

# TUF-STRAND™

## STRUCTURAL STRAND BOOM PENDANTS

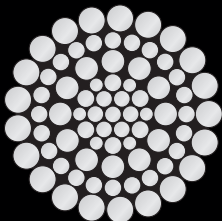
### Made to withstand the toughest tests

**T**he mining environment is extremely severe – one of the roughest you’ll find anywhere. But **Tuf-Strand** pendants are made to withstand it time after time.

The way they’re made is the reason why. Each **Tuf-Strand** pendant is produced with precise manufacturing techniques to overcome the harsh conditions found in your mining applications.

#### UNIT LAY CORE DESIGN

Union’s galvanized structural strand for boom pendants features “Unit Lay Core Design.” The unit lay design of the core utilizes a multilayer, single operation strand core. The single operation provides optimum wire support by maximizing the surface area between wire-to-wire contact.



1x76 ASTM A586  
Strand

These include precise fabrication to give you the consistency and performance you need from your pendant, plus a controlled manufacturing process in a fully enclosed facility with controlled temperatures to produce your specific pendant requirements.

In addition, you’ll gain full termination efficiency from each **Tuf-Strand** pendant, thanks to **WireCo WorldGroup’s** specialized cleaning techniques and our digitally-controlled zinc pouring temperatures.

#### HOW TO MAKE SURE TUF-STRAND FITS YOUR REQUIREMENTS EXACTLY.

**WireCo WorldGroup** will produce the **Tuf-Strand** structural strand to fit your precise specifications. When requesting a quotation, please specify the following:

#### THE STRAND DIAMETER AND LENGTH

Please state the nominal length, points of measurement (with design drawings, if possible), the length tolerance, prestretching load and whether measurements should be made under load, and if so, the load to be applied. Also indicate if striping is desired.

#### PRESTRETCHED TUF-STRAND

##### MINIMUM MODULI OF ELASTICITY

Nominal Diameter of Strand (inches)	Minimum Modulus Class A Coating* (psi)
1/2 to 2 9/16	24,000,000
2 5/8 and larger	23,000,000

\* For Class B or Class C weight of zinc-coated outer wires reduce minimum modulus 1,000,000 psi.

#### THE FITTINGS REQUIRED

Refer to the drawings on the Quotation Request page for the most common types of sockets. Please provide each of the dimensions shown in each drawing when you request a quotation. You may supply your own fittings, or **WireCo WorldGroup** will supply fittings to your specifications and dimensions.

In addition to zinc-poured sockets, we also offer resin socketing, if preferred.

#### PACKAGING REQUIRED

**WireCo WorldGroup** normally ships large diameter assemblies on wood reels or specially-designed steel reels constructed for the strand diameter and length involved. If you have any special dimensional or packaging requirements, please specify when placing your inquiry.

PLEASE USE THE **STRUCTURAL STRAND BOOM PENDANT QUOTATION REQUEST** (SEE PAGE 4) TO EXPEDITE YOUR REQUESTS.



