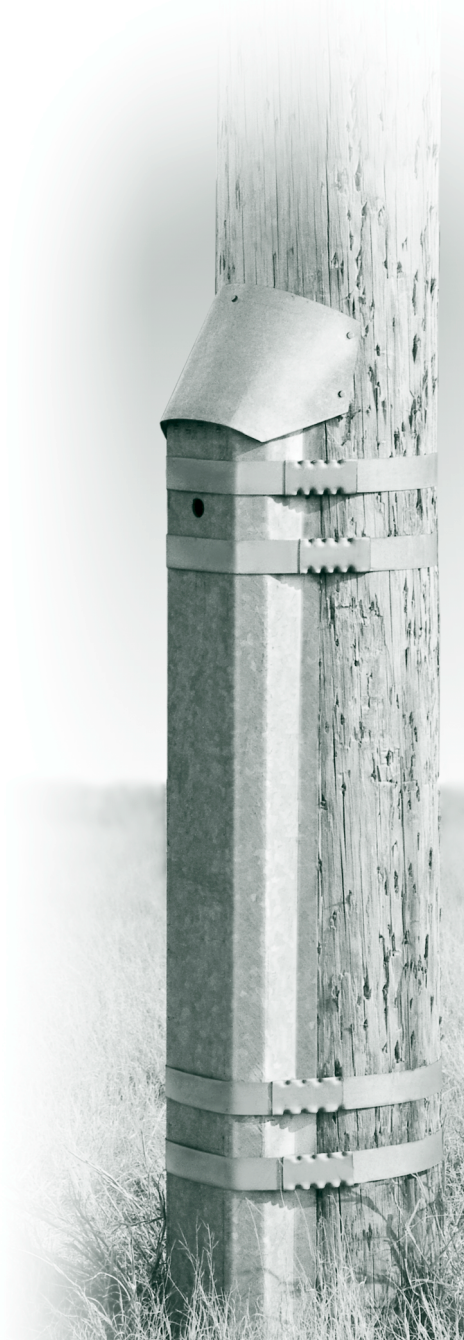
Strength Chart and Selection Guide

- CSA Grade “1” & “2” Construction
- Semi-Thin & Thin Shell Applications
- Pole Classes 7 thru H-4
- Pole Lengths from 30 to 125 feet
- Driving Systems, Tools, & Ordering Information

