



# Utility Crossarms and Cross Braces from a Respected Treating Company

## Why Cox for Crossarms?

Cox Southern Pine and Douglas Fir cross-arms are the durable and economical choice for utility companies across the United States.

As one of the largest pressure treating companies in the country, Cox combines decades of treating innovation, with multiple manufacturing facilities and dozens of distribution yards from coast to coast. Whether supplying normal inventory demands or responding to storm related emergencies, Cox is ready, after all the best wood in the world is not the best, if it's not where you need it when you need it.

- 24/7 Storm Response
- Douglas Fir and Southern Pine
- CCA and Penta Treated

Cox where product quality meets supply reliability, and that makes good wood great.



## Why Southern Pine Crossarms?

At Cox, we believe in Southern pine and have reliable sources for the high quality stock needed for southern pine crossarms. Southern pine is less costly than Douglas fir, and its availability throughout the south-east results in significant freight savings for northeastern and eastern utilities. In addition, Southern pine crossarms are stronger and more elastic in nature than Douglas fir samples of the same cross-sectional size. Coupling these strength properties with the considerable cost savings and ready availability, Southern pine is now a viable alternative to Douglas fir for all users, from municipalities to cooperatives to regional investor-owned utilities. Following are results of an independent study conducted by Mississippi Forest Products Laboratory (MFPL) on behalf of Cox Industries to study the structural integrity of Southern pine crossarms.

### Comparison of Mechanical Properties

Species	Size	FSPL (psi)	MOR (psi)	MOE (psi)	WEIGHT (lbs)
Douglas fir	3 1/2" x 4 1/2"	6,267	8,302	2,076,920	37.0
Southern pine	3 1/2" x 4 1/2"	5,170	9,382	1,825,257	44.0
Douglas fir	3 3/4" x 4 3/4"	5,662	7,978	2,057,162	40.0
Southern pine	3 3/4" x 4 3/4"	6,363	10,395	1,969,421	48.0

**FSPL** (Fiber Stress Proportional Limits) – For any given piece of wood subjected to stress, the load deformation curve reaches a proportional limit, beyond which the total deformation is non-recoverable and some permanent set is imposed. Simply stated, if any piece of wood is loaded beyond a certain amount the sample will not return to its prior shape. In the case of a crossarm, if an arm is overloaded by a tree falling on a line or any like situation, the arm will retain some "bend" or curve in the piece.

**MOR** (Modulus of Rupture) – The magnitude of a load required to cause failure, or the point at which a crossarm will break.

**MOE** (Modulus of Elasticity) – A measurement of an object's resistance to bending (also related to the "stiffness" of a member).

**Density** (Weight Density) – The weight of wood per unit volume. There exists a direct correlation between weight and strength. (i.e. the heavier a known sample, the stronger the said sample at a given moisture content.)

Note: All samples were independently procured and conformed to ANSI 05.3-1995 and SPIB specifications.

Sampling was in accordance with ASTM D2915. Following receipt, MFPL personnel tested the crossarms in static bending using ASTM D198-98.

# Crossarms



products

## New Product Now Available: DuraBrace by Cox.

This crossarm brace forms a triangle to ensure that the arm will remain stable and will not pivot. Our new brace was recently accepted by the Technical Standards Committee (Electric) of the USDA, and will appear on page cu-1. A variety of sizes is available through.

### Available Sizes

#### Length

Standard utility lengths (8' and 10'), as well as custom sizes in lengths from 4' up to 28'.

#### Thickness

3 1/2" X 4 1/2", 3 3/4" x 4 3/4", and 4 1/4" X 5 1/4", as well as custom sizes up to 8" thick and 18" wide.

### Species

- Southern pine
- Douglas fir

### Treatments

- CCA
- Pentachlorophenol
- CCA with ET® oil emulsion

### Applicable Standards

ANSI 05.3 – Standard for Solid Sawn-Wood Crossarms and Braces Specifications and Dimensions

AWPA C-25 and C-28 for pressure treating solid sawn and laminated crossarms

AWPA Use Category System – UC3B Above ground, critical



**Cox** INDUSTRIES, INC  
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