# GALVANIZED STRUCTURAL STRAND **ASTM A586**

MINIMUM BREAKING STRENGTH IN TONS OF 2000 LB

Nominal Diameter (inches)	GRADE 1 (ASTM A586)			GRADE 2 Class A Coating Throughout	Approx. Gross Metallic Area (in <sup>2</sup> )	Approx. Weight (lb/ft)
	Class A Coating Throughout	Class A Coating Inner Wires/ Class B Coating Outer Wires	Class A Coating Inner Wires/ Class C Coating Outer Wires			
1/2	15.0	14.5	14.2	17.3	0.150	0.52
9/16	19.0	18.4	18.0	21.9	0.190	0.66
5/8	24.0	23.3	22.8	27.6	0.234	0.82
11/16	29.0	28.1	27.5	33.4	0.284	0.99
3/4	34.0	33.0	32.3	39.1	0.338	1.18
13/16	40.0	38.8	38.0	46.0	0.396	1.39
7/8	46.0	44.6	43.7	52.9	0.459	1.61
15/16	54.0	52.4	51.3	62.1	0.527	1.85
1	61.0	59.2	57.9	70.2	0.600	2.10
1 1/16	69.0	66.9	65.5	79.4	0.677	2.37
1 1/8	78.0	75.7	74.1	89.7	0.759	2.66
1 3/16	86.0	83.4	81.7	98.9	0.846	2.96
1 1/4	96.0	94.1	92.2	110.0	0.938	3.28
1 5/16	106.0	104.0	102.0	122.0	1.03	3.62
1 3/8	116.0	114.0	111.0	133.0	1.13	3.97
1 7/16	126.0	123.0	121.0	145.0	1.24	4.34
1 1/2	138.0	135.0	132.0	159.0	1.35	4.73
1 9/16	150.0	147.0	144.0	173.0	1.47	5.13
1 5/8	162.0	159.0	155.0	186.0	1.59	5.55
1 11/16	176.0	172.0	169.0	202.0	1.71	5.98
1 3/4	188.0	184.0	180.0	216.0	1.84	6.43
1 13/16	202.0	198.0	194.0	232.0	1.97	6.90
1 7/8	216.0	212.0	207.0	248.0	2.11	7.39
1 15/16	230.0	226.0	221.0	265.0	2.25	7.89
2	245.0	241.0	238.0	282.0	2.40	8.40
2 1/16	261.0	257.0	253.0	300.0	2.55	8.94
2 1/8	277.0	273.0	269.0	319.0	2.71	9.49
2 3/16	293.0	289.0	284.0	337.0	2.87	10.05
2 1/4	310.0	305.0	301.0	357.0	3.04	10.64
2 5/16	327.0	322.0	317.0	376.0	3.21	11.24
2 3/8	344.0	339.0	334.0	396.0	3.38	11.85
2 7/16	360.0	355.0	349.0	414.0	3.57	12.48
2 1/2	376.0	370.0	365.0	432.0	3.75	13.13
2 9/16	392.0	386.0	380.0	451.0	3.94	13.80
2 5/8	417.0	411.0	404.0	480.0	4.13	14.47
2 11/16	432.0	425.0	419.0	497.0	4.33	15.16
2 3/4	452.0	445.0	438.0	520.0	4.54	15.88
2 7/8	494.0	486.0	479.0	568.0	4.96	17.36
3	538.0	530.0	522.0	619.0	5.40	18.90
3 1/8	584.0	575.0	566.0	672.0	5.86	20.51
3 1/4	625.0	616.0	606.0	719.0	6.34	22.18
3 3/8	673.0	663.0	653.0	774.0	6.83	23.92
3 1/2	724.0	714.0	702.0	833.0	7.35	25.73
3 5/8	768.0	757.0	745.0	883.0	7.88	27.60
3 3/4	822.0	810.0	797.0	945.0	8.43	29.50
3 7/8	878.0	865.0	852.0	1010.0	9.00	31.50
4	925.0	911.0	897.0	1064.0	9.60	33.60

