

## Wood Double Arm Dead End Assemblies

### Complete Factory Assembled Units

BROOKS Dead End Assemblies ship complete with crossarms, braces, mounting bolts and washers ready for immediate field installation.

### Why Use a Factory Assembled Dead End

- Only one unit to order
- Only one unit to inventory
- Only one unit to install

### Strength

Dead ends are critical components of powerline systems, subjected to heavy longitudinal conductor tension loads much greater than the vertical loads. BROOKS Dead Ends are designed to handle these loads safely and efficiently. Most conventional dead ends, such as “buck-arm” construction, orient the crossarms to carry heavy vertical loads. BROOKS Dead Ends position the arms to provide greater longitudinal strength with less wood.

### Tested

Test results verify the greater strength of BROOKS Dead Ends vs. conventional dead ends.

### Reversible Braces

All BROOKS Dead Ends include BROOKS 446 Series Reversible Braces.

### Static Proof Design

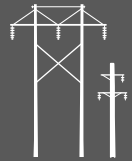
BROOKS Dead End fittings are designed for a tight static proof fit.

### Adaptable

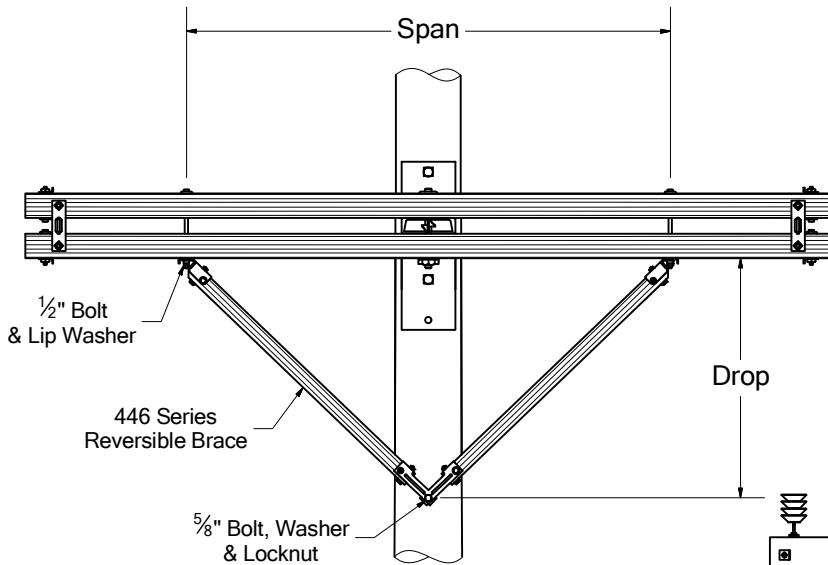
By drilling a hole in the center of the top arm of a BROOKS Dead End Assembly you can easily add jumper pins without reducing the strength of the unit.

### Special Orders

BROOKS welcomes the opportunity to work with you on special dead end applications. Just send a sketch of your requirements to our Engineering Department and we will assist you in solving your special dead end needs.

