NCSX Work Approval Form (WAF)

WBS Number: 145
WBS Title: Modular Coil-Coil Interfaces
Job Number: 1431
Job Title: Modular Coil Interface Harware
Job Manager: Larry Dudek

Description:

Procure necessary parts and consumables to support assembly and fabrication of Modular Coils interfaces. This job only covers M&S support - labor to procure the parts and consumables is covered under WBS 82 (where L. Dudek labor is covered).

Schedule:

Approvals:

Lawrence E. Dudek
Digitally signed by Lawrence E. Dudek
DN: cn=Lawrence E. Dudek, c=US
Date: 2007.07.06 09:36:19 -04'00'

Job Manager _____ Date _____

Wayne Reiersen
Digitally signed by Wayne Reiersen
DN: cn=Wayne Reiersen, c=US, o=PPPL
Reason: I have reviewed this document
Date: 2007.07.06 09:55:06 -04'00'

Responsible Line Manager _____ Date _____

Hutch Neilson
Digitally signed by Hutch Neilson
DN: CN = Hutch Neilson, C = US, O = PPPL
Date: 2007.07.06 10:33:19 -04'00'

Project Manager _____ Date _____

Mike Williams
Digitally signed by Mike Williams
DN: cn=Mike Williams, o=PPPL, ou=Engineering, email=williams@pppl.gov, c=US
Date: 2007.07.06 11:30:59 -04'00'

Engineering Department Head _____ Date _____

NCSX June 2007 ETC
TABLE I - DESIGN LABOR

WBS Number: 145

WBS Title: Modular Coil-Coil Interfaces

Job Number: 1431

Job Title: Modular Coil Interface Harware

Job Manager: Larry Dudek

Description:

No Design Work Associated with This Job.

NCSX June 2007 ETC
TABLE II - Materials and Subcontracts

	TASK DESCRIPTION	Estimate								Basis of Estimate				
		41MS ($)	48MS ($)	STK ($)	EMEM (Hrs)	EMSM (Hrs)	EMTB (Hrs)	EAEM (Hrs)	EASB (Hrs)					
1	**Shim Blocks**	**104,956**												
2	Total SS material Required: 24 in sq x 800 pcs + 50 sq ft for nose									**162.5**	**sq ft**	**Includes allowance for 25% for wastage**		
3	Raw Material @ $8 / # (per verbal Ludlum steel quote)	60,556								**60**	**sq ft (nose shims)**	**Basis Of Estimate: Verbal Price quote from Ludlum Steel (see Table V)**		
4										**7569.45**	**# 310SS**			
5	Qty of 2' x 2' shts=162/4									**56**	**plates (2' x 2')**			
6	Drum Finish $50/side (both sides)	5,600										**Basis of Estimate: Past procurements**		
7	Waterjet cutting @ 8 Hr/sheet						448					**Basis of Estimate: Recent experience**		
8	Alumina Application per quote from A&A Coating = (both Sides)	**38,800**										**Basis of Estimate: Quote from A&A Coatings (see Table V)**		
	Inboard Weld Joint													
	Weld wire for inboard joint (12 cu. In /joint * 15 joints * .3 #/cu. In.)+ 10% was	**2,400**										Basis of Estimate: Quote from MetalTEk (actual Cost) see Table V		
9														
10	**G-11 Bushing Estimate**									**166**	**$ / 4 ft. length (based on recent price for round stock)**			
11	Price $0.45/cu. In ---- Quantity Required									**813**	**Pcs**	**See Table V for Backup**		
12	2" dia. Convolution Roll G-11CR	**8,050**								**1626**	**linear Inches**	**See Table V for Backup**		
13	PPPL Machining Labor						554			**135.5**	**Ft**	**See Table V for Backup**		**Updated to reflect prefabricated bushings**
14	**Stud Kits**	**389,885**								**33.875**	**4' Lengths**	**See Table V for Backup**		
15	10.5 Studs	48,375								**60 studs x $268.75) x 3 FPA => See Table V for Backup**				**Updated Est.**
16	7.5 studs	95,088								**140 studs x $226.40) x 3 FPA => See Table for Backup**				**Updated Est.**
17	Washers	116,220								**260 spherical sets x $149 x 3 FPA => See Table V for Backup**				
18	Sphercial Sets	127,140								**260 washers x $163 x 3 FPA => See Table V for Backup**				
19	Nuts	3,062								**Assume 116 nuts needed with 20% wastage => see McMaster Carr quote in Table V**				
20	**Bladders Estimate**													
22	Quantity Required= 50	**9,050**								**See American Flouroseal Quote (Table V)**				
23	Engineering Charge	**3,800**								**See American Flouroseal Quote (Table V)**				
24	Price per piece $180													
25	**Supernuts**	**123,750**								**See Superbolt Quote (Table V)**		**(Revised 6/6/07 to add 50 Supernuts for Line 27 below)**		
26														
27	**Stud Kits for C-C Joints, and Weld Clamping**													
28	10.5 Studs	13,438								**50 Studs x $268.75**				
29	Washers	16,300								**100 Washers x $163**				
30	Sphercial Sets	14,900								**100 Sets x $149**				
31	Nuts	1,100								**50 Nuts cost per McMaster Carr Quote in Table V**				
32														
33	**Sliding Shims for C-C inboard leg**													
34	G-11 Shims	1,440								**480 cubic inches/joint x 3 joints x $1 per cu. Inc**	See Quote table V			
35	Machining Labor						48			**Estimate 16 hours per piece x 3 pieces**	Basis of estimate is Engineering Judgement detailed design does not exist			
36	Misc Tech Shop Support @ 1/2 mm/mo. Through FPA sta 2 12 mo.						960			**Engineering estimates based on recent experience on NCSX**				
	TOTAL	**689,069**					**2010**							
Notes: Table V has the detailed backup, including actual quotes		689.0685												
		2699.0685												

