

# POLE REPAIR

from Laminated Wood Systems, Inc.

- **Soft Soil**
- **Car Damage**
- **Woodpecker Damage**
- **Burned Poles**
- **High Decay**



A safe and quick way to repair damaged poles in the field using the patented PoleEnforcer® Groundline Reinforcement System.

# LWS

Laminated Wood Systems, Inc.

**Canadian** 

**800-949-3526**  
**www.lwsinc.com**

**PoleEnforcer SRS®**  
*Spliced Reinforcement System*

PATENT PENDING

**PoleEnforcer®**

PATENT NO. 6,882,481

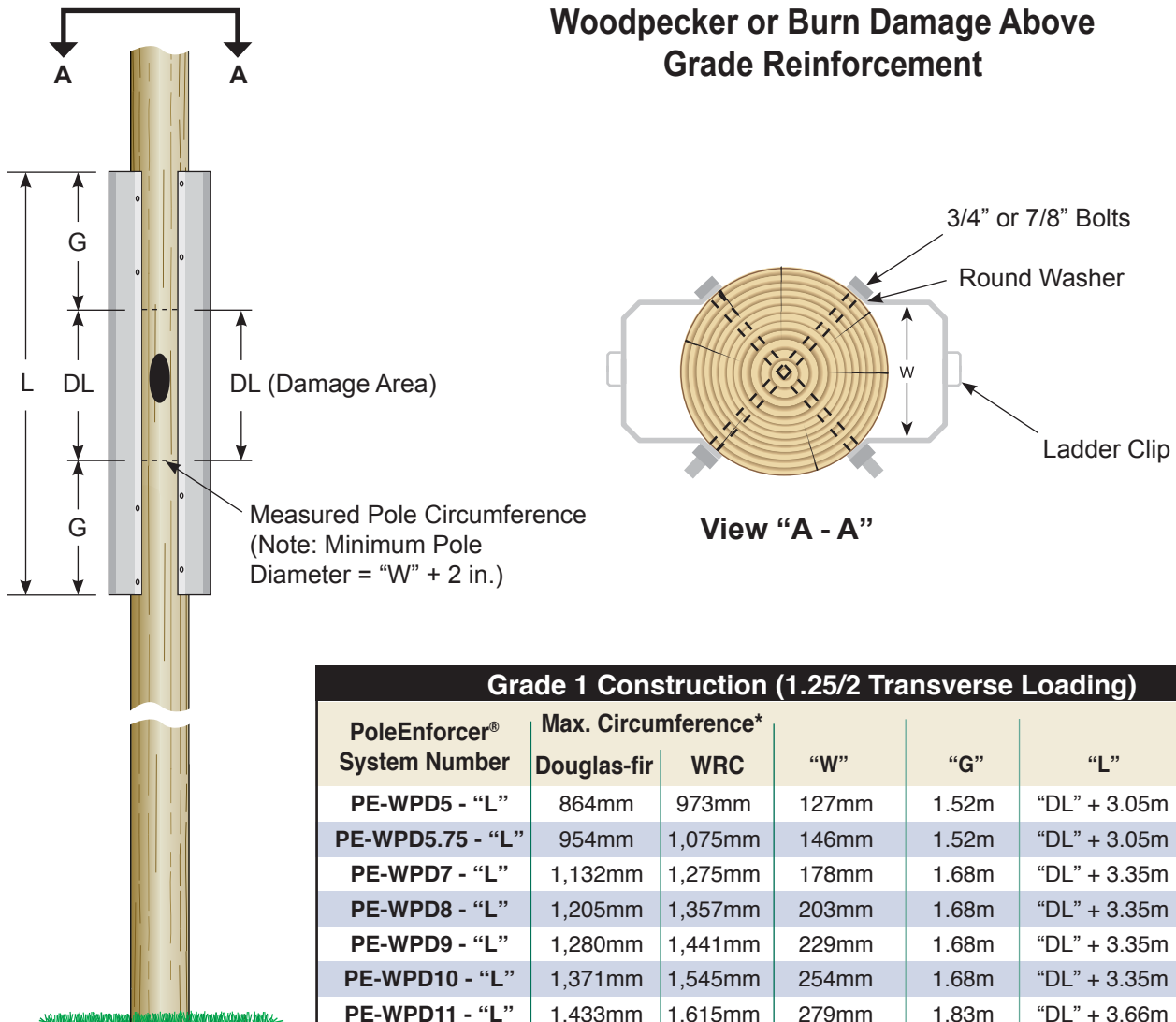
## Woodpecker or Burn Damage Above Grade Reinforcement