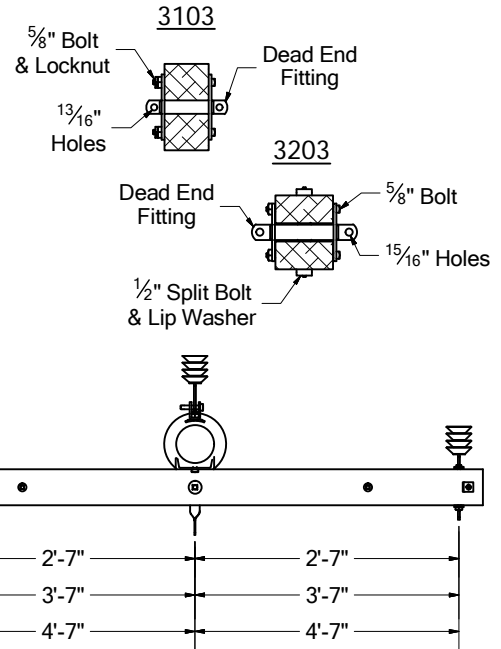


## 3103 & 3203 Series 3-Wire Dead Ends



3200 Series Illustrated

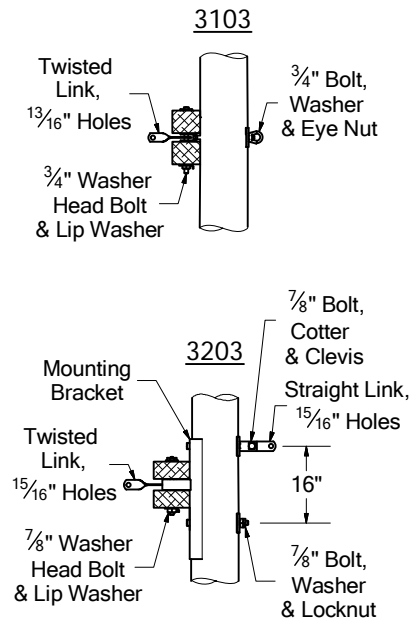
### Dead End Fitting Details



### Ordering And Strength Chart

Catalog Number	T3 Calculated* Ultimate Strength Per Attachment (Lbs.)	Arm Size	Brace Span	Brace Drop	Approx. Wt. Lbs. Each
◆ 3103-A6	5,800	3 1/2" x 4 1/2" x 6'-0"	37"	18 1/2"	83
3103-B6	7,000	3 3/4" x 4 3/4" x 6'-0"	37"	18 1/2"	90
3103-C6	10,000	3 3/4" x 5 3/4" x 6'-0"	37"	18 1/2"	103
3103-D6	13,000	4 3/4" x 5 3/4" x 6'-0"	37"	18 1/2"	122
◆ 3103-A8	4,300	3 1/2" x 4 1/2" x 8'-0"	60"	30"	103
3103-B8	5,000	3 3/4" x 4 3/4" x 8'-0"	60"	30"	112
◆ 3103-C8	7,500	3 3/4" x 5 3/4" x 8'-0"	60"	30"	129
3103-D8	9,500	4 3/4" x 5 3/4" x 8'-0"	60"	30"	154
◆ 3203-A8	12,200	3 5/8" x 7 1/2" x 8'-0"	60"	30"	196
3203-B8	15,000	3 5/8" x 8 1/2" x 8'-0"	60"	30"	213
3103-B10	4,000	3 3/4" x 4 3/4" x 10'-0"	72"	36"	133
3103-C10	6,000	3 3/4" x 5 3/4" x 10'-0"	72"	36"	154
3103-D10	7,400	4 3/4" x 5 3/4" x 10'-0"	72"	36"	185
◆ 3203-A10	9,500	3 5/8" x 7 1/2" x 10'-0"	72"	36"	227
3203-B10	11,800	3 5/8" x 8 1/2" x 10'-0"	72"	36"	247
3203-C10	14,600	3 5/8" x 9 1/2" x 10'-0"	72"	36"	268

### Pole Mounting Details

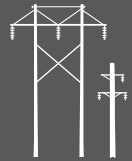


**Ordering Note:** To order glued laminated dead ends, add a "LAM" at the end of the catalog number, **Example:** 3103-B6LAM

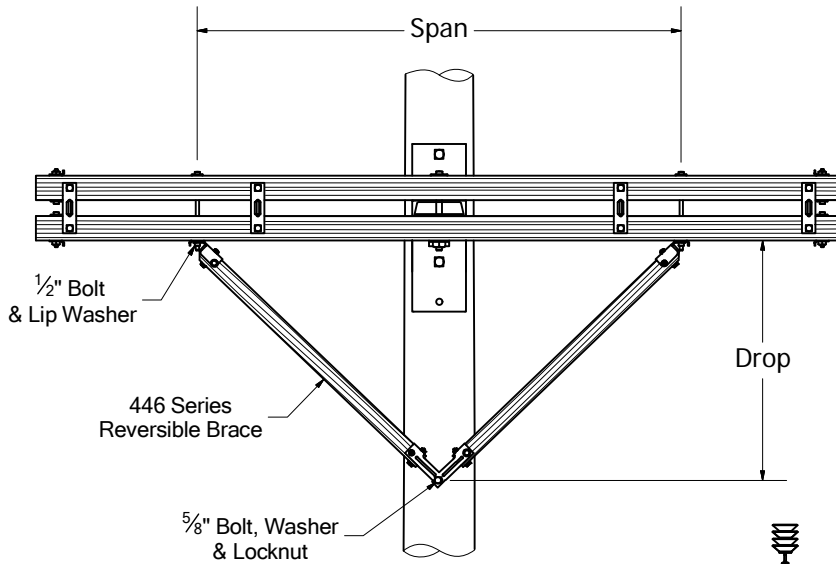
\* **Note:** These calculated ultimate strengths should meet or exceed both of the following criteria:

1. The maximum design tension of the wire multiplied by an overload capacity factor of 2.0.
2. The wire tension at 60°F, no ice multiplied by an overload capacity factor of 4.0.