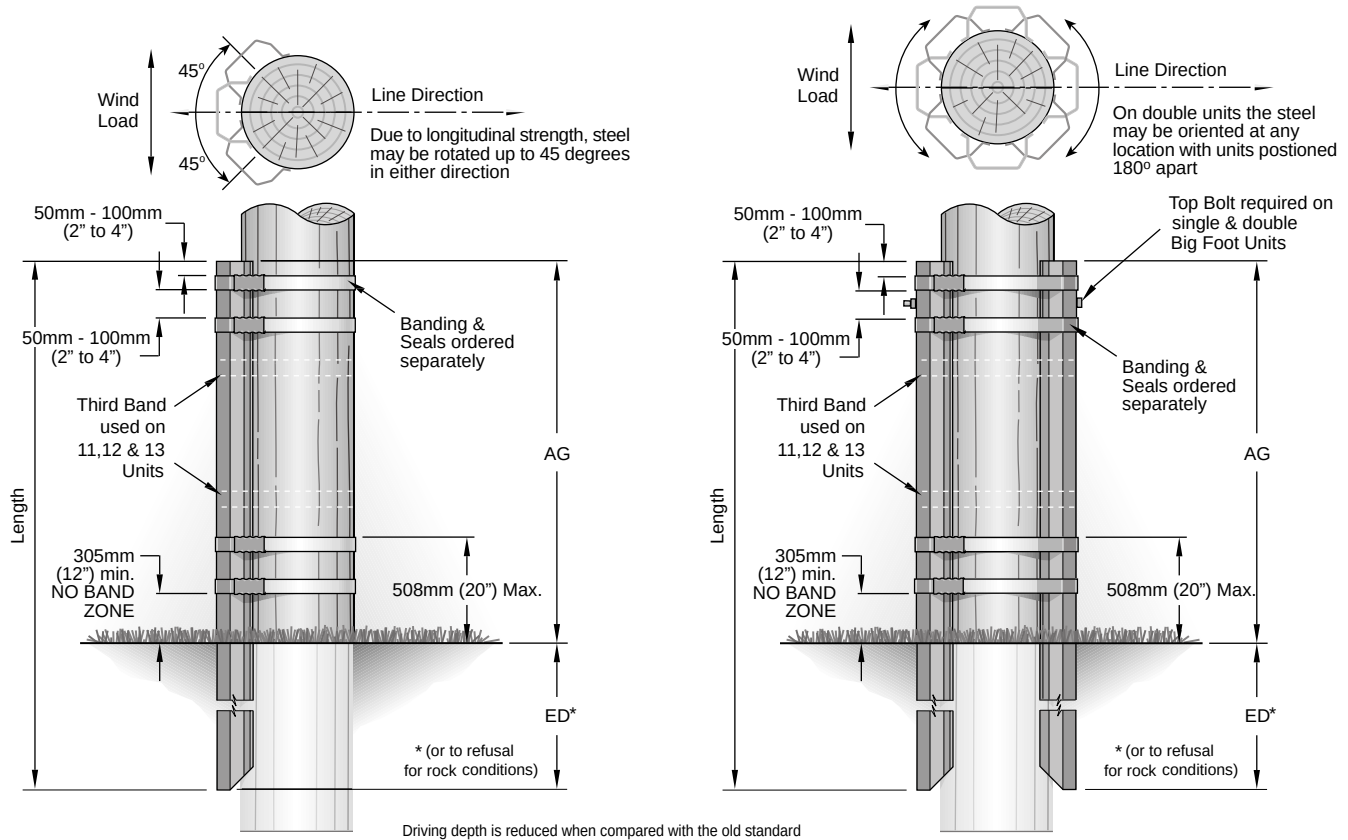


Laminated Wood Systems, Inc.

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Single & Double Installation



PoleEnforcer® Strength Chart

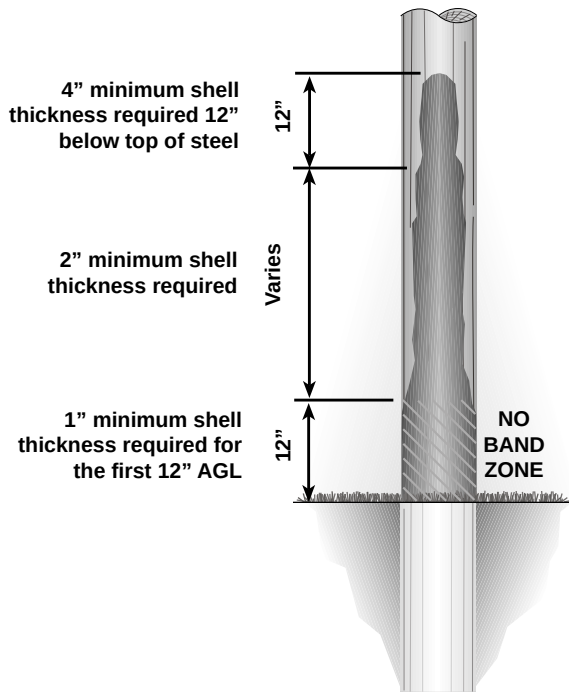
PoleEnforcer® Unit Number**	Groundline Transverse Strength (N-m)		Groundline Longitudinal Strength (N-m)	Unit Dimensions (mm)			E D* Embedment Depth (mm)	A G Above Ground (mm)	Unit Weight (Kg) Single Unit
	Single Unit	Double Unit		Width	Length	Thickness			
CPE - 35 - 10	47,400	94,800	36,000	127	3048	6	1524	1524	46
CPE - 47 - 10	63,600	127,200	54,000	146	3048	6	1524	1524	54
CPE - 56 - 10	75,800	151,600	47,000	181	3048	6	1524	1524	70
CPE - 75 - 10	101,600	203,200	63,000	181	3048	6	1524	1524	70
CPE - 91 - 11	124,200	248,400	75,000	203	3352	8	1676	1676	95
CPE - 108 - 11	146,300	292,600	84,000	229	3352	8	1676	1676	101
CPE - 148 - 11	200,500	401,000	108,000	254	3352	9.5	1676	1676	130
CPE - 169 - 11	229,600	459,200	117,000	279	3352	9.5	1676	1676	134
CPE - 191 - 12	259,400	518,800	128,000	305	3658	9.5	1829	1829	153
CPE - 211 - 12	286,500	573,000	139,000	330	3658	9.5	1829	1829	160

