

WBS Number: 15
WBS Title: Coil Support Structures
Job Number: 1550
Job Title: Coil Support Structures Design
Job Manager: Fred Dahlgren

M&S Estimate Backup

NCSX Coil Support Structure – 1501/1550 Re-baseline estimate – Rev.1 16 June 2007

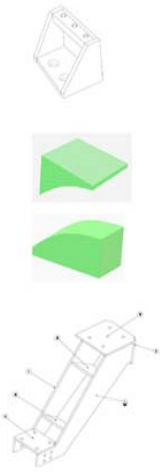
1. Inner TF support Structure

1a. Supp't brkts. (72 req'd.)	
Cutting & machining	6.0 hrs x \$92.00 = \$552.00
Weld prep & weld	2.2 hrs x 76.00 = 167.20
Clean-up de-scale de-burr	0.5 hrs x 76.00 = 38.00
Mat'l: AlAly.5083 plate	40 lbs. x 4.56 = 182.40
*1b. G11-CR Mig. blocks (36 req'd.)	
Cutting & machining (2 pcs.)	2.5 hrs x \$92.00 = \$230.00
Epoxy adhesive bond to coil	0.5 hrs x \$75.00 = 37.50
Mat'l: G11-CR plate \$48.00 per ps.	2 pcs. x \$48.00 = 96.00
*1c. G11-CR Side Wedge Shims (4 pcs. Req'd per set x 36 sets)	
Cutting & Machining wedges	3.0 hrs x \$92.00 = \$276.00
Mat'l: G11-CR plate \$42.00 per pr.	2 pcs. x 42.00 = 84.00
Teflon pads 1/8" thk.	2 pcs x 27.00 = 54.00
**1d. Inconel Hardware (36 sets Req'd.)	
(4) 1/8 N.C. x 2.5" Hex Head Bolts	4 pcs. x \$50.40 = \$201.60
(4) 1" Flat Washer – Heavy Series	4 pcs. x 3.65 = 14.60
(4) 1" Lock Washer	4 pcs. x 2.95 = 11.80
(6) 5/16 N.C. Hex Head Bolts	6 pcs. x 19.80 = 118.80
(6) 5/16 Flat Washers – Heavy Series	6 pcs. x 2.65 = 15.90
(6) 5/16 Split Lock Washer	6 pcs. x 2.10 = 12.50
1e. T.F. Bridge Clamp (36 Req'd)	
Cutting & machining	3.0 hrs x \$92.00 = \$276.00
Mat'l: AlAly.5083 plate	12.0lbs x 4.56 = 54.72
*1f. PTFE coated G11-CR wedge assemblies (72 Req'd.)	
Cutting & machining	2 pcs. x 3.0 hrs x 92.00 = 550.00
Teflon coating	2 pcs @ \$40.00/pc. = 80.00
2. Outer TF support Structure	
2a. Supp't brkts. (72 req'd.)	
Cutting & machining	7.5 hrs x \$92.00 = \$690.00
Weld prep & weld	2.5 hrs x 76.00 = 190.00
Clean-up de-scale de-burr	0.5 hrs x 76.00 = 38.00
Mat'l: AlAly.5083 plate	55 lbs. x 4.56 = 250.80
*2b. G11-CR Mig. blocks (36 req'd.)	
Cutting & machining (2 pcs.)	2.5 hrs x \$92.00 = \$230.00
Epoxy adhesive bond to coil	0.5 hrs x \$75.00 = 37.50
Mat'l: G11-CR plate \$48.00 per ps.	2 pcs. x \$48.00 = 96.00



Outer TF support Structure (con't.)