Unlike typical void-filling remedies, the steel PoleEnforcer® units not only restore the strength of the pole but actually allow the woodpeckers to remain in their habitat. Maintaining their habitat reduces the potential for further damage to the pole or a replacement pole.



## Woodpecker or Burn Damage Above Grade Reinforcement



### Grade 1 Construction (1.25/2 Transverse Loading)

PoleEnforcer® System Number	Max. Circumference*		"W"	"G"	"L"	Mounting Bolt Dia.
	Douglas-fir	WRC				
PE-WPD5 - "L"	864mm	973mm	127mm	1.52m	"DL" + 3.05m	19mm
PE-WPD5.75 - "L"	954mm	1,075mm	146mm	1.52m	"DL" + 3.05m	19mm
PE-WPD7 - "L"	1,132mm	1,275mm	178mm	1.68m	"DL" + 3.35m	22mm
PE-WPD8 - "L"	1,205mm	1,357mm	203mm	1.68m	"DL" + 3.35m	22mm
PE-WPD9 - "L"	1,280mm	1,441mm	229mm	1.68m	"DL" + 3.35m	22mm
PE-WPD10 - "L"	1,371mm	1,545mm	254mm	1.68m	"DL" + 3.35m	22mm
PE-WPD11 - "L"	1,433mm	1,615mm	279mm	1.83m	"DL" + 3.66m	22mm
PE-WPD12 - "L"	1,494mm	1,682mm	305mm	1.83m	"DL" + 3.66m	22mm

### Grade 2 Construction (1.1/1.3 Transverse Loading)

PoleEnforcer® System Number	Max. Circumference*		"W"	"G"	"L"	Mounting Bolt Dia.
	Douglas-fir	WRC				
PE-WPD5 - "L"	778mm	879mm	127mm	1.52m	"DL" + 3.05m	19mm
PE-WPD5.75 - "L"	862mm	971mm	146mm	1.52m	"DL" + 3.05m	19mm
PE-WPD7 - "L"	1,023mm	1,152mm	178mm	1.68m	"DL" + 3.35m	22mm
PE-WPD8 - "L"	1,089mm	1,226mm	203mm	1.68m	"DL" + 3.35m	22mm
PE-WPD9 - "L"	1,156mm	1,303mm	229mm	1.68m	"DL" + 3.35m	22mm
PE-WPD10 - "L"	1,240mm	1,396mm	254mm	1.68m	"DL" + 3.35m	22mm
PE-WPD11 - "L"	1,296mm	1,460mm	279mm	1.83m	"DL" + 3.66m	22mm
PE-WPD12 - "L"	1,350mm	1,521mm	305mm	1.83m	"DL" + 3.66m	22mm