NCSX June 2007 ETC
TABLE III - Fabrication/Assembly Installation

WBS Number: 145

WBS Title: Modular Coil-Coil Interfaces

Job Number: 1431

Job Title: Modular Coil Interface Harware

Job Manager: Larry Dudek

In-house Fabrication and Assembly and Installation

Description: N/A

NCSX June 2007 ETC
TABLE IV - Uncertainty of Estimate and Residual Risk Assessment

WBS Number: 145
WBS Title: Modular Coil-Coil Interfaces
Job Number: 1431
Job Title: Modular Coil Interface Harware
Job Manager: Larry Dudek

Uncertainty of the Estimate

	High	Medium	Low	Uncertainty Range (%)	Comments/Other Cionsiderations
Design Maturity		X		-15%/+25%	Design still evolving - no drawings of shims, bushings (even material choice uncertain) => only studs pretty well finalized.
Design Comlexity		X			Complexity rated as medium since criteria for loads is demanding.

Note: High/Medium/Low uncertainty assessment from Job Manager. Uncertainty range based on AACEI recommended practice 18R-97 as amended for NCSX.

Residual Impacts

Job	Risk Description	Likelihood of Occurring	Mitigation Plan	Basis of estimate	Cost Impact Low	Cost Impact High	Schedule Impact Low	Schedule Impact High
NONE								

Notes:
[1] Low cost and schedule impacts are considered the minimum (0-percentile) impacts should the event occur.
High cost and schedule impacts are considered the maximum (100-percentile) impacts should the event occur
[2] Cost impacts should be entered as man-hours (by demographic) and M&S direct cost under basis of estimate.
Cost impacts should NOT include standing army costs which are separately calculated from the schedule impact
Project control is reponsible for quantifying the low and high cost impacts based on the labor hours and M&S identified
[3] The schedule impacts should be entered as the min and max impacts on the critical path.
If there is no critical path impact then the schedule entries should be zero.
[4] Likelihood of occurrence should be entered consistent with our risk classification methodology, i.e.
VL= Very Likely (P>80%), L=Likely (80%>P>40%), U=Unlikley (40%>P>10%), VU=Very Unlikely (P<10%), NC=Non-credible (P<1%)