*2c. G11-CR Side Wedge Shims (4 pcs. Req'd per set x 36 sets)	
Cutting & Machining wedges	3.0 hrs. x \$92.00 = \$276.00
Mat'l: G11-CR plate \$42.00 per pr.	2 pcs. x 42.00 = 84.00
Teflon pads 1/8" thk.	2 pcs. x 27.00 = 54.00
**2d. Inconel Hardware (36 sets Req'd.)	
(4) 1/8 N.C. x 2.5" Hex Head Bolts	4 pcs. x \$50.40 = \$201.60
(4) 1" Flat Washer – Heavy Series	4 pcs. x 3.65 = 14.60
(4) 1" Lock Washer	4 pcs. x 2.95 = 11.80
(6) 5/16 N.C. Hex Head Bolts	6 pcs. x 19.80 = 118.80
(6) 5/16 Flat Washers – Heavy Series	6 pcs. x 2.65 = 15.90
(6) 5/16 Split Lock Washer	6 pcs. x 2.10 = 12.50
2e. T.F. Bridge Clamp (36 Req'd)	
Cutting & machining	3.0 hrs x \$92.00 = \$276.00
Mat'l: AlAly.5083 plate	12.0lbs x 4.56 = 54.72
*2f. PTFE coated G11-CR wedge assemblies (72 Req'd.)	
Cutting & machining	2 pcs. x 3.0 hrs x 92.00 = 550.00
Teflon coating	2 pcs @ \$40.00/pc. = 80.00
3. PFS/PFG Support Brkt. Ass'y. (66 Req'd.)	
3a. Bracket Ass'y (66 Req'd.)	
Cutting & Machining	12.0 hrs x \$92.00 = \$1104.00
Weld prep & weld	6.5 hrs x 76.00 = 494.00
Clean-up de-scale de-burr	1.5 hrs. x 76.00 = 114.00
Mat'l: AlAly.5083 plate	120.0lbs x 4.56 = 547.20
3b. P.F. 5 Bridge Clamps (66 Req'd)	
Cutting & machining	3.0 hrs x \$92.00 = \$276.00
Mat'l: AlAly.5083 plate	12.0lbs x 4.56 = 54.72
3c. P.F. 6 Bridge Clamps (66 Req'd)	
Cutting & machining	3.0 hrs x \$92.00 = \$276.00
Mat'l: AlAly.5083 plate	12.0lbs x 4.56 = 54.72
**3d. Inconel Hardware (66 sets Req'd.)	
(4) 5/16 N.C. x 8.5" Hex Head Bolts	4 pcs. x \$68.90 = \$275.60
(4) 5/16 N.C. x 9.5" Hex Head Bolts	4 pcs. x 73.90 = 295.60
(4) 5/16 N.C. Hex Nuts	4 pcs. x 24.80 = 99.20
(8) 1" Flat Washer – Heavy Series	8 pcs. x 3.65 = 29.20
(8) 1" Lock Washer	8 pcs. x 2.95 = 23.80
3e. Positioning Brkt. Ass'y. (21 Req'd)	
Cutting & Machining	8.0 hrs x \$92.00 = \$736.00
Weld prep & weld	2.5 hrs x 76.00 = 190.00
Clean-up de-scale de-burr	1.5 hrs. x 76.00 = 114.00
Mat'l: AlAly.5083 plate	35.0lbs x 4.56 = 159.60



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4. PFS/PF6 Support Frame Ass'y Long Span (6 Ass'y, Req'd)

4a. Vertical channels (For 3 -Req'd. per ass'y)
 Cutting & Machining 2.0 hrs x \$92.00 = \$184.00
 Clean-up de-scale de-burr 0.8 hrs x 76.00 = 60.80
 Mat'l: AlAly 5083 channel 440lbs x 8.30 = 374.00

****4b. Inconel Mtg. Hardware (6 sets of 4 per ass'y)**
 (4) 1/2"-13 N.C. Hex Head Bolts 4 pcs. x 24.50 = 98.00
 (4) 1/2"-13 N.C. Hex Nuts 4 pcs. x 16.80 = 67.20
 (4) 1/2" Flat Washers - Heavy Series 4 pcs. x 2.65 = 10.60
 (4) 1/2" Split Lock Washer 4 pcs. x 2.10 = 8.40



5. PFS/PF6 Support Frame Ass'y Short Span (6 Ass'y, Req'd)

5a. Vertical channels (For 3 -Req'd. per ass'y)
 Cutting & Machining 2.0 hrs x \$92.00 = \$184.00
 Clean-up de-scale de-burr 0.8 hrs x 76.00 = 60.80
 Mat'l: AlAly 5083 channel 440lbs x 8.30 = 374.00