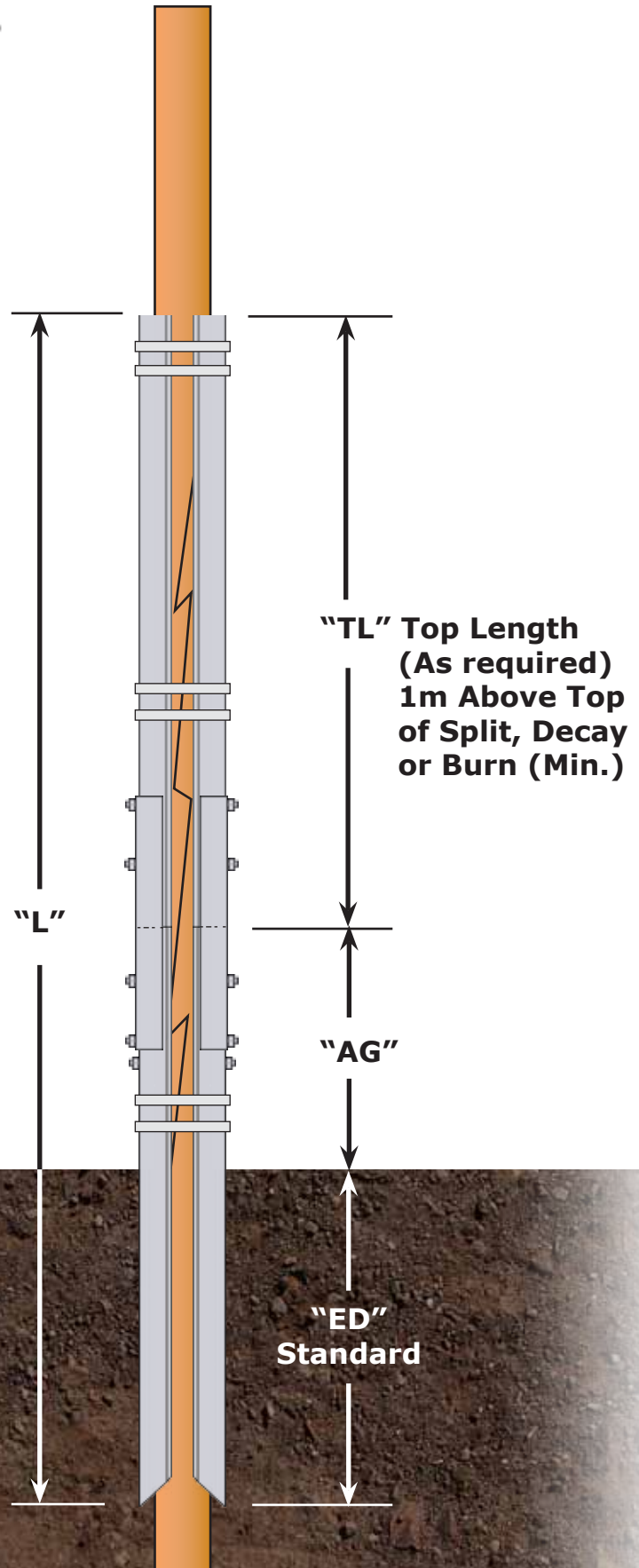
\* Based on 100% pole utilization.

# POLE REPAIR

## PoleEnforcer SRS® Spliced Reinforcement System

PATENT PENDING

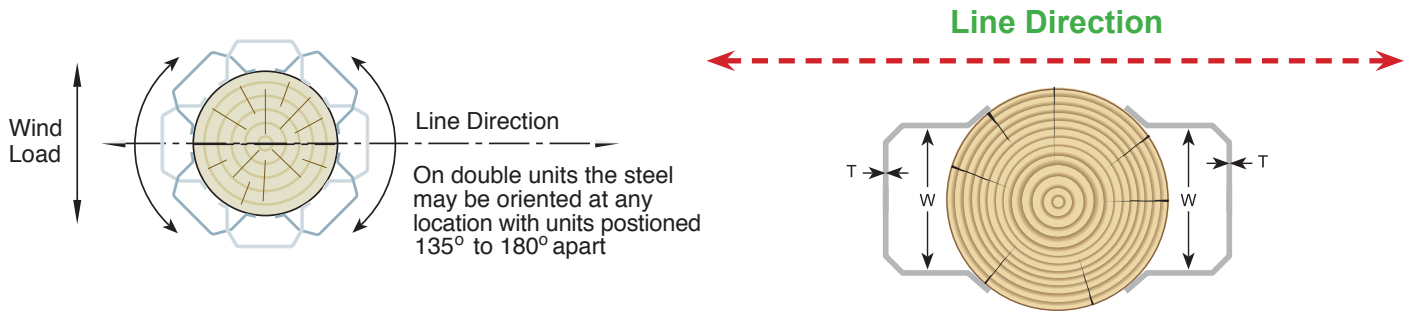
**Spliced Reinforcement System  
for Car Break Poles, High Decay  
or High Burn Damage  
(Double Units)**