◆ REA accepted (gj)

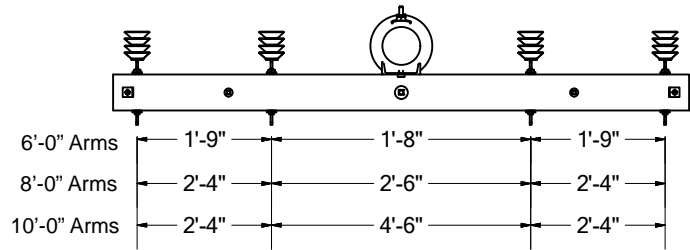
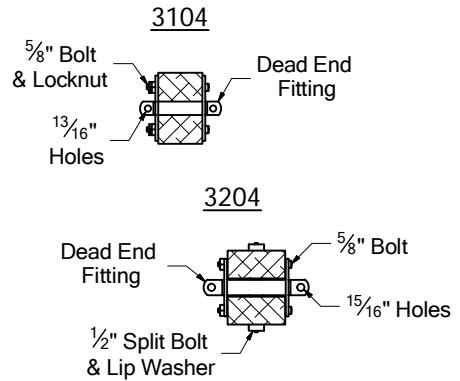


## 3104 & 3204 Series 4-Wire Dead Ends



3200 Series Illustrated

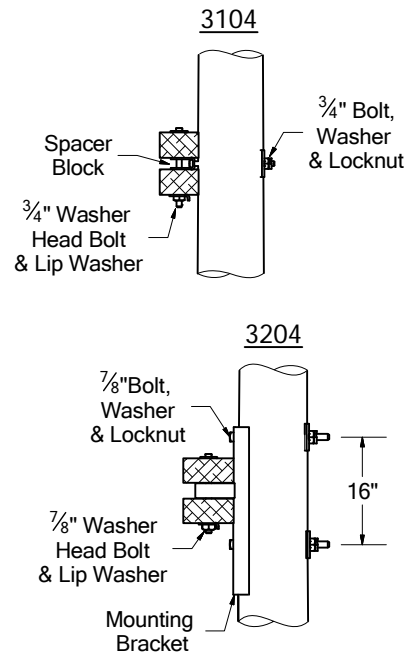
### Dead End Fitting Details



### Ordering And Strength Chart

Catalog Number	T4 Calculated* Ultimate Strength Per Attachment (Lbs.)	Arm Size	Brace Span	Brace Drop	Approx. Wt. Lbs. Each
3104-A6	4,400	3 1/2" x 4 1/2" x 6'-0"	37"	18 1/2"	92
3104-B6	5,300	3 3/4" x 4 3/4" x 6'-0"	37"	18 1/2"	100
3104-C6	7,800	3 3/4" x 5 3/4" x 6'-0"	37"	18 1/2"	113
3104-D6	9,900	4 3/4" x 5 3/4" x 6'-0"	37"	18 1/2"	132
3104-A8	3,000	3 1/2" x 4 1/2" x 8'-0"	60"	30"	112
3104-B8	3,600	3 3/4" x 4 3/4" x 8'-0"	60"	30"	122
3104-C8	5,500	3 3/4" x 5 3/4" x 8'-0"	60"	30"	139
3104-D8	7,000	4 3/4" x 5 3/4" x 8'-0"	60"	30"	164
3204-A8	8,600	3 5/8" x 7 1/2" x 8'-0"	60"	30"	205
3104-B10	2,600	3 3/4" x 4 3/4" x 10'-0"	72"	36"	143
3104-C10	3,900	3 3/4" x 5 3/4" x 10'-0"	72"	36"	164
3104-D10	5,000	4 3/4" x 5 3/4" x 10'-0"	72"	36"	195
3204-A10	6,000	3 5/8" x 7 1/2" x 10'-0"	72"	36"	236
3204-B10	7,800	3 5/8" x 8 1/2" x 10'-0"	72"	36"	256
3204-C10	9,800	3 5/8" x 9 1/2" x 10'-0"	72"	36"	278