****5b. Inconel Mtg. Hardware (3 sets of 4 per ass'y)**
 (4) 1/2"-13 N.C. Hex Head Bolts 4 pcs. x 24.50 = 98.00
 (4) 1/2"-13 N.C. Hex Nuts 4 pcs. x 16.80 = 67.20
 (4) 1/2" Flat Washers - Heavy Series 4 pcs. x 2.65 = 10.60
 (4) 1/2" Split Lock Washer 4 pcs. x 2.10 = 8.40



6. TF Pre-load Ring & PF4 Support Brkts (2 rings, 2 sets of brkts.)

6a. Base Ring
 Casting 355 lbs x \$35.00 = \$12,425.00
 Machining 120 hrs x 92.00 = 11,040.00

6b. PF4 Brks Inco plate weldments - (6 Top & 6 Bottom)
 (5) Cutting & Machining 2.5 hrs x 6 x \$92.00 = \$1380.00
 (5) Weld prep & weld 1.5 hrs x 6 x 76.00 = 684.00
 (5) Clean-up de-scale de-burr 3.0 hrs x 6 x 76.00 = 228.00
 (5) Mat'l: Inconel 625 plate 41.0lbs x 28.50 = 1168.50



7. C.S. Coil mtg. brkts. (2x=12 brkts total)

7a. Inconel Supp't brackets (2 sets Req'd - 6 Top & 6 Bottom)
 (5) Cutting & Machining 6.5 hrs x 6 x \$92.00 = \$3588.00
 (5) Weld prep & weld 2.5 hrs x 6 x 76.00 = 1140.00
 (5) Clean-up de-scale de-burr 3.0 hrs x 6 x 76.00 = 228.00
 (5) Mat'l: Inconel 625 plate 67.0lbs x 6 x 28.50 = 11,336.40

****7b. Inconel Mtg. Hardware (6 sets of 4 per ass'y)**
 (4) 1/2"-13 N.C. Hex Head Bolts 4 pcs. x 24.50 = 98.00
 (4) 1/2"-13 N.C. Hex Nuts 4 pcs. x 16.80 = 67.20
 (4) 1/2" Flat Washers - Heavy Series 4 pcs. x 2.65 = 10.60
 (4) 1/2" Split Lock Washer 4 pcs. x 2.10 = 8.40

8. T.F. Pre-load clamp Assemblies

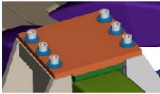
8a. Stainless casting (36 Requires) \$350.00 x 36 = 12,600.00
 (36) Inco 1/2"-10NC First Bolt 1.25 grip 41.50 x 36 = 1,494.00
 (36) Inco 1/2"-10NC Hex Nut 24.80 x 36 = 892.80
 (72) Inco 1/2"-13NC Hex Head Bolt 16.80 x 72 = 1,209.60
 (72) Inco 1/2" Flat Washers 2.65 x 72 = 190.80
 (72) G11-CR Washer 1.40 x 72 = 100.80
 (72) G11-CR Sleeve 2.50 x 72 = 180.00
 (36) Inco 1/2"-10NC Jack Nut 28.50 x 36 = 1,026.00
 (36) Inco 1/2" Swivel Eye-Bolt 51.50 x 36 = 1,854.00
 (36) G11-CR 1/2" thk. Incol. Pad 18.50 x 36 = 666.00



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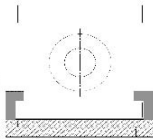
9. P.F. 4 Bridge clamps (12 req'd.)