# PoleEnforcer SRS®

## Spliced Reinforcement System

PATENT PENDING



### PoleEnforcer SRS® Strength Chart

PoleEnforcer SRS® Unit Number	Rated Bending Strength (N-m)	Unit Dimensions (mm)		“A G” (min.)
		“W”	“T”	
SRS42 -“L”- S*	113,800	130	6	1.524 m
SRS75 -“L”- S*	203,300	181	6	1.524 m
SRS91 -“L”- S*	246,700	184	8	1.676 m
SRS148 -“L”- S*	401,300	229	9.5	1.676 m

“L” = Total Length of Steel in Meters    \* = Number of Splices for More than One  
NOTE: “F” After Length for Footed Units

#### Grade 1 Construction

Pole Length (ft.)	Pole Class				
	H1	1	2	3	4
35	CPE75	CPE42	CPE42	CPE42	CPE42
40	CPE75	CPE75	CPE42	CPE42	CPE42
45	CPE75	CPE75	CPE75	CPE42	CPE42
50	CPE75	CPE75	CPE75	CPE42	CPE42
55	CPE91	CPE75	CPE75	CPE75	CPE42
60	CPE91	CPE75	CPE75	CPE75	
65	CPE148	CPE91	CPE75	CPE75	
70	CPE148	CPE91	CPE75	CPE75	
75	CPE148	CPE91	CPE75	CPE75	
80	CPE148	CPE148	CPE91	CPE75	
85	CPE148	CPE148	CPE91	CPE75	
90	CPE148	CPE148	CPE91		
95	CPE148	CPE148	CPE148		
100	CPE148	CPE148	CPE148		

#### Grade 2 Construction

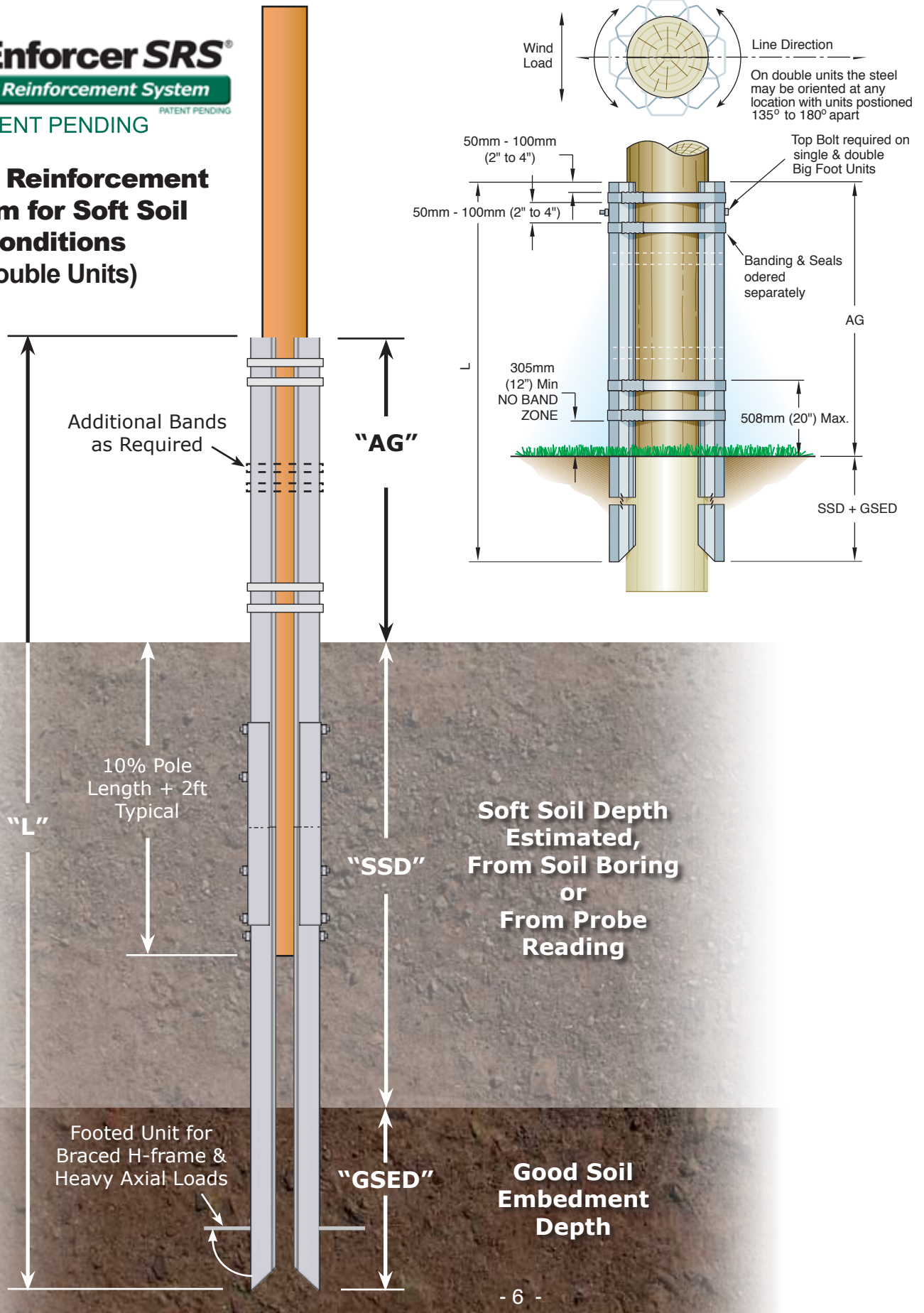
Pole Length (ft.)	Pole Class				
	H1	1	2	3	4
35	CPE75	CPE75	CPE75	CPE42	CPE42
40	CPE75	CPE75	CPE75	CPE42	CPE42
45	CPE91	CPE75	CPE75	CPE75	CPE42
50	CPE148	CPE91	CPE75	CPE75	CPE42
55	CPE148	CPE91	CPE75	CPE75	CPE75
60	CPE148	CPE148	CPE91	CPE75	
65	CPE148	CPE148	CPE91	CPE75	
70	CPE148	CPE148	CPE148	CPE70	
75	CPE148	CPE148	CPE148	CPE91	
80		CPE148	CPE148	CPE91	
85		CPE148	CPE148	CPE148	
90		CPE148	CPE148		
95			CPE148		
100			CPE148		