## OPEN STRAND SOCKETS **ASTM A148**

Strand Diameter (in.)	Dimensions (in.)											Pin Length (in.)	Pin D (in.)	Cotter Pin Size (in.)	Weight each (lbs.)
	A	J	K	M	N	O	P	Q	U	V	Y				
1/2	6 5/8	2 7/8	1 1/4	2 1/2	1 1/4	1 1/4	2 1/2	3/4	1 1/2	5/8	2	3 1/16	1 3/16	1/4	4.5
9/16 - 5/8	7 3/4	3 9/16	1 1/2	2 3/4	1 7/16	1 1/2	3	13/16	1 7/8	3/4	2 1/2	3 5/8	1 3/8	1/4	6.7
11/16 - 3/4	9	4 1/4	1 3/4	3	1 11/16	1 3/4	3 3/8	15/16	2	13/16	2 3/4	4	1 5/8	1/4	10.2
13/16 - 7/8	10 3/8	4 7/8	2	3 1/2	2	2	3 3/4	1 1/16	2 1/8	7/8	3 1/4	4 3/8	2	1/4	14.3
15/16 - 1	12	5 5/8	2 1/4	4	2 3/8	2 3/8	4	1 1/4	2 3/8	7/8	3 3/4	4 3/4	2 1/4	3/8	19
1 1/16 - 1 1/8	12 1/2	5 1/4	2 1/2	4 1/2	2 3/4	2 1/2	4 1/4	1 1/2	2 1/2	15/16	4 1/4	5 1/4	2 1/2	3/8	25
1 3/16 - 1 1/4	13 5/8	5 1/2	2 3/4	5	3 1/8	3	4 3/4	1 5/8	2 3/4	1	4 3/4	5 7/8	2 3/4	3/8	32
1 5/16 - 1 3/8	14 5/8	5 1/2	3 1/4	5 1/2	3 1/2	3 1/4	4 3/4	1 7/8	3	1 1/8	5 5/8	6	3	1/2	40
1 7/16 - 1 5/8	16 5/8	6 1/8	3 1/2	6 1/2	4	3 3/4	5 7/8	2	4	1 1/4	6 1/4	7	3 1/2	1/2	71
1 11/16 - 1 3/4	17 1/4	6	3 5/8	7	4	4 1/8	6 5/8	2 1/4	4	1 1/2	6 1/4	8 3/8	3 3/4	1/2	92
1 13/16 - 1 7/8	19 1/4	6 3/4	3 3/4	7 3/4	4 1/2	4 1/4	7	2 3/8	4 1/2	15/8	7 1/8	8 5/8	4	1/2	111
1 15/16 - 2	21 3/8	7	3 7/8	9 1/2	4 3/4	4 5/8	7 3/8	2 1/2	4 3/4	1 1/2	7 1/2	8 7/8	4 1/4	1/2	138
2 1/16 - 2 1/8	22 1/2	7 3/4	3 7/8	10	4 3/4	4 1/2	7 1/2	2 1/2	4 3/4	2	7 1/2	9 5/8	4 1/2	1/2	161
2 3/16 - 2 1/4	24 1/8	7 7/8	4	11	5 1/4	5	8 1/2	2 5/8	5 1/2	2	8	10 1/4	4 3/4	5/8	196
2 5/16 - 2 3/8	24 3/4	8 1/8	4 1/2	11	5 1/2	5 1/4	8 5/8	3	6	2 1/8	8 1/2	10 3/4	5	5/8	231
2 7/16 - 2 9/16	26 1/4	8 1/2	5	12	5 3/4	5 1/2	9 3/8	3	6 1/2	2 1/4	9	11 1/4	5 1/4	5/8	261
2 5/8 - 2 3/4	27 5/8	9	5 1/4	12 1/4	6 3/8	6	10 1/8	3 1/4	6 1/2	2 1/2	10	12 1/4	5 3/4	5/8	320
2 7/8 - 3	29 3/4	10	5 5/8	13	6 3/4	6 1/2	11	3 3/8	7	2 1/2	10 1/2	12 1/2	6	5/8	392
3 1/8 - 3 1/4	31 1/2	10 1/2	6 1/8	13 1/4	7 3/4	6 3/4	11 3/4	3 3/4	7 1/2	2 3/4	11 1/4	13 1/2	6 1/2	5/8	433
3 3/8 - 3 1/2	32 3/4	10 3/4	6 3/8	13 3/4	8 1/4	7 1/4	12 3/4	4	8	3	11 3/4	14 5/8	6 3/4	5/8	582
3 5/8 - 3 3/4	33 1/2	11	6 3/4	14	8 1/2	7 3/4	13 1/2	4 1/4	8 1/2	3 3/8	12 1/4	15 1/2	7	5/8	677
3 7/8 - 4	34 1/2	11 1/4	7	14 1/4	9	8	14 1/4	4 1/2	8 3/4	3 1/2	12 3/4	16 3/8	7 1/4	3/4	755
4 1/8 - 4 3/8	35	11 3/4	7 1/2	14 3/4	8 1/2	8 1/4	13 3/4	5 1/4	9 1/2	2 3/4	12 3/4	15 1/8	7 1/4	3/4	660
4 1/2 - 4 3/4	37	12 1/2	8	15 1/2	9	8 1/2	14 1/2	5 3/4	10 1/2	3	13 1/2	15 7/8	7 1/2	3/4	778
4 7/8 - 5 1/8	40 1/4	13 3/4	9	16 1/2	10	8 3/4	14 3/4	6 1/4	12	3	14 3/4	16 1/8	8	3/4	947
5 1/4 - 5 1/2	43 1/2	15	10	17 1/4	11 1/4	9	15	6 1/2	13	3	16 1/2	16 3/8	8 1/2	3/4	1130