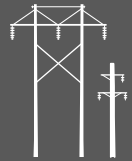
### Pole Mounting Details



**Ordering Note:** To order glued laminated dead ends, add a "LAM" at the end of the catalog number, **Example:** 3104-B6LAM

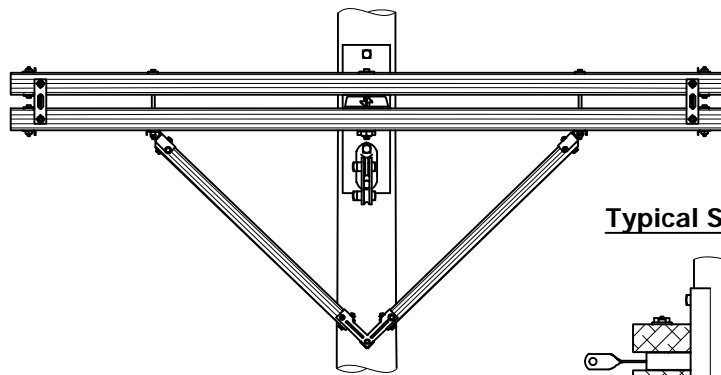
**\* Note:** These calculated ultimate strengths should meet or exceed both of the following criteria:

1. The maximum design tension of the wire multiplied by an overload capacity factor of 2.0.
2. The wire tension at 60°F, no ice multiplied by an overload capacity factor of 4.0.

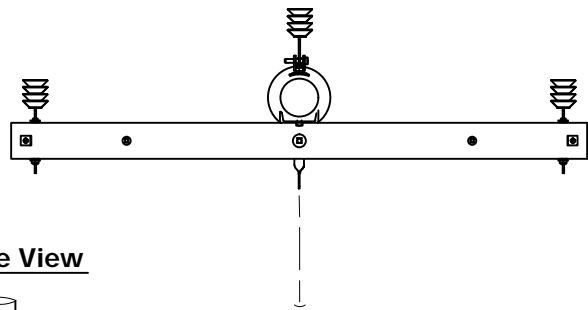
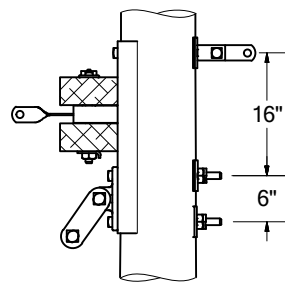


## 3103 & 3203 Series Guyed 3-Wire Dead Ends

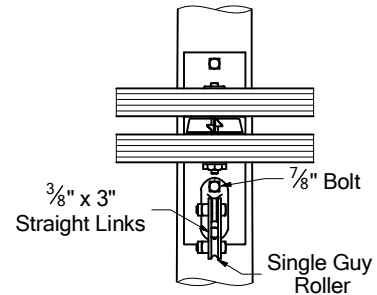
Complete with Guy Attachment Hardware & Long Bracket  
42,000 Pound Ultimate Guy Attachment Rating