# POLE REPAIR

**PoleEnforcer SRS®**  
Spliced Reinforcement System

PATENT PENDING

**Spliced Reinforcement  
System for Soft Soil  
Conditions  
(Double Units)**

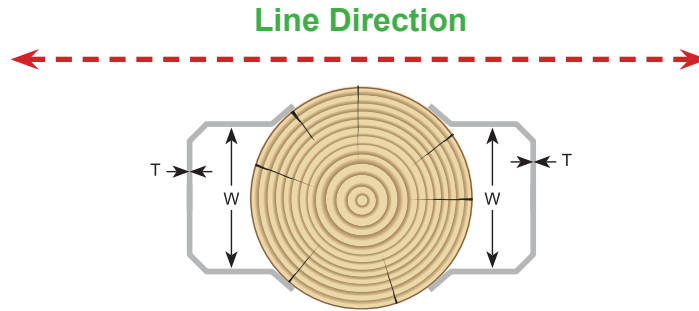




# PoleEnforcer SRS®

## Spliced Reinforcement System

PATENT PENDING



PoleEnforcer SRS® Strength Chart				
PoleEnforcer SRS® Unit Number	Rated Bending Strength (N-m)	Unit Dimensions (mm)		“A G” (min.)
		“W”	“T”	
SRS42 -“L”- S*	113,800	130	6	1.524 m
SRS75 -“L”- S*	203,300	181	6	1.524 m
SRS91 -“L”- S*	246,700	184	8	1.676 m
SRS148 -“L”- S*	401,300	229	9.5	1.676 m

“L” = Total Length of Steel in Meters \* = Number of Splices for More than One  
NOTE: “F” After Length for Footed Units