## CLOSED STRAND SOCKETS **ASTM A148**

Strand Diameter (in.)	Dimensions (in.)										Weight Each (lbs.)
	A	J	K	L	N	P	Q	R	U	W	
1/2	6	2 7/8	1	2 1/2	5/8	2 1/2	3/4	1 1/4	1 1/2	1 3/8	2.2
9/16 - 5/8	7 5/16	3 9/16	1 1/4	3	3/4	3	13/16	1 1/2	1 7/8	1 3/4	4.0
11/16 - 3/4	8 5/8	4 1/4	1 9/16	3 1/2	7/8	3 3/8	15/16	1 11/16	2	2 1/8	7.0
13/16 - 7/8	10	4 7/8	1 3/4	4	1 1/8	3 3/4	1 1/16	1 7/8	2 1/8	2 1/4	9.5
15/16 - 1	11	5 1/8	2	4 5/8	1 1/4	4	1 1/4	2	2 3/8	2 1/2	16.5
1 1/16 - 1 1/8	12	5 1/4	2 1/4	6 1/4	1 1/2	4 3/8	1 1/2	2 3/16	2 1/2	2 3/4	19
1 3/16 - 1 1/4	13	5 1/2	2 3/4	6	1 1/2	4 1/2	1 5/8	2 1/2	2 3/4	2 7/8	21
1 5/16 - 1 3/8	14 1/8	6	3	6 1/2	1 3/4	4 7/8	1 3/4	2 3/4	3	3 1/8	30
1 7/16 - 1 5/8	15 5/8	6 1/8	3 1/4	7 1/2	2	6	2	3 1/8	4	3 3/8	46
1 11/16 - 1 3/4	16 3/4	6 1/2	3 3/4	8	2 1/4	6 3/4	2 1/8	3 1/4	4	3 3/4	56
1 13/16 - 1 7/8	17 7/8	6 3/4	4	8 3/4	2 3/8	7 1/8	2 1/4	3 7/16	4 1/2	4 1/4	67
1 15/16 - 2	18 7/8	7	4 1/4	9 1/2	2 3/8	7 1/2	2 3/8	3 5/8	4 3/4	4 1/2	78
2 1/16 - 2 1/8	20 1/4	7 3/4	4 1/2	10	2 1/2	8	2 1/2	3 7/8	4 3/4	4 3/4	96
2 3/16 - 2 1/4	21 1/8	7 7/8	4 3/4	10 1/2	2 3/4	8 1/2	2 5/8	4	5 1/2	5	114
2 5/16 - 2 3/8	22 1/8	8 1/4	5	11	2 7/8	9	2 3/4	4 1/4	6	5 1/2	134
2 7/16 - 2 9/16	23 1/4	8 1/2	5 1/4	11 1/2	3 1/4	9 3/8	3	4 11/16	6 1/2	5 1/2	167
2 5/8 - 2 3/4	24 1/4	9	5 3/4	12	3 1/4	10 1/4	3 1/8	4 3/4	6 3/4	6	182
2 7/8 - 3	26	10	6	12 1/4	3 3/4	11	3 3/8	5 5/16	7	6 1/2	242
3 1/8 - 3 1/4	26 3/4	10 1/2	6 1/2	12 1/2	3 3/4	11 3/4	3 3/4	5 3/4	7 1/2	7 1/4	282
3 3/8 - 3 1/2	27 3/4	10 3/4	7	13	4	12 1/2	4	6 1/8	8	8	343
3 5/8 - 3 3/4	28 3/4	11	7 1/2	13 1/2	4 1/4	13 1/2	4 1/4	6 1/2	8 1/2	8 1/4	390
3 7/8 - 4	29 3/4	11 1/4	7 3/4	14	4 1/2	14	4 1/2	7	8 3/4	8 1/2	465
4 1/8 - 4 3/8	32 1/2	11 3/4	7 7/8	17 1/8	3 5/8	14 1/4	5 1/4	7	9 1/2	8 1/2	460
4 1/2 - 4 3/4	34 5/8	12 1/2	8 1/8	17 3/4	4 3/8	14 1/2	5 3/4	7 1/4	10 1/2	8 3/4	547
4 7/8 - 5 1/8	38 1/8	13 3/4	8 3/8	19 1/2	4 7/8	14 3/4	6 1/4	7 1/4	12	9 1/4	671
5 1/4 - 5 1/2	41 1/2	15	8 5/8	21	5 1/2	15	6 1/2	8	13	9 3/4	910