**Banding & seals ordered separately. See page 8 for details.

Minimum Shell Thickness

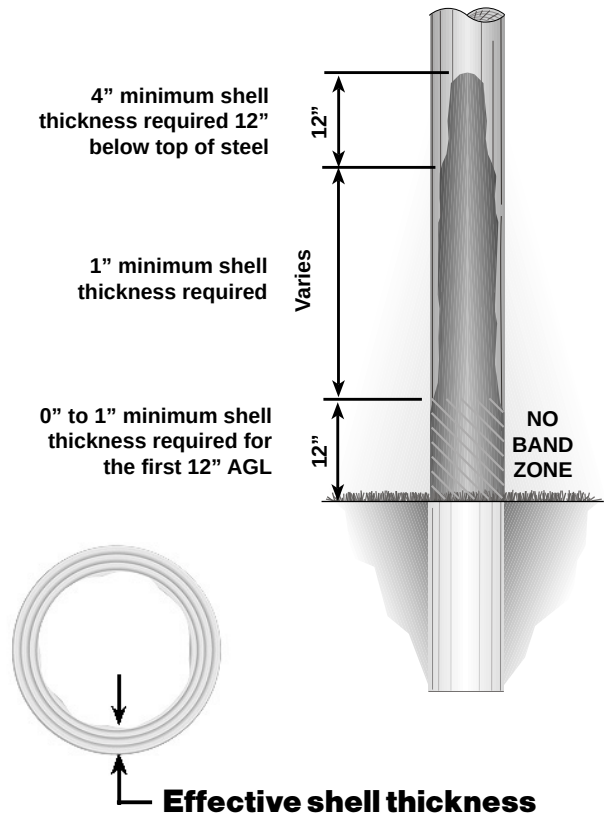
Single Units (or double units)

Semi Thin Shell



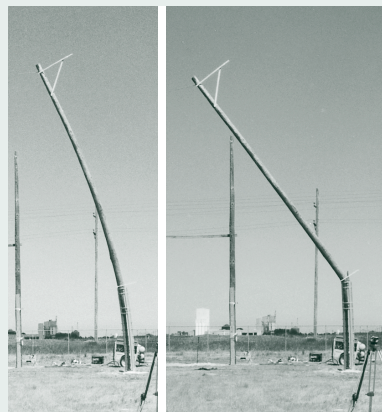
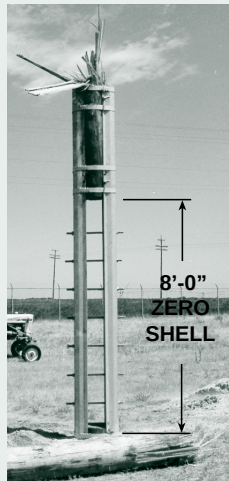
Double Units (only)

Thin Shell



PhaseRaiser® Test ... "Zero Thin Shell"

Tests conducted on the patented PhaseRaiser® structure lifting system (whose steel design is based on the patented PoleEnforcer®) proved the remarkable strength of the PoleEnforcer® in thin shell applications. The test simulated the equivalent of 8'-0" of ZERO SHELL THICKNESS.



50'-0" Class 3 Pole

Pole
Failure 3,550 lbs

Loaded 48'-0" AGL

Groundline
Moment
Failure 170,400 ft-lbs

No permanent deformation of steel.