9a. (1) C & M Plates 6" x 6" x 3/4".....4.5 lbs x \$92.00 =	414.00
9b. Clean-up de-scale de-burr	1.5 lbs x 76.00 = 114.00
**9c. Inconel Hardware	
(4) 1/2-13 N.C. Hex Head Bolts	4 pcs. x 24.50 = 98.00
(4) 1/2-13 N.C. Hex Nuts	4 pcs. x 16.80 = 67.20
(4) 1/4" Flat Washers - Heavy Series	4 pcs. x 2.65 = 10.60
(4) 1/2" Split Lock Washer	4 pcs. x 2.10 = 8.40
*9d. (1) G11-CR 1/2" dia. Inconel Pad	18.50 = 18.50
*9e. (2) Teflon pads	2 pcs. x 27.00 = 54.00
9f. 6 x 6 x 1/4" thick Inconel601 plate.....	27.0lbs x 22.50 = 607.50



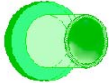
10. Inner & outer spacer blocks MCWF-TF supp't blocks (24 Req'd.)

10a. C & M blocks	10 lbs x 92.00 = 920.00
10b. Clean-up, de-scale & de-burr	1.5 lbs x 92.00 = 138.00
**10c. (4) Inco 1/2-10NC Hex Bolt	4.25 lbs x 64.90 x 4 = 259.60
**10d. (4) Inco 1/2" Flat Washers	3.40 x 4 = 13.60
10e. AlAlly 5083 plate 6" x 6" x 3/4" thick. 32lbs ea. X	\$4.50 = 144.00



11. Machinebase support Interface (2 Req'd.)

11a. C & M plates	(11 parts) 80 lbs x 92.00 = 7,360.00
11b. Weld Clevises & side plates	16 lbs x 75.00 = 1,200.00
11c. Clean-up, de-scale & de-burr	4 lbs x 92.00 = 368.00
11d. C & M Clevis pins	4 lbs x 92.00 = 368.00
*11e. C & M G11 & Teflon sheets	8 lbs x 92.00 = 736.00
11f. Inco 625 plates & rd. Bar	144 lbs x 28.50 = 4,104.00
*11g. G11-CR Plate	10" x 10" x 1" = 158.00
*11h. Teflon sheet	8" x 8" x 1/32" = 56.00
**11i. Inconel Hardware (2 sets Req'd.)	
(4) 1-8 N.C. x 2.5" Hex Head Bolts	4 pcs. x \$50.40 = \$201.60
(4) 1" Flat Washer - Heavy Series	4 pcs. x 3.65 = 14.60
(4) 1" Lock Washer	4 pcs. x 2.95 = 11.80



12. Misc. Assembly Hardware

12a. G11 bushings TF Clamps	360 x 2.50 = 900.00
12b. G11 washers TF Clamps	360 x 0.80 = 288.00
12c. G11 bushings Frame Assy	168 x 2.50 = 420.00
12d. G11 washers FF Clamps	168 x 0.80 = 134.40
12e. G11 bushings FF Clamps	168 x 2.50 = 420.00
12f. G11 washers Frame Assy	168 x 0.80 = 134.40
12g. G11 bushings MB interface	24 x 2.50 = 60.00
12h. G11 washers MB interface	24 x 0.80 = 19.20
**12i. Inconel 718 75 ID B'ville washers	720 x 12.50 = 9,000.00
**12j. Inconel 718 1.03 ID B'ville washers	360 x 26.93 = 9,694.80

*G11 & Teflon purchase
 **Inconel 718 hardware purchase
 ***Inconel Belleville Washer purchase

Job 1501/1550 M& S Summary & Totals:

1. Inner TF Support Structure (36)	
1a 1-C&M432	67,651.40
1b	13,086.00
1c	14,904.00
1d	13,507.20
1e 1-C&M108	11,906.00
1f	45,360.00
2. Outer TF Support Structure (36)	
2a 1-C&M540	84,154.00
2b	13,086.00
2c	14,904.00
2d	13,507.00
2e 1-C&M108	11,906.00
2f	45,360.00
3. PFS/FF6 Support Bracket Assembly (66)	
3a 1-C&M504	149,107.00
3b 1-C&M108	21,828.00
3c 1-C&M108	21,828.00
3d	47,749.40
3e 1-C&M168	25,190.00
4. PFS/FF6 Support Frame Assembly - Long (6)	
4a 1-C&M12	3,712.80
4b	8,842.00
5. PFS/FF6 Support Frame Assembly - Short (3)	
5a 1-C&M12	3,712.80
5b	4,420.90
6. TF Pre-Load Ring & PF4 Support (2)	
6a. 1-C&M240	46,930.00
6b. 1-C&M15	6,920.00
7. C.S. Coil Mounting Brackets (12)	
7a 1-C&M78	32,584.00
7b	2,210.40
8. TF Coil Pre-Load Clamp Assemblies (36)	
8a	20,214.00
9. PF4 Coil Mounting Clamp (12)	
9a 1-C&M54	4,968.00
9b	1,368.00
9c	2,210.40
9d	222.00
9e	648.00
9f	7,295.00