WBS Number: 145
WBS Title: Modular Coil-Coil Interfaces
Job Number: 1431
Job Title: Modular Coil Interface Harware
Job Manager: Larry Dudek

Backup Documentation for M&S Estimates:

Stud Hole Quotes

REQUEST FOR QUOTATION 07-030-W
Page 2

Item	Qty	Description	Drawing	Price Each	Total
1	60	SE140-191-1 **Material option #1**	Fabricate MCWF Flange Stud (10.5" long) per drawing. Material is as per drawing A286 per ASTM 453 Grade 660. **Using 1.375" stock. Outside diameter of stud to be 1.370" +0/-.001.** Silver plating per AMS 2410 on threads.	$275.00	
	140	SE140-191-2 **Material option #1**	Fabricate MCWF Flange Stud (7.5" long) per drawing. Material is as per drawing A286 per ASTM 453 Grade 660. **Using 1.375" stock. Outside diameter of stud to be 1.370" +0/-.001.** Silver plating per AMS 2410 on threads.	$257.00	
2	60	SE140-191-1 **Material option #2**	Fabricate MCWF Flange Stud (10.5" long) per drawing. Material is as per drawing A286 per ASTM 453 Grade 660. **Using 1.500" stock. Outside diameter of stud to be 1.375" +0/-.001.** Silver plating per AMS 2410 on threads.	$325.00	
	140	SE140-191-2 **Material option #2**	Fabricate MCWF Flange Stud (7.5" long) per drawing. Material is as per drawing A286 per ASTM 453 Grade 660. **Using 1.500" stock. Outside diameter of stud to be 1.375" +0/-.001.** Silver plating per AMS 2410 on threads.	$297.00	
3	260	Fabricate Washer	#SE140-193, Rev.0 dated 3/7/07	$149.00	
4	260	Fabricate Spherical Washer Sets	#SE140-194-1 and #SE140-194-2, Rev.0 dated 3/7/07	$163.00	

BITEC div Sample Machining Inc
220 N. Jersey Street
Dayton, OH 45403
Phone: 937 258 3330
Fax: 937 258 3640

Quotation

Updated Stud Estimate 5/4/2007

Quote: Princeton University
To: Plasma Physics Laboratory
P.O. Box CN-17, MS-12
Princeton, NJ 08543
United States

Quote Number: 20070788 | Contact: ARLENE WHITE
Quote Date: 05/04/07 | Expires: 06/03/07 | Inquiry: RFQ No. 07-030-W
Customer: PPPL | Terms: Net 30 Days
Salesman: Hostel Account | Phone: (609) 243-2090
Ship Via: United Parcel Service | Fob: Delivery: 8-10 Weeks ARO
Fob: Dayton, Ohio

*Note: Please see following attachment(s)

Thank you for the opportunity to submit this quote. All prices and term are valid for 30 days from the date of this quote.

Item	Part Number / Description	Revision	Quantity	Price
1	SE140-191-1-1 MCWF Flange Studs	1	60	$299.75 /EA
2	SE140-191-2-1 MCWF Flange Studs	1	140	$238.40 /EA
			Total:	*$47,821.00*

By: Mullett, Larry
BITEC div Sample Machining Inc

Quotes for Shims

Metals > Shape > Thickness > Material > Length > Compare Items
Stainless Steel
This product matches all of your selections.
Part Number: 01078A1 — $343.71 Each

Material	Super Corrosion-Resistant Stainless Steel (Type 316/316L)
Finish/Coating	Unpolished (Mill)
Shape	Sheets, Bars, Strips, and Cubes
Sheets, Bars, Strips, and Cubes Type	Plate
Thickness	.5"
Thickness Tolerance	±.06"
Length	24"
Length Tolerance	±1/16"
Width	24"
Width Tolerance	±1/16"
Tolerance	Standard
Material Certification	Without Material Certification
Condition/Temper	Annealed
Hardness	217 Brinell
Yield Strength	25,000 psi
Specification Met	American Society for Testing and Materials (ASTM)
ASTM Specification	ASTM A240