# STRUCTURAL STRAND BOOM PENDANT QUOTATION REQUEST

QUANTITY \_\_\_\_\_ DIAMETER \_\_\_\_\_

LENGTH \_\_\_\_\_ MEASURING POINTS \_\_\_\_\_  
(Example: C-Pin to C-Pin)

GALVANIZED CLASS (Check one.)

A (Throughout)     B (B outer/A inner)     C (C outer/A inner)

LENGTH TOLERANCE

Prestretch?     Yes     No

Stripe?     Yes     No

Measure length under load?     Yes     No

SOCKET SPECIFICATIONS

Lube tubes?     Yes     No

Strand Socket (on one end)

Pin diameter (D) \_\_\_\_\_

Jaw opening (O) \_\_\_\_\_

Ear thickness (V) \_\_\_\_\_

C-pin to basket (M) \_\_\_\_\_

Bail: Thickness (K) \_\_\_\_\_

Bail: Inside width (W) \_\_\_\_\_

Bail: Inside length (L) \_\_\_\_\_

Special dimensions not noted: \_\_\_\_\_

Special packaging required: \_\_\_\_\_

Strand Socket (on one end)

Pin diameter (D) \_\_\_\_\_

Jaw opening (O) \_\_\_\_\_

Ear thickness (V) \_\_\_\_\_

C-pin to basket (M) \_\_\_\_\_

Bail: Thickness (K) \_\_\_\_\_

Bail: Inside width (W) \_\_\_\_\_

Bail: Inside length (L) \_\_\_\_\_

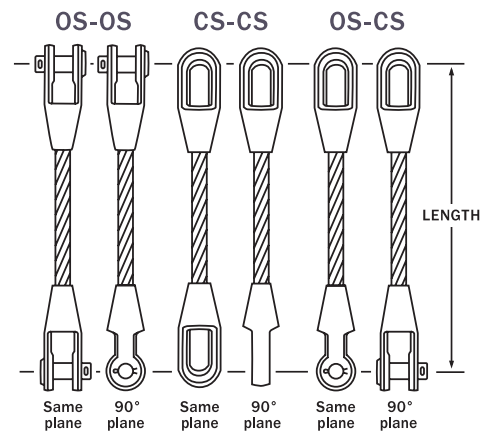
## BEFORE YOU ORDER

We can assist you in every stage of your project – from design to completion.

To make a purchase or to request technical expertise, contact us at:

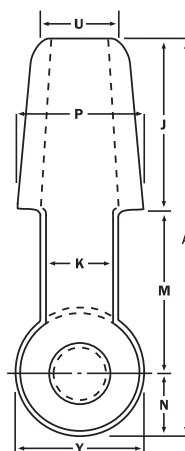
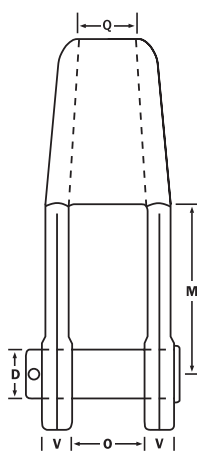
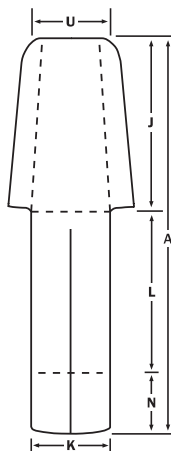
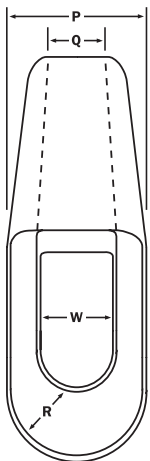
**816.270.4700** or  
**info@WireCoWorldGroup.com**

SELECT YOUR CONFIGURATION:



### CLOSED STRAND SOCKET (CSS)

### OPEN STRAND SOCKET (OSS)



A WireCo® WorldGroup Brand

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