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10. MCWF-TF Mtg. Brkt. Spacer block & shim		
10a I-C&M240	22,080.00	
10b	3,312.00	
10c	6,230.40	
10d	326.40	
10e	21,888.00	
11. Machine/Base Support Interface		
11a I-C&M240	22,080.00	
11b	3,600.00	
11c	1,104.00	
11d	8,550.00	
11e	2,208.00	
11f	12,312.00	
11g	484.00	
11h	168.00	
11i	5,184.20	
12. Misc. Assembly Hardware		
12a	900.00	
12b	288.00	
12c	420.00	
12d	134.00	
12e	420.00	
12f	134.00	
12g	60.00	
12h	19.20	
12i	9,000.00	
12j	9,694.80	
	SUB TOTAL:	\$ 891,877.42
+ 50% mat'L allowance on 8,350 lbs. AL. Aly. 5083-H116:	$8,350 \times 4.56 \times 0.5 =$	\$18,788.25
Less scrap value \$ 0.20/lb	$8,350 \times 0.20 \times 0.5 =$	835.00
	TOTAL COST	\$ 909,830.67
	TOTAL M&S PF/TF COIL STRUCTURE*	\$ 909,830.67
	ADD INSPECTION, PACKAGING & SHIPPING	25,000.00
	TOTAL COST FOB PLAINSBORO NJ	\$ 934,830.67

*THIS DOES NOT INCLUDE THE CS SUPPORTS OR TRIM COIL SUPPORT, OR ENGINEERING, DESIGN AND ASSEMBLY LABOR.

NOTES:

- LABOR RATES BASED ON WEB SURVEY AND SLAC IN-HOUSE RATES
- 316L @ \$7.50/LB. RANGE OF THREE QUOTES ON .5" - .75" PLATE
- SOLUTION ANNEAL MAY ADD 15 - 20%. NO VENDOR WILL CERTIFY THE MAGNETIC PERMEABILITY AS LESS THAN 1.02 (1.2 - 1.5 TYPICAL)
- HARDWARE COSTS BASED ON 1 QUOTE B&G MFG. & MCMaster-CARR CATALOG PRICING WHERE AVAILABLE. (INCONEL 718 ~ 4X MORE)
- INCONEL 625 PLATE WITH CURRENT COMMODITY SURCHARGES COST ~ \$28.50/LB. BASED ON FERGUSON METALS QUOTE. (WEB SURVEY YIELDED \$29-32.00/LB. AND METAL SUPPLIER QUOTED \$48.50 FOR SAME. (\$22.50 INCONEL 601)
- \$10.50 APPROX. SCRAP INCONEL 718 PRICE PER LB.: <http://www.recycle.net/specs/gr60152.html> <http://grm.com/a/0455.html>
- ALAY 5083-H116 quote From MetalsalesUSA -CEM Supply Harvey, La

Main uncertainty:



Current Nickel price is ~\$23.00/LB.
(Closing bid Friday 27 April was 48,700 per tonne - Rhombberg)

ADDENDUM

MACHINING COST DIFFERENTIAL 316L VS. INCONEL 625

Total hours machining for 316L ~ 2832 hrs. x 3 = 8496 hrs
(Per E. Perry estimate Inconel requires 3x machine time)
For \$92.00 shop rate, increase total cost by \$521,688.00
This has not been included in the above estimates.
If we include this delta:

TOTAL COST: \$ 1,958,980.00

COST DIFFERENTIAL USING INCONEL 600/601

Note, to reduce machining & Material cost Inconel 600 is a more economical candidate material for low relative permeability. (A286, Aluminum, & Stellite castings are also being considered). Material removal rates for 600/601 are comparable to machining 316/316L.