Typical Side View



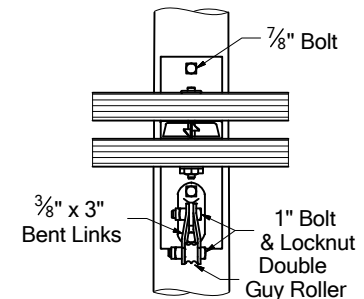
"GS" Single Guy



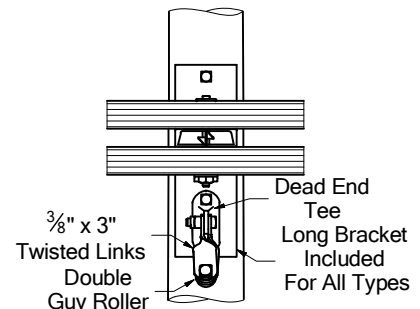
### Ordering And Strength Chart

Catalog Number	Double Guy - Vertical Catalog Number	Double Guy - Horizontal Catalog Number	Arm Size
3103-A6-GS	3103-A6-GDV	3103-A6-GDH	3 1/2" x 4 1/2" x 6'-0"
3103-B6-GS	3103-B6-GDV	3103-B6-GDH	3 3/4" x 4 3/4" x 6'-0"
3103-C6-GS	3103-C6-GDV	3103-C6-GDH	3 3/4" x 5 3/4" x 6'-0"
3103-D6-GS	3103-D6-GDV	3103-D6-GDH	4 3/4" x 5 3/4" x 6'-0"
3103-A8-GS	3103-A8-GDV	3103-A8-GDH	3 1/2" x 4 1/2" x 8'-0"
3103-B8-GS	3103-B8-GDV	3103-B8-GDH	3 3/4" x 4 3/4" x 8'-0"
3103-C8-GS	3103-C8-GDV	3103-C8-GDH	3 3/4" x 5 3/4" x 8'-0"
3103-D8-GS	3103-D8-GDV	3103-D8-GDH	4 3/4" x 5 3/4" x 8'-0"
3203-A8-GS	3203-A8-GDV	3203-A8-GDH	3 5/8" x 7 1/2" x 8'-0"
3203-B8-GS	3203-B8-GDV	3203-B8-GDH	3 5/8" x 8 1/2" x 8'-0"
3103-B10-GS	3103-B10-GDV	3103-B10-GDH	3 3/4" x 4 3/4" x 10'-0"
3103-C10-GS	3103-C10-GDV	3103-C10-GDH	3 3/4" x 5 3/4" x 10'-0"
3103-D10-GS	3103-D10-GDV	3103-D10-GDH	4 3/4" x 5 3/4" x 10'-0"
3203-A10-GS	3203-A10-GDV	3203-A10-GDH	3 5/8" x 7 1/2" x 10'-0"
3203-B10-GS	3203-B10-GDV	3203-B10-GDH	3 5/8" x 8 1/2" x 10'-0"
3203-C10-GS	3203-C10-GDV	3203-C10-GDH	3 5/8" x 9 1/2" x 10'-0"

"GDV" Double Guy Vertical



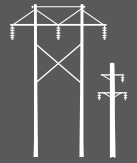
"GDH" Double Guy Horizontal



To determine shipping weight in pounds, add these amounts to page A5.1 unguyed weights.

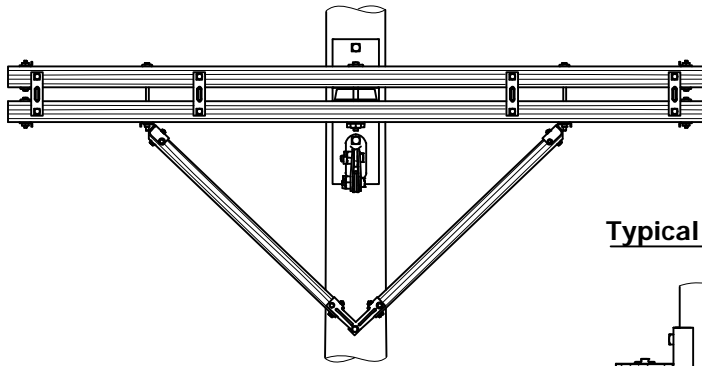
Series	GS	GDV	GDH
3103	60	61	65
3203	24	25	29

**Note:** Reference page A5.1 for the calculated ultimate strengths of the dead end assemblies.

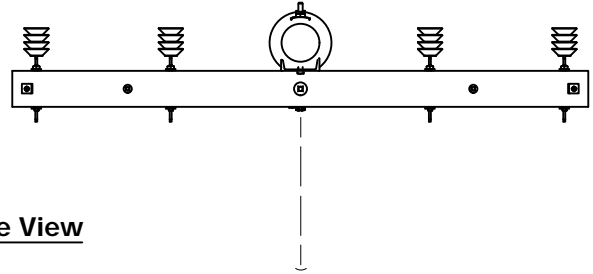
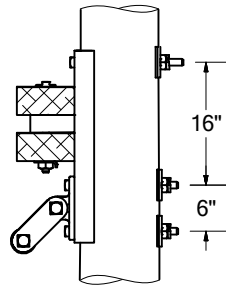


## 3104 & 3204 Series Guyed 4-Wire Dead Ends

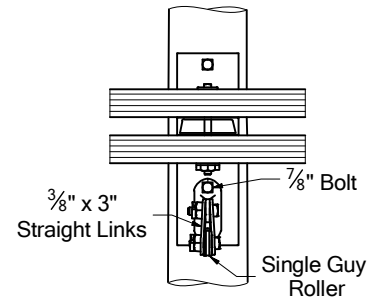
Complete with Guy Attachment Hardware & Long Bracket  
42,000 Pound Ultimate Guy Attachment Rating