### Grade 1 Construction

Soft Soil Depth “SSD” = 1.52 m (5 ft.)			Pole Length (ft.)	Pole Class				
				H1	1	2	3	4
Steel Size	“GSED” (min.)	“AG” (min.)	35	CPE75	CPE75	CPE42	CPE42	CPE42
			40	CPE75	CPE75	CPE75	CPE42	CPE42
			45	CPE75	CPE75	CPE75	CPE42	CPE42
			50	CPE91	CPE75	CPE75	CPE75	CPE42
			55	CPE91	CPE75	CPE75	CPE75	CPE42
			60	CPE148	CPE91	CPE75	CPE75	CPE42
			65	CPE148	CPE91	CPE75	CPE75	CPE75
			70	CPE148	CPE91	CPE75	CPE75	CPE75
			75	CPE148	CPE148	CPE91	CPE75	
			80	CPE148	CPE148	CPE91	CPE75	
			85	CPE148	CPE148	CPE91	CPE75	
			90	CPE148	CPE148	CPE148		
			95	CPE148	CPE148	CPE148		
			100		CPE148	CPE148		

# PoleEnforcer SRS® Strength & Sizing Charts

## Grade 1 Construction

<b>Soft Soil Depth</b> <b>“SSD” = 3.05 m</b> <b>(10 ft.)</b>			Pole Length (ft.)	Pole Class				
				H1	1	2	3	4
<b>Steel Size</b> <b>“GSED” (min.)</b> <b>“AG” (min.)</b> CPE42   2.438 m   1.524 m CPE75   2.896 m   1.524 m CPE91   3.200 m   1.676 m CPE148   3.962 m   1.676 m  <i>OTHER SIZES AVAILABLE ON REQUEST</i>			35	CPE75	CPE75	CPE75	CPE42	CPE42
			40	CPE75	CPE75	CPE75	CPE42	CPE42
			45	CPE91	CPE75	CPE75	CPE75	CPE42
			50	CPE91	CPE75	CPE75	CPE75	CPE42
			55	CPE148	CPE91	CPE75	CPE75	CPE42
			60	CPE148	CPE91	CPE75	CPE75	CPE75
			65	CPE148	CPE91	CPE75	CPE75	CPE75
			70	CPE148	CPE148	CPE91	CPE75	CPE75
			75	CPE148	CPE148	CPE91	CPE75	
			80	CPE148	CPE148	CPE91	CPE75	
			85	CPE148	CPE148	CPE148	CPE91	
			90	CPE148	CPE148	CPE148		
			95		CPE148	CPE148		
			100		CPE148	CPE148		

## Grade 1 Construction

<b>Soft Soil Depth</b> <b>“SSD” = 4.57 m</b> <b>(15 ft.)</b>			Pole Length (ft.)	Pole Class				
				H1	1	2	3	4
<b>Steel Size</b> <b>“GSED” (min.)</b> <b>“AG” (min.)</b> CPE42   2.438 m   1.524 m CPE75   2.896 m   1.524 m CPE91   3.200 m   1.676 m CPE148   3.962 m   1.676 m  <i>OTHER SIZES AVAILABLE ON REQUEST</i>			35	CPE75	CPE75	CPE75	CPE42	CPE42
			40	CPE148	CPE75	CPE75	CPE75	CPE42
			45	CPE148	CPE75	CPE75	CPE75	CPE42
			50	CPE148	CPE91	CPE75	CPE75	CPE42
			55	CPE148	CPE91	CPE75	CPE75	CPE75
			60	CPE148	CPE148	CPE91	CPE75	CPE75
			65	CPE148	CPE148	CPE91	CPE75	CPE75
			70	CPE148	CPE148	CPE91	CPE75	CPE75
			75	CPE148	CPE148	CPE91	CPE75	
			80	CPE148	CPE148	CPE148	CPE91	
			85	CPE148	CPE148	CPE148		
			90		CPE148	CPE148		
			95		CPE148	CPE148		
			100		CPE148	CPE148		