If Inconel 601 is used, the original estimate will be reduced by the cost differential between 625 and 601 which averages ~10% less or ~ 52K\$. The 50% material allowance is reduced by ~26K\$ and the scrap value is assumed comparably less (~ 10K\$). If we include these deltas: -78K\$ -10K\$ = -68K\$ net savings Inconel 625 vs Inconel 600.

SUB-TOTAL COST: \$ 1,214,694.80 - 68,000 = 1,146,694.80
+ 50% mat'l allowance on 18,489 lbs. Inconel 601:
18,489 x 22.50 x 0.5 = \$208,001.25
Less scrap value \$ 7.50/lb 18,489 x 7.50 x 0.5 = - 69,333.75
Add shipping inspection & packaging: 25,000.00
JOB TOTAL COST \$ 1,310,362.30

COST DIFFERENTIAL - MARKET CONSIDERATIONS

Do to the volatility in the metals market for Ni, Cr, Mo, it is difficult to estimate the cost of materials for next fiscal year. Vendors are only quoting prices with ARO surcharges, but a conservative extrapolation of current material cost inflation would suggest an additional 10% will be likely by FY'08. In anticipation of these increases an additional 41.6K\$ will be used for this estimate.

TOTAL COST: \$ 1,351,962.25

Bellville Washers

Additional Requests :



SOLON MANUFACTURING CO.
Quote Form

Reference # 222

QUOTE BY: [] DATE: []

QUOTE DATE: [] QUOTE BY: []

Part Number	QTY	UNIT	THICK	DEF.	QTY	LEAD (Wks)	QTY	PRICE (Est)	IN STOCK
8080174	1,000	1.000	0.010	0.010	1,000	2-3	1,000	\$0.20	IN STOCK
8080174	1,000	1.000	0.010	0.010	1,000	1-2	1,000	\$0.20	IN STOCK
8080174	1,000	1.000	0.010	0.010	1,000	2-3	1,000	\$0.20	IN STOCK
8080174	1,000	1.000	0.010	0.010	1,000	2-3	1,000	\$0.20	IN STOCK
8080174	1,000	1.000	0.010	0.010	1,000	2-3	1,000	\$0.20	IN STOCK
8080174	1,000	1.000	0.010	0.010	1,000	2-3	1,000	\$0.20	IN STOCK
8080174	1,000	1.000	0.010	0.010	1,000	2-3	1,000	\$0.20	IN STOCK
8080174	1,000	1.000	0.010	0.010	1,000	2-3	1,000	\$0.20	IN STOCK

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Part Number	ID	Qty	Unit	Description	Lead Time	Price	Notes
15000001	15000001	1	EA	COIL SUPPORT STRUCTURE	10	\$10.00	SEE IN STOCK BALANCE IN A/E
15000002	15000002	1	EA	COIL SUPPORT STRUCTURE	10	\$10.00	SEE IN STOCK BALANCE IN A/E
15000003	15000003	1	EA	COIL SUPPORT STRUCTURE	10	\$10.00	SEE IN STOCK BALANCE IN A/E

Material Description
 Material: 15000001, 15000002, 15000003
 Quantity: 15000001, 15000002, 15000003
 Description: COIL SUPPORT STRUCTURE
 The above is not a complete list of all materials, and is subject to change.
 Please refer to the project drawings and specifications.

Tuesday, April 24, 2007

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APR 02 2007 08:56 2158221006 809.BKWP.COM #3781 9.021602...