Typical Side View



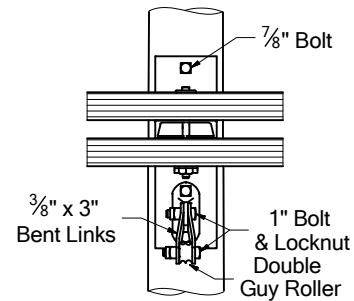
"GS" Single Guy



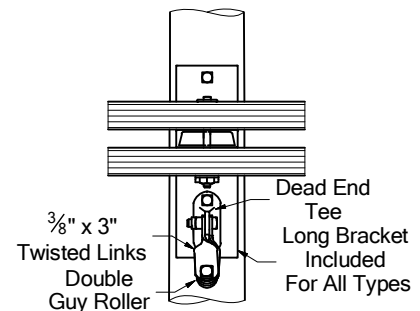
### Ordering And Strength Chart

Catalog Number	Double Guy - Vertical Catalog Number	Double Guy - Horizontal Catalog Number	Arm Size
3104-A6-GS	3104-A6-GDV	3104-A6-GDH	3 1/2" x 4 1/2" x 6'-0"
3104-B6-GS	3104-B6-GDV	3104-B6-GDH	3 3/4" x 4 3/4" x 6'-0"
3104-C6-GS	3104-C6-GDV	3104-C6-GDH	3 3/4" x 5 3/4" x 6'-0"
3104-D6-GS	3104-D6-GDV	3104-D6-GDH	4 3/4" x 5 3/4" x 6'-0"
3104-A8-GS	3104-A8-GDV	3104-A8-GDH	3 1/2" x 4 1/2" x 8'-0"
3104-B8-GS	3104-B8-GDV	3104-B8-GDH	3 3/4" x 4 3/4" x 8'-0"
3104-C8-GS	3104-C8-GDV	3104-C8-GDH	3 3/4" x 5 3/4" x 8'-0"
3104-D8-GS	3104-D8-GDV	3104-D8-GDH	4 3/4" x 5 3/4" x 8'-0"
3204-A8-GS	3204-A8-GDV	3204-A8-GDH	3 5/8" x 7 1/2" x 8'-0"
3104-B10-GS	3104-B10-GDV	3104-B10-GDH	3 3/4" x 4 3/4" x 10'-0"
3104-C10-GS	3104-C10-GDV	3104-C10-GDH	3 3/4" x 5 3/4" x 10'-0"
3104-D10-GS	3104-D10-GDV	3104-D10-GDH	4 3/4" x 5 3/4" x 10'-0"
3204-A10-GS	3204-A10-GDV	3204-A10-GDH	3 5/8" x 7 1/2" x 10'-0"
3204-B10-GS	3204-B10-GDV	3204-B10-GDH	3 5/8" x 8 1/2" x 10'-0"
3204-C10-GS	3204-C10-GDV	3204-C10-GDH	3 5/8" x 9 1/2" x 10'-0"

"GDV" Double Guy Vertical



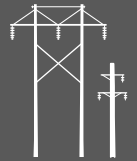
"GDH" Double Guy Horizontal



To determine shipping weight in pounds, add these amounts to page A5.2 unguyed weights.