RESPONSIVE COATING TECHNOLOGY
ESTABLISHED 1944

QUOTATION

TO: PRINCETON PLASMA PHYSICS LABORATORY
MECHANICAL ENGINEERING DIVISION
P.O. BOX 451
PRINCETON, NJ 08540

LARRY DUDEK
P: (609) 243-2183
LDUDEK@PPPL.GOV

May 9, 2007 — Date

07286 — Quotation Number

FROM: RICHARD BRUNHOUSE
SALES MANAGER

Quantity	Unit	Description	Unit Price
200	EACH	TAPERED SHIMS (PART NO. SE140-040-PART2) – PREP AND PLASMA SPRAY FRONT AND BACK WITH +0.010" – +0.015" THICK OF ALUMINA, OVERSPRAY ALLOWED ON SIDES BUT NOT IN ID OF CENTER HOLE	$40.50 EACH

Alumina Coating Quote dated May 9, 2007

Terms: 1% 10 days, net 30 with Price credit approval
FOB: South Plainfield, NJ

Delivery: 10 – 15 BUSINESS DAYS

Note: Minimum Charge is $200.00
Quotation good for 30 days and subject to current material costs

Richard S. Brunhouse
Richard S. Brunhouse

2700 South Clinton Avenue • South Plainfield, NJ, 07080 • (908) 561-2278 Fax (908) 561-4201

WBS Number: 145
WBS Title: Modular Coil-Coil Interfaces
Job Number: 1431
Job Title: Modular Coil Interface Harware
Job Manager: Larry Dudek

Flange Hole Configuration

Hole #	C-C on C	for tensioner	C-B on C		C-B on B		A-B on B		A-B on A		A-A on A	
1	T	OK	H	OK maybe	T		H	NO	H	NO - D&L	H	NO - D
2	T	OK	H	OK	T		H	OK	H	NO - D&L	H	NO - D
3	T	OK maybe	H	NO - D	T		H	OK	H	NO - D&L	H	NO - D
4	H	NO - D	H	NO - D	T		H	NO - D	H	NO - D&L	H	NO - D
5	H	NO - D	H	OK	T		H	OK	H	NO - D&L	H	NO - D
6	H	NO - D	H	OK	T		H	OK	H	NO - D	H	NO - D&L
7	H	NO - D	H	OK	T		H	OK	H	NO - D	H	NO - D
8	H	NO - D	H	OK	T		H	OK	H	NO - D	H	NO - D
9	H	NO - D	H	OK	T		H	NO - D	H	NO - D	H	NO - D
10	H	NO - D	H	NO - D	T		T	OK	H	NO - D	T	
11	H	NO - D	H	OK	T		H	NO way	H	NO - D	H	NO - D&L
12	H	OK	H	OK	T		H	OK	H	NO - D	H	NO - 1" clearance to bus lead block
13	H	OK	H	OK Remove 2 poloidal break bolts	T		H	OK	H	NO - D	H	NO - 1" clearance to bus lead block
14	H	OK	H	OK	T		H	OK	H	NO - D	H	NO - 4" clearance to bus lead block
15	H	OK Remove 2 poloidal break bolts	H	OK	T		H	OK	T		H	NO - D
16	T	Maybe	H	OK	T		T	OK	H	NO - D	H	NO - D
17	H	Maybe	H	OK	T		H	OK Remove poloidal break	H	NO - D	H	NO - D
18	H	OK Remove 2 poloidal break bolts	H	OK	T		H	NO - D	H	NO - D	H	NO - L
19	H	OK	H	NO - D&L	T		H	NO - D	H	NO - D	H	NO - L
20	H	OK	H	OK	T		H	OK	H	NO - D	H	NO - L
21	H	OK	H	OK	T		H	OK	H	NO - D		
22	H	NO - D	H	NO - D&L	T		H	OK	H	NO - D		
23	H	NO - D	H	NO - D&L	T		H	OK	H	NO - D		
24	H	NO - D	H	NO - D&L	T		H	NO - D	H	NO - D		
25	H	NO - D	H	NO - D&L	T		H	NO - D	T			
26	H	NO - D	H	NO - D&L	T		H	OK	T			
27	H	NO - D	T		H	NO - D&L						
28	H	NO - D	T		H	NO - D&L						
29	H	NO - D	T		H	NO - D&L						
30	H	OK maybe										
31	H	OK										
32	H	OK										
Qty Holes	28		26		3		24		23		19	