# PoleEnforcer SRS® Strength & Sizing Charts

## Grade 2 Construction

Soft Soil Depth “SSD” = 1.52 m (5 ft.)			Pole Length (ft.)	Pole Class				
				H1	1	2	3	4
Steel Size	“GSED” (min.)	“AG” (min.)	35	CPE75	CPE75	CPE75	CPE42	CPE42
			40	CPE91	CPE75	CPE75	CPE75	CPE42
			45	CPE148	CPE91	CPE75	CPE75	CPE75
			50	CPE148	CPE91	CPE75	CPE75	CPE75
			55	CPE148	CPE148	CPE91	CPE75	CPE75
			60	CPE148	CPE148	CPE91	CPE75	CPE75
			65	CPE148	CPE148	CPE148	CPE91	CPE75
			70	CPE148	CPE148	CPE148	CPE91	CPE75
			75		CPE148	CPE148	CPE91	
			80		CPE148	CPE148	CPE148	
			85		CPE148	CPE148	CPE148	
			90			CPE148		
			95			CPE148		
100			CPE148					
OTHER SIZES AVAILABLE ON REQUEST								

## Grade 2 Construction

Soft Soil Depth “SSD” = 3.05 m (10 ft.)			Pole Length (ft.)	Pole Class				
				H1	1	2	3	4
Steel Size	“GSED” (min.)	“AG” (min.)	35	CPE91	CPE75	CPE75	CPE75	CPE42
			40	CPE148	CPE91	CPE75	CPE75	CPE75
			45	CPE148	CPE91	CPE75	CPE75	CPE75
			50	CPE148	CPE148	CPE91	CPE75	CPE75
			55	CPE148	CPE148	CPE91	CPE75	CPE75
			60	CPE148	CPE148	CPE148	CPE91	CPE75
			65	CPE148	CPE148	CPE148	CPE91	CPE75
			70		CPE148	CPE148	CPE91	CPE75
			75		CPE148	CPE148	CPE148	
			80			CPE148	CPE148	
			85			CPE148	CPE148	
			90			CPE148		
			95			CPE148		
100								

# PoleEnforcer SRS® Strength & Sizing Charts

## Grade 2 Construction

<b>Soft Soil Depth “SSD” = 4.57 m (15 ft.)</b>			Pole Length (ft.)	Pole Class				
				H1	1	2	3	4
<b>Steel Size</b> <b>“GSED” (min.)</b> <b>“AG” (min.)</b> CPE42 2.438 m 1.524 m CPE75 2.896 m 1.524 m CPE91 3.200 m 1.676 m CPE148 3.962 m 1.676 m  <i>OTHER SIZES AVAILABLE ON REQUEST</i>			35	CPE148	CPE91	CPE75	CPE75	CPE75
			40	CPE148	CPE91	CPE75	CPE75	CPE75
			45	CPE148	CPE148	CPE91	CPE75	CPE75
			50	CPE148	CPE148	CPE91	CPE75	CPE75
			55	CPE148	CPE148	CPE148	CPE91	CPE75
			60		CPE148	CPE148	CPE91	CPE75
			65		CPE148	CPE148	CPE91	CPE75
			70		CPE148	CPE148	CPE148	CPE91
			75			CPE148	CPE148	
			80			CPE148	CPE148	
			85			CPE148	CPE148	
			90			CPE148		
			95					
			100					