Jack McAuliffe
 From: Fred Dahlgren [mailto:fdahlg@ferrog.com]
 Sent: Monday, April 02, 2007 1:30 PM
 To: Jack McAuliffe
 Subject: Re: quote request - Gov-NEW JERSEY

Assembly Hardware

Jack,
 Per our telcon, please revise quote request as follows:
 718 Inconel Hex Head bolts - 1-8 n.c. x 2.5", qty. 500 - **50.00 EACH**
 718 Inconel Hex Nuts - 1-8 n.c. - **38.00 EACH**
 718 Inconel Flat Washers Heavy series - qty. 500 - **No Bid**
 718 Inconel Split Lock Washers - qty. 500 - **No Bid**
OR use BM- 316 SST - 12.75 EACH
 316/316L ss Hex Head bolts - 1-8 n.c. x 2.5" qty. 500 - **9.00 EACH**
 316/316L ss Hex Nuts - 1-8 n.c. - **9.00 EACH**
 316/316L ss Flat Washers Heavy series - qty. 500 - **No Bid**
 316/316L ss Split Lock Washers - qty. 500 - **No Bid**

Regards, Fred
 On Apr 2, 2007, at 11:15 AM, Jack McAuliffe wrote:
DELIVERY - 6 WEEKS
FOB HARFIELD PA.

Fred,
 Do not stock bolts listed. Can manufacture but need verification of material spec. Inconel 316 not a correct spec. Lead time at least 6 weeks. Advise

Jack McAuliffe
 800-217-1360
 Fax 215-822-1006

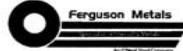
 Jack McAuliffe
 800-217-1980
 4/3/07

VALTRA
 SS. SWING BOLTS

Subject: Quote Request!

4/2/2007

Current Surcharges on Materials



3475 Symmes Road
 Hamilton, OH 45015

Surcharge Totals for January 2007 - May 2007

Grades	January	February	March	April	May
11407	21937	21937	21937	41807	81607
13107	22807	22807	33107	42007	83107
15-8	0.6247	0.6246	0.7188	0.6294	0.6716
15-7	1.6161	1.6730	1.7734	1.6641	2.2500
17-4	0.6827	0.6820	0.6346	0.3327	0.8030
17-7	1.1898	1.2783	1.3793	1.5773	1.8250
19-8	0.1186	0.1264	0.3318	0.3366	0.2688
201	0.7591	0.8050	0.8784	1.0079	1.1733
3017.9%	-1.1612	1.2545	1.2462	1.9370	1.7788
3023/304/304L	1.3141	1.4215	1.5257	1.7421	2.0128
334-3.5%	1.3693	1.4824	1.6127	1.8619	2.1263
305	1.9722	2.0182	2.1772	2.4821	2.8553
308	1.6294	2.0299	2.2472	2.5681	2.8493
310	2.9875	3.2314	3.4810	3.9604	4.5393
316/316L	2.1488	2.2533	2.3582	2.4703	3.0543
317L	2.5755	2.6845	2.8430	3.1467	3.6894
321	1.4856	1.6939	1.7186	1.8362	2.0522
347	1.4914	1.5710	1.6970	1.9374	2.2351
409/409 Mod	0.1056	0.0940	0.1079	0.1516	0.1758
410/410S	0.0905	0.0793	0.0942	0.1201	0.1651
430	0.1948	0.0941	0.1105	0.1582	0.1863
434	0.3072	0.2898	0.3082	0.3398	0.4103
438	0.3538	0.1849	0.2456	0.1960	0.2448
440A	0.1046	0.0941	0.1105	0.1352	0.1865
Alloy 286	13.7696	4.1038	4.0526	4.3744	4.5969
Alloy 625	10.2462	10.9488	10.7978	11.5031	12.1638
Alloy 718	7.2747	8.4409	8.8176	9.8856	10.8080
Alloy HX	8.7172	9.2413	9.1268	9.7192	10.2307

Order Hotline
1.800.347.2376

www.fergusonmetals.com fax: 513.874.6667 salesquote@fergusonmetals.com

WBS Number: 15
WBS Title: Coil Support Structures
Job Number: 1550
Job Title: Coil Support Structures Design
Job Manager: Fred Dahlgren