PoleEnforcer® + crossbolts = PhaseRaiser®

PoleEnforcer® Selection Guide - Per CSA-015

CSA (Canadian Standards Association) C22.3 No. 1 - M87 Overhead Systems Canadian Electric Code Outside Wiring

GRADE 1 CONSTRUCTION 1.25 / 2 Transverse Loading

Semi-Thin Shell Criteria - Single and Double Units

Pole Length	Pole Class										
	H-4	H-3	H-2	H-1	1	2	3	4	5	6	7
30 Ft.					75-10	56-10	47-10	35-10	35-10	35-10	35-10
35 Ft.			108-11	91-11	91-11	75-10	56-10	47-10	35-10	35-10	35-10
40 Ft.	191-12	169-11	148-11	108-11	91-11	75-10	75-10	56-10	47-10	35-10	
45 Ft.	211-12	191-11	148-11	148-11	108-11	91-11	75-10	56-10	47-10	35-10	
50 Ft.	148-11D	211-12	169-11	148-11	148-11	108-11	91-11	75-10	56-10		
55 Ft.	148-11D	108-11D	191-12	169-11	148-11	108-11	91-11	75-10			
60 Ft.	148-11D	148-11D	211-12	169-11	148-11	148-11	108-11	75-10			
65 Ft.	169-11D	148-11D	148-11D	191-12	169-11	148-11	108-11	91-11			
70 Ft.	169-11D	148-11D	148-11D	211-12	169-11	148-11	148-11	91-11			
75 Ft.	191-12D	169-11D	148-11D	108-11D	191-12	148-11	148-11				
80 Ft.	191-12D	169-11D	148-11D	148-11D	211-12	169-11	148-11				
85 Ft.	211-12D	191-12D	148-11D	148-11D	211-12	169-11	148-11				
90 Ft.	211-12D	191-12D	169-11D	148-11D	148-11D	191-12	148-11				
95 Ft.		211-12D	169-11D	148-11D	148-11D	191-12					
100 Ft.		211-12D	191-12D	148-11D	148-11D	211-12					
105 Ft.			211-12D	169-11D	148-11D	211-12					
110 Ft.			211-12D	169-11D	148-11D	148-11D					
115 Ft.			211-12D	191-12D	148-11D	148-11D					
120 Ft.				191-12D	169-11D	148-11D					
125 Ft.				191-12D	169-11D	148-11D					

PoleEnforcer® Selection Guide - Per CSA-015

CSA (Canadian Standards Association) C22.3 No. 1 - M87 Overhead Systems Canadian Electric Code Outside Wiring

GRADE 1 CONSTRUCTION 1.25 / 2 Transverse Loading

Thin Shell Criteria - Double Units Required

Pole Length	Pole Class										
	H-4	H-3	H-2	H-1	1	2	3	4	5	6	7
30 Ft.					35-10D	35-10D	35-10D	35-10D	35-10D	35-10D	35-10D
35 Ft.			56-10D	56-10D	47-10D	35-10D	35-10D	35-10D	35-10D	35-10D	35-10D
40 Ft.	91-11D	75-10D	75-10D	56-10D	56-10D	35-10D	35-10D	35-10D	35-10D	35-10D	
45 Ft.	108-11D	91-11D	75-10D	75-10D	56-10D	47-10D	35-10D	35-10D	35-10D	35-10D	
50 Ft.	148-11D	148-11D	91-11D	75-10D	75-10D	56-10D	47-10D	35-10D	35-10D		
55 Ft.	148-11D	108-11D	91-11D	91-11D	75-10D	56-10D	47-10D	35-10D			
60 Ft.	148-11D	148-11D	108-11D	91-11D	75-10D	75-10D	47-10D	35-10D			
65 Ft.	169-11D	148-11D	148-11D	108-11D	91-11D	75-10D	56-10D	47-10D			
70 Ft.	169-11D	148-11D	148-11D	108-11D	91-11D	75-10D	56-10D	47-10D			
75 Ft.	191-12D	169-11D	148-11D	108-11D	91-11D	75-10D	75-10D				
80 Ft.	191-12D	169-11D	148-11D	148-11D	108-11D	91-10D	75-10D				
85 Ft.	211-12D	191-12D	148-11D	148-11D	108-11D	91-10D	75-10D				
90 Ft.	211-12D	191-12D	169-11D	148-11D	148-11D	91-10D	75-10D				
95 Ft.		211-12D	169-11D	148-11D	148-11D	108-11D					
100 Ft.		211-12D	191-12D	148-11D	148-11D	108-10D					
105 Ft.			211-12D	169-11D	148-11D	108-10D					
110 Ft.			211-12D	169-11D	148-11D	148-10D					
115 Ft.			211-12D	191-12D	148-11D	148-10D					
120 Ft.				191-12D	169-11D	148-10D					
125 Ft.				191-12D	169-11D	148-10D					