Flange Hole Configuration

	123	3-Coil Total
	738	Machine Total
	75	10%
	813	
Say 1.5 inches tall x 813		100 Feet

Nose Shim Material Estimate

	A to A Join	A to B-E	A to B-D	B to C-E	B to C-E	C to C-D		Comments	
Area (sq. In	345.5	521	535	203	223	426		Scaled off of template drawings SE	
Weight (lbs	64.8	97.7	100.3	38.1	41.8	79.9			
310SS=0.3#/cu.in.									
Quantity	3	3	3	3	3	3			
Pounds	194.3	293.1	300.9	114.2	125.4	239.6	1267.59		
Total Area	1,036.5	1,563.0	1,605.0	609.0	669.0	1,278.0	6760.50	Sq. In.	46.9 Sq. Feet
							253.52	25% Extra for Wastage	
							633.80	50% Extra for Various Thicknesses	
							8915.41		
							71300.00	Cost @ $8/#	

	Total Machine	1 FPA	10% Spare	Total		Tests	TOTAL	Unit	
Line 1: 10.5" Studs	**136**	45	5	50		10	60		
Line 2: 7.5" Studs	**350**	117	12	128		10	138		
Line 3: Washer	**622**	207	21	228		**30**	258		
Line 4: Spherical Sets	**622**	207	21	228		30	258		
Insulating Washers	**622**	207	21	228		30	258		
Insulating Bushing Stock	**486**	162	48.6	535			133.65	Feet	33.4125
Supernuts	**486**	162							
Nuts	**116**	39							

WBS Number: 145
WBS Title: Modular Coil-Coil Interfaces
Job Number: 1431
Job Title: Modular Coil Interface Harware
Job Manager: Larry Dudek

PPPL Princeton Plasma Physics Laboratory Procurement Card System

P-Card Log # : TM-11142.r9 12 ft G11-(CR) 2.0 ID X 2.25 OD Tube

Requestor: Michael E Viola Status: Reconciled Cardholder: tmeighan Created: 1/12/2007

Line	Quantity	UOM	Unit Price	Extended	Receipt Date	Receipt Comment
1	12	FT	14.53	$195.36	2/5/2006	

Enter Complete Description - include make, model, items specifications, etc.
12 ft G11-(CR) Cryogenic epoxy based laminec tube 2.0 ID X 2.250 X 48" long

Cost Center Distribution Accounts for this Line Item

Cost Ctr	Wrk Pkg	Job Pkg	Expense Class	Dollar Amount	Delete
5650	1***	1421	4101-MATERIALS SERVICE	$207.47	

Add 0 Line Items Add 0 Cost Centers Add Lines

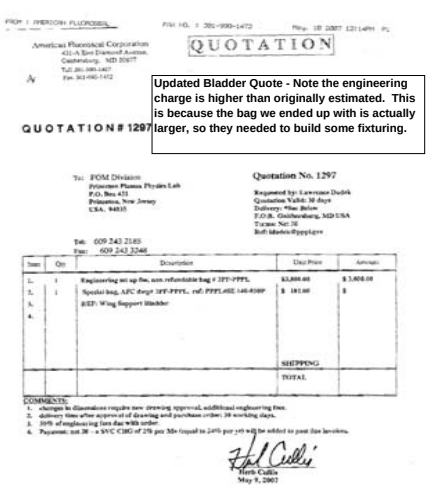
Vendor Name:	Date Ordered:	Date Expected:
Franklin Fiber-Lamitex Corp 302-6523421	1/12/2007	2/27/2007

Purchased Amount:	$0.00
Shipping/Handling:	0.11
Sales Tax:	0
Other Charges:	0
Total Charges:	$0.00

Other Charges Comment:

Submit for Approval Copy Log Delete Log

G-11 Backup



American Fluoroseal Corporation
431-A Eve Diamond Avenue,
Gaithersburg, MD 20877
Tel: 301-990-1407
Fax: 301-990-1472

QUOTATION

Updated Bladder Quote - Note the engineering charge is higher than originally estimated. This is because the bag we ended up with is actually larger, so they needed to build some fixturing.

