TECHNICAL STANDARDS DEPARTMENT
36 Trafalgar Road, Kingston 5
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T&D MATERIAL PURCHASING SPECIFICATION

JPSCo SPECIFICATION#: FIBREARM	DATE: April 19, 2004
ITEM STOCK:	SUPERSEDES: ALL PREVIOUS

STOCK DESCRIPTION: Crossarms, composite (fiberglass and resin materials)

APPLICATION: For use as an alternative for wooden crossarms on wood or concrete pole.

SPECIFICATION

COMPOSITE CROSSARMS, TANGENT & DEADEND (FIBREGLASS & RESIN MATERIALS)- Suitable for use **without** braces.)

Composite crossarms shall be high strength, high stiffness fiberglass reinforced. The crossarm shall satisfy all REA/ RUS requirements. The crossarm shall comply with REA drilling specification as illustrated in REA# M-19. The crossarm shall have dimensions and minimum strength as illustrated in tables one (1) and two (2) below. The crossarm shall be able to accommodate all conventional hardware without modification to the hardware or the crossarm.

Crossarms shall be of Tangent and Deadend types and shall have minimum mechanical requirements of ANSI 05.3-1995. Crossarm shall be manufactured with a U-V resistant polyurethane coating. The coating shall have a warranted life expectancy in excess of forty (40) years. The minimum thickness of the applied coat shall be 1.5 mils.

Composite crossarms shall be factory drilled as per attached drawing. This drilling requirement shall allow the installation of vertical pin type insulators, line post type insulators and suspension insulators. This drilling requirement also provides for wire clearance and climbing space. A suitable bushing/ sleeve shall be inserted at all holes to prevent the ingress of moisture into the crossarm. The end of the crossarm shall constitute a suitable cap/ sealant to prevent the ingress of moisture into the crossarm. The strength of the cap/ sealant shall be of such as to prevent damage to the ends of the crossarm during transportation, or accidental fall.

The maximum allowable tolerance on the length of the crossarm shall be ±0.125" (3.2mm). The maximum allowable tolerance on the bolthole location shall be ±0.0625" (1.6mm) for holes within a group and ±0.25" (6.35mm) centerline between groups.
The straightness of the crossarm shall be maximum 0.050" (1.3mm) out-of-straight per foot (305mm). The color of the crossarm complete shall be ANSI grey.
Mounting brackets shall be affixed to the crossarm. The mounting brackets shall consist of two holes for mounting, with a diameter of 11/16" (17.5mm) and spacing of 10" (254mm). The top hole shall be slotted to give a spacing tolerance of ±1/4" (±6mm). A second means of mounting shall be provided by way of slotted holes for mounting bands as illustrated in drawing FCA 1.0. Crossarms shall be suitable for use ***without*** braces when installed on poles. The mounts and other metal parts of the crossarm shall be comprised of carbon steel to meet the minimum requirements of ASTM A36. These metal structures may also be stainless steel. All metal parts except parts that are stainless steel shall be hot dipped galvanized as per ASTM A153.
The name of the manufacturer and the catalogue number of the crossarms shall be permanently marked with a letter size not less than ¼" (6mm).

Tests
The crossarm shall be subjected to test methods and results stipulated by ASTM D2344, ASTM D2584, ASTM G154 (formerly ASTM G53), ASTM D3917.

Drawings
Manufacturer's drawing shall be furnished at the time of tendering, and shall indicate the outline of the crossarms, together with all pertinent mechanical characteristics, and dimensions as specified herein. ***All suppliers shall complete the attached form (F241), which shall form part of the evaluation process.***

Table 1: TANGENT CROSSARMS, sizes and strengths as follows:

Stock Number	Type	Size	Vertical Strength per end*	Horizontal strength per end*
42283	Standard duty	2" x 4" x 96" (51x102x2450mm)	5,00 lbs (22.240kN)	2,000 lbs (8.896kN)
42503	Heavy duty	3 5/8"x4 5/8"x96" (92.1x117.5x2450mm)	6,590 lbs (29.312kN)	3,800 lbs (16.902kN)

Stock Number	Ultimate Load per phase, lbs	Working load per phase, lbs	Deflection at working load, "	Deflection at 1000 lbs Load, "	Weight incl mount, lbs
42283	4,200	2,100	2.9	1.4	28
42503	6,400	3,200	2.3	0.7	42

*Ultimate strength is based on load concentrated at ends of arm, 41/8"(102mm) from extreme tips.

Table 2: <u>DEADEND CROSSARMS,</u> sizes and strengths as follows

Stock Number	Type	Size	Vertical Strength per end*	Horizontal strength per end*
42504	Standard duty 2 way	2" x 4" x 96" (51x102x2450mm)	2,000 lbs (8.896kN)	5,000 lbs (22.240kN)
42505	Heavy duty 2 way	3 5/8"x4 5/8"x96" (92.1x117.5x2450mm)	4,500 lbs (20.016kN)	8,000 lbs (35.584kN)

Stock Number	Ultimate Load per phase, lbs	Working load per phase, lbs	Deflection at working load, "	Deflection at 2000 lbs Load, "	Weight incl mount, lbs
42504	5,000	2,500	3.4	2.7	32
42505	8,000	4,000	2.7	1.4	52

* Ultimate strength is based on load concentrated at ends of arm, 51/8" (127mm) from extreme tips.

Prepared By:	Approved By:
Craig Francis, April 19, 2004	_____ Manager, Technical Standards Department _____ General Manager, Engineering Director, Distribution Systems Date:

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Tel (876)-920-9745, Fax (876)- 968-2294
MATERIAL DATA FORM
FIBREGLASS CROSSARM (F241)

JPSCo SPECIFICATION#: FIBREARM	**DATE: April 19, 2004**
ITEM STOCK:	**SUPERSEDES:** ALL PREVIOUS

Manufacturer	
Catalogue No.	
Manufacturing Standards	
Crossarm Type	
Crossarm Size(s)	
Vertical Strength Per End	
Horizontal Strength Per End	
Ultimate Load per phase	
Working Load per phase	
Deflection at working load	
Deflection at 1000/2000 lbs	
Weight including mounts	
Color of finish?	
Sealed end caps?	
Warranty Period?	