PoleEnforcer® Selection Guide - Per CSA-015

CSA (Canadian Standards Association) C22.3 No. 1 - M87 Overhead Systems Canadian Electric Code Outside Wiring

GRADE 2 CONSTRUCTION 1.1 / 1.3 Transverse Loading

Semi-Thin Shell Criteria - Single and Double Units

Pole Length	Pole Class										
	H-4	H-3	H-2	H-1	1	2	3	4	5	6	7
30 Ft.					91-11	75-10	75-10	47-10	47-10	35-10	35-10
35 Ft.			148-11	148-11	108-11	918-11	75-10	56-10	47-10	35-10	35-10
40 Ft.	148-11D	211-12	191-12	148-11	148-11	91-11	108-11	75-10	56-10	47-10	
45 Ft.	148-11D	148-11D	211-12	169-11	148-11	148-11	108-11	75-10	75-10	47-10	
50 Ft.	169-11D	148-11D	148-11D	191-12	169-11	148-11	108-11	91-11	75-10		
55 Ft.	169-11D	148-11D	148-11D	211-12	191-12	148-11	148-11	108-11			
60 Ft.	191-12D	169-11D	148-11D	148-11D	191-12	169-11	148-11	108-11			
65 Ft.	211-12D	191-12D	148-11D	148-11D	211-12	191-12	148-11	148-11			
70 Ft.	211-12D	191-12D	169-11D	148-11D	148-11D	191-12	169-11	148-11			
75 Ft.		211-12D	191-12D	148-11D	148-11D	211-12	169-11				
80 Ft.			191-12D	169-11D	148-11D	108-12	191-12				
85 Ft.			211-12D	169-11D	148-11D	148-11D	191-12				
90 Ft.			211-12D	191-12D	148-11D	148-11D	211-12				
95 Ft.				191-12D	169-11D	148-11D					
100 Ft.				211-12D	169-11D	148-11D					
105 Ft.				211-12D	191-12D	148-11D					
110 Ft.					191-12D	169-11D					
115 Ft.					191-12D	169-11D					
120 Ft.					211-12D	169-12D					
125 Ft.					211-12D	191-12D					

PoleEnforcer® Selection Guide - Per CSA-015

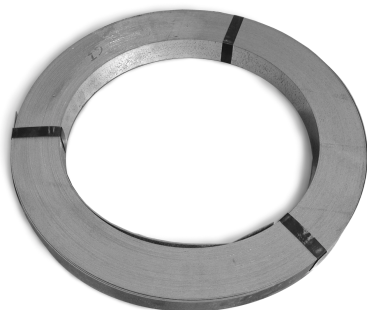
CSA (Canadian Standards Association) C22.3 No. 1 - M87 Overhead Systems Canadian Electric Code Outside Wiring