QUOTATION# 1297

To: FOM Division
Princeton Plasma Physics Lab
P.O. Box 451
Princeton, New Jersey
USA. 94035

Quotation No. 1297

Requested by: Lawrence Dudek
Quotation Valid: 30 days
Delivery: *See Below
F.O.B.: Gaithersburg, MD USA
Terms: Net 30
Ref: labeler@pppl.gov

Tel: 609 243 2185
Fax: 609 243 3246

Item	Qty	Description	Unit Price	Amount
1.	1	Engineering set up fee, non refundable bag # 3PT-PPPL	$3,800.00	$ 3,800.00
2.	1	Special bag, AFC drg# 3PT-PPPL, ref: PPPL#SE 146-#100P	$ 181.00	$
3.		REF: Wing Support Bladder		
4.				
			SHIPPING	
			TOTAL	

COMMENTS:
1. changes in dimensions require new drawing approval, additional engineering fees.
2. delivery time after approval of drawing and purchase order: 30 working days.
3. 30% of engineering fees due with order.
4. Payment: net 30 – a 5%/C CHG of 2% per 30+ (equal to 24% per yr) will be added to past due invoices.

Herb Cullis
May 9, 2007

Superbolt Quote

From: Steve Busalacchi
Sent: Wednesday, March 28, 2007 2:43 PM
To: Cole, Michael
Subject: Superbolt Quote

Mike,

Our p/n for this special will be: S-02200

For 500pcs = $225.00 each, Delivery = 4-6 wks
For 170pcs = $296.00 each, Delivery = 3-4 wks

Terms: NET 30 (upon credit approval)
FOB: Shipping Point
Freight: Crate, via Truck prepay & add or collect, $50 crate charge

Note, we need the O.D. to be 2.65" to keep stresses down for the Nitronic 50 nut body. However, we can hold the same heights as the CY sample.

I will provide approval drawing tomorrow.

Regards,

Steve Busalacchi,
Engineering Manager,
SUPERBOLT INC.
Ph: 412-279-1149
sbusalacchi@superbolt.com

From: Steve Busalacchi
Sent: Wednesday, March 14, 2007 3:28 PM
To: 'Cole, Michael'
Cc: 'tmiolie@pppl.gov'
Subject: RE: NITRONIC 33

Mike,

Lets use $225.00 each for 460 pieces special 1-3/8" – 6 tpi. Materials will be

main nut body in Nitronic 50, and Jackbolts & washer in Inconel 718.

How did the sample Torquenut I sent fit?

Regards,

Steve Busalacchi,
Engineering Manager,
SUPERBOLT INC.
Ph: 412-279-1149
sbusalacchi@superbolt.com

From: Cole, Michael [mailto:colemj@ornl.gov]
Sent: Wednesday, March 14, 2007 9:33 AM
To: Steve Busalacchi
Subject: RE: NITRONIC 33

Steve,

Sorry for the delay in getting back to you.

We finally found a link to the nitronic 60 material. I have attached the data for your information.

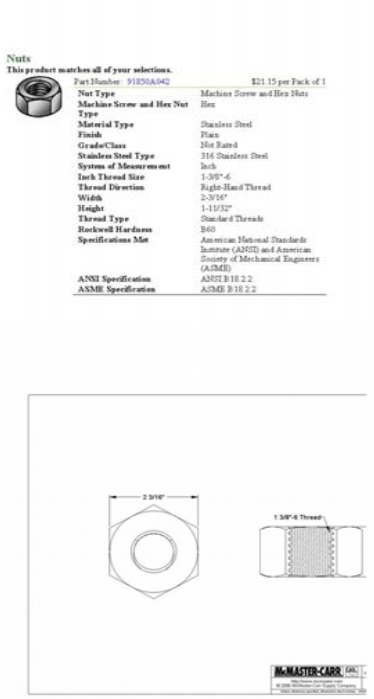
You can price the material for nitronic 50 or nitronic 60.

mike

Michael J. Cole
Oak Ridge National Laboratory
Bldg 5700, Rm. G306, MS 6169
Bethel Valley Road
P.O. Box 2008
Oak Ridge, TN 37831-6169

Phone 865-574-2954
Fax 865-241-1236
E-mail: colemj@ornl.gov

McMaster Carr Quote on Nuts dated May 9, 2007



Nuts

This product matches all of your selections.