Series	GS	GDV	GDH
3104	55	56	60
3204	24	25	29

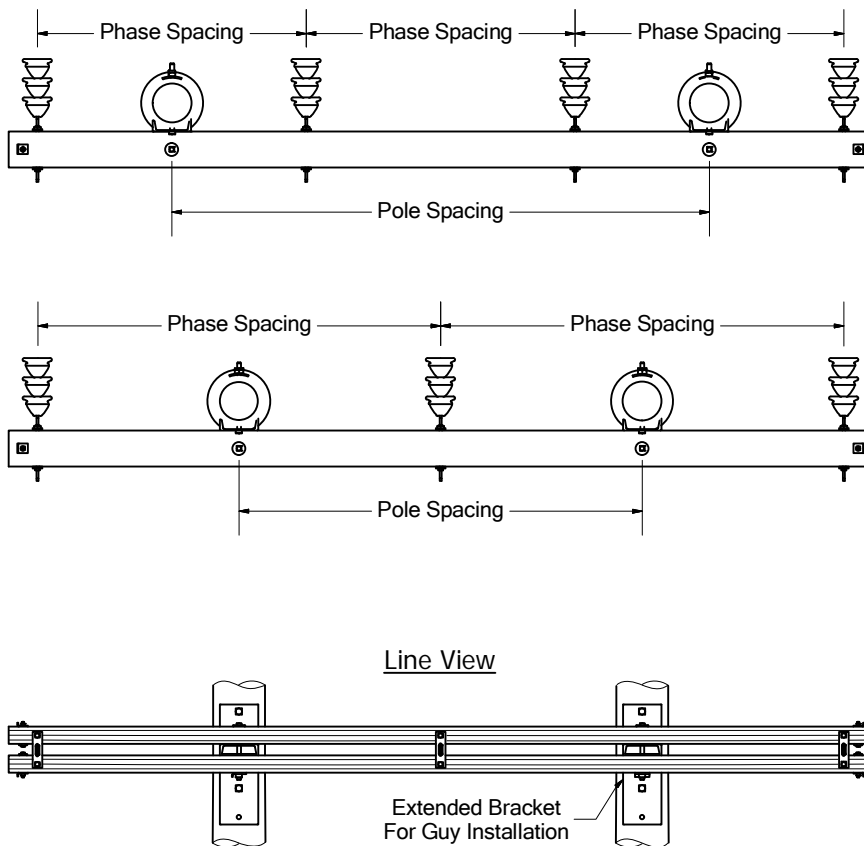
**Note:** Reference page A5.2 for the calculated ultimate strengths of the dead end assemblies.



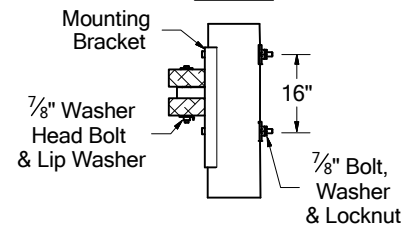
## 3300 Series H-Frame Dead Ends

Engineering concepts for single pole dead ending applications are equally effective for use in H-frame applications.

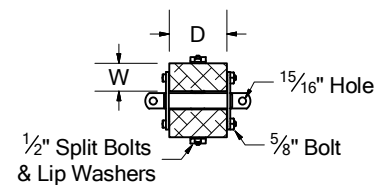
The BROOKS H-frame Dead End crossarms are shipped factory assembled and furnished standard with all mounting hardware packaged separately. The 3300 Series is furnished standard with the extended pole mounting brackets to accommodate easy installation of the 3400-GS, 3400-GDH or 3400-GDV guying assemblies, which are to be ordered separately.



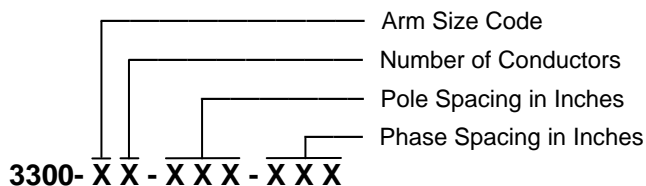
### Pole Mounting Detail



### End Detail



### Ordering Information:



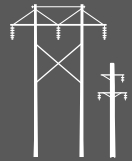
### Arm Size

Code	W	D
A	3 <sup>5</sup> / <sub>8</sub> "	7 <sup>1</sup> / <sub>2</sub> "
B	3 <sup>5</sup> / <sub>8</sub> "	8 <sup>1</sup> / <sub>2</sub> "
C	3 <sup>5</sup> / <sub>8</sub> "	9 <sup>1</sup> / <sub>2</sub> "
D	5 <sup>5</sup> / <sub>8</sub> "	7 <sup>1</sup> / <sub>2</sub> "

**Example:** 3300-C3-126-126, 3300 Series H-Frame Dead End Assembly for three wire construction, 10'-6" pole spacing and 10'-6" phase spacing, 3<sup>5</sup>/<sub>8</sub>" x 9<sup>1</sup>/<sub>2</sub>" x 22'-0" crossarms.

Bracing and guying hardware are not included as part of the assembly and should be ordered separately. 14" arm mounting bolts are furnished standard unless specified otherwise.

For assistance in determining the appropriate wood section best suited for your loading requirements, contact BROOKS Engineering Department.