Passaic County Welders Quote

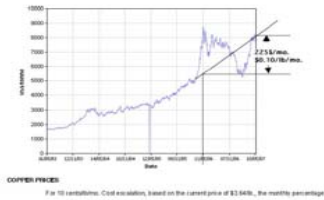
QTY	DESCRIPTION	UNIT	COST	TOTAL	NET UNIT WEIGHT	TOTAL
4	PP-6 VERTICAL STIFFENER DWG. SE101-102 REV. D	LB	1,845.00	\$ 8,875.00	41.1	
12	PP-6 VERTICAL STIFFENER DWG. SE101-102 REV. D	LB	1,293.00	\$ 15,720.00	44.0	
4	PP-6 PP-6 SUPPORT ANG DWG. SE101-104 REV. D	LB	2,471.00	\$ 14,026.00	34.4	
12	PP-6 PP-6 SUPPORT ANG DWG. SE101-104 REV. D	LB	3,203.00	\$ 38,436.00	109.3	
42	PP-6 PP-6 SUPPORT BRACKET DWG. SE101-176 REV. D	LB	3,354.00	\$ 141,888.00	110.7	
72	COIL NEAR LEFT SUPPORT DWG. SE101-177 REV. D	LB	1,882.00	\$ 135,744.00	49.3	
72	PP-6 COIL NEAR RIGHT SUPPORT DWG. SE101-178 REV. D	LB	1,400.00	\$ 100,800.00	59.2	
	FOR MATERIAL					
	TWO ESTIMATE WAS FOR 2X6 SOLUTION ANGLE AND PLATE					
	ESTIMATE FOR COST DELTA FOR INCONEL 601 @ 22.5% WGT			\$ 217,771.20		
	SHIPPING, PACKAGING & INSPECTION			\$ 10,000.00		
	TOTAL ADJUSTED COST FOR ITEMS 1 THRU 7			\$ 628,765.20		
	MY ESTIMATE FOR 7 ITEMS 1A,2A,3A,4A,4B,5A,5B +5.5%			\$ 663,766.00	-1% LOWER	

NOTE: QUOTE FOR 7 ITEMS ONLY. TP & PP-6 BRACKETRY
 NO HARDWARE, INSULATION, PPA SUPPLIES, TP PRELOAD BASE
 SUPPORT STRUCTURE, ETC.

Penn Iron Quote

Qty	Part Name	Dwg. Number	Unit Cost	Total Cost	Unit Pcs/ton
6	channel	wp101-112 RD	\$ 1,208.00	\$ 8,864.00	
12	channel	wp101-112 RD	\$ 1,279.00	\$ 15,348.00	
6	angle C-curved beam short	wp101-116 RD	\$ 1,892.00	\$ 11,352.00	
12	angle C-curved beam long	wp101-186 RD	\$ 2,899.00	\$ 34,788.00	
42	Bracket Heavy Castbracket	wp101-176 RD	\$ 2,392.00	\$ 100,464.00	
36	Coil Support BMS Rollbase	wp101-177 RD	\$ 1,345.00	\$ 48,420.00	
36	Coil Support BMS RND base	wp101-177 RD	\$ 1,182.00	\$ 42,792.00	
36	Inner Support BMS Rollbase	wp101-178 RD	\$ 1,037.00	\$ 37,332.00	
36	Inner Support BMS RND base	wp101-178 RD	\$ 1,211.00	\$ 43,596.00	
	NOTE:				
	Quote based on 2 X 6, 2x6, 2x6, 42 lb. per foot?				
	Quote includes 800WF roller beam, TP and longer clamps.				
	Apply 10% for 10' materials, TP pre-load ring, 2x4 ring 18lb, etc.				
	Calculate on inclusion assessing and testing balances				
	ESTIMATE FOR COST DELTA FOR INCONEL 601 @ 22.5% WGT x \$18.00/LB			\$ 217,771.20	
	SHIPPING, PACKAGING & INSPECTION			\$ 10,000.00	
	TOTAL ADJUSTED COST FOR ITEMS 1 THRU 7			\$ 628,765.20	
	MY ESTIMATE FOR 7 ITEMS 1A,2A,3A,4A,4B,5A,5B +5.5%			\$ 663,766.00	-1% HIGHER

Material Escalation Information



WBS Number: 15
WBS Title: Coil Support Structures
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