## Installation Procedure



**1. Lower steel unit is driven next to pole.**



**2. Back splice plate is attached to the lower steel unit.**



**3. Upper steel unit is positioned on top of lower unit.**



**4. Splice channel is attached and secured with nuts and locknuts.**



**5. Steel SRS units are driven to desired depth.**



**6. Units are banded and caps are installed.**

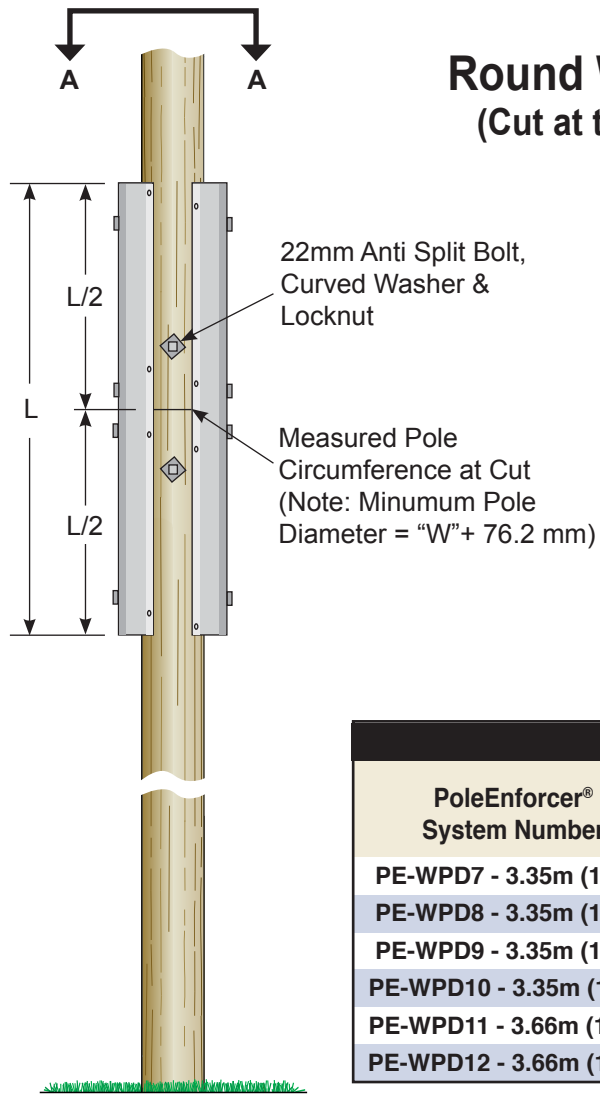


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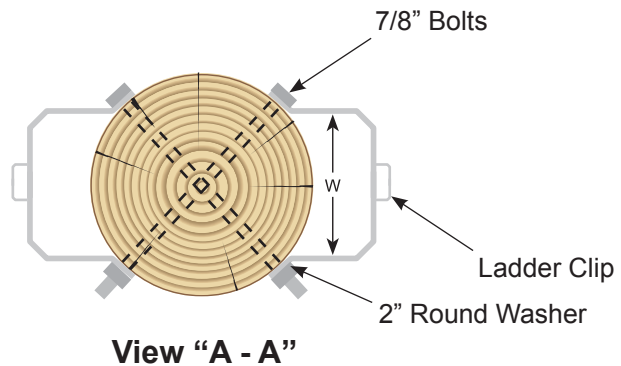
## Round Wood Pole Splice

**Used when transportation constraints limit site access to longer round wood poles.  
Drilled and cut in the field or at the treater.**





## Round Wood Pole Splice (Cut at treater or in the field)



### Grade 1 Construction

PoleEnforcer® System Number	Max. Circumference*		"W"	"L"	Mounting Bolt Dia.
	Douglas-fir	WRC			
PE-WPD7 - 3.35m (11ft.)	1,132mm	1,275mm	178mm	3.35m	22mm
PE-WPD8 - 3.35m (11ft.)	1,205mm	1,352mm	203mm	3.35m	22mm
PE-WPD9 - 3.35m (11ft.)	1,280mm	1,441mm	229mm	3.35m	22mm
PE-WPD10 - 3.35m (11ft.)	1,371mm	1,545mm	254mm	3.35m	22mm
PE-WPD11 - 3.66m (12ft.)	1,433mm	1,615mm	279mm	3.66m	22mm
PE-WPD12 - 3.66m (12ft.)	1,494mm	1,682mm	305mm	3.66m	22mm



**Spliced Reinforcement System  
for Wood Poles Located  
Adjacent to Excavations  
(Double Units) Spliced**

If "PD" ≥ Excavation Depth:  
"ND1" = (Pole length x 0.12 + 605mm) - (PD - Excavation Depth) Rounded to 152mm  
"ED" = PD + ND1

If "Excavation Depth" ≥ PD:  
"ND2" = (Pole length x 0.12 + 605mm) + (Excavation Depth - PD) Rounded to 152mm  
"ED" = Excavation Depth + ND2

"L" = ED + AG