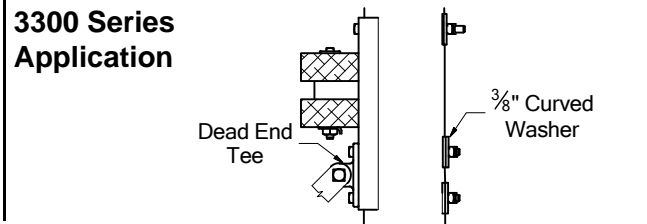
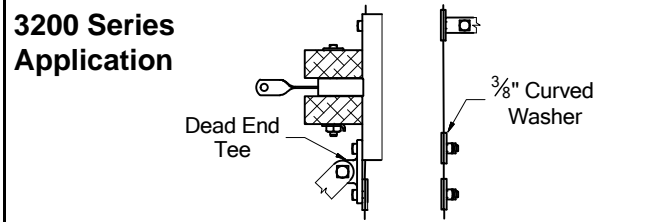
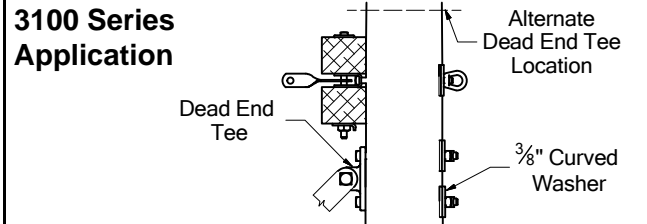
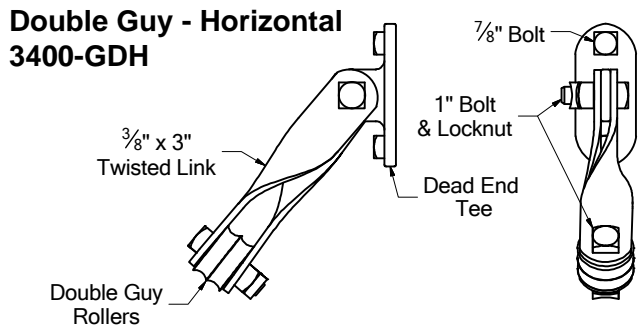
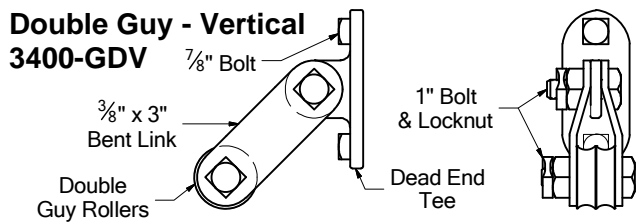
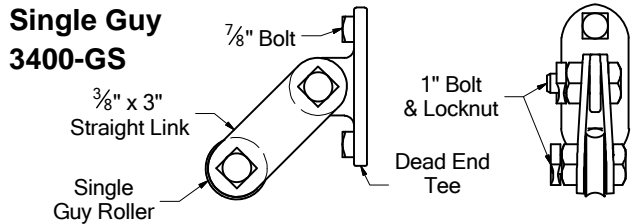
## 3400 Series Guy Attachment Packages

### For 3100, 3200 & 3300 Series Dead End Assemblies

Each of the guying packages 3400-GS, 3400-GDV and 3400-GDH can be installed on any of the three Dead End Series, 3100, 3200 or 3300. Typical installations are shown below.

### 42,000 Pounds Ultimate Guy Rating

### Typical Applications



Description	Catalog Number 3400-GS Quantity Per Package	Catalog Number 3400-GDV Quantity Per Package	Catalog Number 3400-GDH Quantity Per Package
Dead End Tee	1	1	1
Pieces (1 Pair) Straight Links	2		
Pieces (1 Pair) Bent Links		2	
Pieces (1 Pair) Twisted Links			2
Guy Roller	1	2	2
1" x 3 1/2" Machine Bolt, Nut	2	1	1
1" x 5" Machine Bolt, Nut		1	1
7/8" x 14" Machine Bolt, Nut	2	2	2
Curved Washer, 3/8" Thick	2	2	2
7/8" Locknut	2	2	2
1" Locknut	2	2	2
<b>Approx. Wt. Lbs. Per Package</b>	<b>26</b>	<b>29</b>	<b>37</b>

**Note:** Assemblies are furnished standard with 14" bolts. To order other bolt lengths, specify length as a suffix to the catalog number. **Example:** 3400-GS-12, furnished with 7/8" x 12" bolts.