GRADE 2 CONSTRUCTION 1.1 / 1.3 Transverse Loading

Thin Shell Criteria - Double Units Required

Pole Length	Pole Class										
	H-4	H-3	H-2	H-1	1	2	3	4	5	6	7
30 Ft.					47-10D	47-10D	35-10D	35-10D	35-10D	35-10D	35-10D
35 Ft.			75-10D	75-10D	56-10D	47-10D	35-10D	35-10D	35-10D	35-10D	35-10D
40 Ft.	148-11D	108-11D	91-11D	75-10D	75-10D	56-10D	47-10D	35-10D	35-10D	35-10D	
45 Ft.	148-11D	148-11D	108-11D	91-11D	75-10D	75-10D	47-10D	47-10D	35-10D	35-10D	
50 Ft.	169-11D	148-11D	148-11D	108-11D	91-11D	75-10D	56-10D	47-10D	35-10D		
55 Ft.	169-11D	148-11D	148-11D	148-11D	91-11D	75-10D	75-10D	47-10D			
60 Ft.	191-12D	169-11D	148-11D	148-11D	108-11D	91-11D	75-10D	56-10D			
65 Ft.	211-12D	191-12D	148-11D	148-11D	108-11D	91-11D	75-10D	56-10D			
70 Ft.	211-12D	191-12D	169-11D	148-11D	148-11D	108-11D	75-10D	75-10D			
75 Ft.		211-12D	191-12D	148-11D	148-11D	108-11D	91-11D				
80 Ft.			191-12D	169-11D	148-11D	108-11D	91-11D				
85 Ft.			211-12D	169-11D	148-11D	148-11D	108-11D				
90 Ft.			211-12D	191-12D	148-11D	148-11D	108-11D				
95 Ft.				191-12D	169-11D	148-11D					
100 Ft.				211-12D	169-11D	148-11D					
105 Ft.				211-12D	191-12D	148-11D					
110 Ft.					191-12D	169-11D					
115 Ft.					191-12D	169-11D					
120 Ft.					211-12D	169-12D					
125 Ft.					211-12D	191-12D					

Banding • Seals • Tools • Accessories • Options



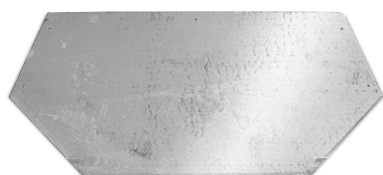
51 mm (2") Wide Galvanized Banding

Part Number	Description	Weight
PEB2G85	51mm x 1.3mm (2" x .050") Steel Banding (approx. 85.4M [280 ft.]) 53,393N (12,000 lbs.) ultimate tensile strength.	43Kg (95 lbs.) per coil



Galvanized Seals

Part Number	Description	Weight
PEOS2GL	51mm x 108mm (2" x 4-1/4") Open Crimp Seal (250 per box)	23Kg (50 lbs.)



Safety Caps[†]

Part Number	Description	Weight
PE2SC	Safety Cap for 35mm to 148mm units (6" to 10")	0.45Kg (1 lb.)
PE3SC	Safety Cap for 169mm to 211mm units (11" to 13")	0.45Kg (1 lb.)

[†] Nails included

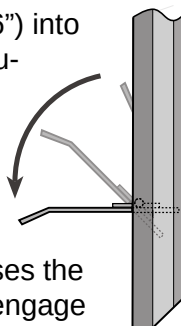
Complete Tool & Driving Systems*

- **PE90PDS Pneumatic Driving System**
Includes the PE90HHB-B-D Air Hammer & Bracket Assembly, the PE90WP Sectional Winch Pole Assembly and the PE90TWB Pull Down Winch Assembly.
- **PE500DWS Drop Weight Driving System**
May be operated using either a truck mounted or pole mounted capstan hoist. Includes the PE250DS Driving Shank and ten PE25WW 11.4Kg (25lb.) Wafer Weights. The drop weight driving system is recommended for hard driving soil conditions.
- **Hydraulic Driving System**
Available upon request.
- **PE90PDS Pneumatic Driving System Tool Package**
Includes the PE90PDS Pneumatic Driving System and nine other specialized tools, everything needed to install the PoleEnforcer® groundline reinforcement system.

*Refer to the PoleEnforcer® Driving Systems & Tool brochure for complete ordering information.

Optional "Big Foot" Uplift & Thrust System

H-frame and guyed angle structures can be reinforced using the PoleEnforcer® BIG FOOT internal footed system. The installation procedure is essentially the same with the exception that the BIG FOOT unit is driven an additional 125mm (6") into the ground. A hydraulic uplift cylinder is then used to raise the unit to the standard setting depth. Raising the BIG FOOT unit causes the "foot" to rotate and engage the bottom of the pole.



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