Part Number: 91850A942 $21.15 per Pack of 1

Nut Type	Machine Screw and Hex Nuts
Machine Screw and Hex Nut Type	Hex
Material Type	Stainless Steel
Finish	Plain
Grade/Class	Not Rated
Stainless Steel Type	316 Stainless Steel
System of Measurement	Inch
Inch Thread Size	1-3/8"-6
Thread Direction	Right-Hand Thread
Width	2-3/16"
Height	1-11/32"
Thread Type	Standard Threads
Rockwell Hardness	B60
Specifications Met	American National Standards Institute (ANSI) and American Society of Mechanical Engineers (ASME)
ANSI Specification	ANSI B 18.2.2
ASME Specification	ASME B 18.2.2

WBS Number: 145
WBS Title: Modular Coil-Coil Interfaces
Job Number: 1431
Job Title: Modular Coil Interface Harware
Job Manager: Larry Dudek

From: Larry Dudek
Subject: **Price and Delivery 310SS**
Date: May 15, 2007 1:58:53 PM EDT
To: FRED DAHLGREN
Cc: Wayne T. Reiersen <reiersen@pppl.gov>
▶ 2 Attachments, 852 KB Save Slideshow

Allegany Ludlum quoted delivery end of July for 3000# of 1/2" thick 310SS.
Price $3.36/# + $4.54/# SURCHARGE= $7.90/# total.

Larry Dudek

X2185

310 SS Quote

309_310.pdf (754 KB)

ATI Allegheny Ludlum
Allegheny Technologies

Search: find it!

Specialty Metals That Make Our World™

Products

Stainless Steel
- Austenitic
- Duplex
- Ferritic
- Martensitic
- Precipitation Hardening
- Supersustenitic
- Superferritic

Nickel Alloy
- Corrosion Resistant
- Electronic Alloys
- High Temperature

Titanium
- Alloyed
- Commercially Pure

Electrical Silicon Steel
- Grain Oriented Silicon Steels

310 / 310S Stainless Steel

Austenitic stainless steel typically used for elevated temperature applications

Market Applications
Heat Treating, Chemical Processing, Food Processing Industry

Sheet	Plate	Strip
Tolerance Guide	Tolerance Guide	Tolerance Guide
Sales Contact	Sales Contact	Sales Contact
800-258-3586	800-289-7528	800-323-1240

Technical Data Bluesheet
Surcharge
OSHA
WHMIS (French)
WHMIS (English)

From: Phil Heitzenroeder
Subject: **RE: Weld Material**
Date: December 15, 2006 2:02:24 PM EST
To: Ruud, Chuck <Charles.Ruud@metaltek.co
Cc: Lawrence E. Dudek <ldudek@pppl.gov>

Weld Wire Costs

Show in Mailbox

Chuck,
I talked with Larry, and he feels that the 60 lbs. is plenty for our needs. Thanks for the offer, though.
Phil

From: Ruud, Chuck [mailto:Charles.Ruud@metaltek.com]
Sent: Tuesday, December 12, 2006 6:06 PM
To: Phil Heitzenroeder
Subject: RE: Weld Material

Any word?
Chuck

I can offer a lower price for the last ½. The $40 includes the welding and testing costs.
Material is $26/lb.
To summarize 60 lbs at $40 and the balance at $26.
Fair?

Chuck Ruud
Quality Manager
MetalTek International
Carondelet Division
8600 Commercial Blvd.
Pevely, MO 63070
charles.ruud@metaltek.com
636-475-2199

From: Phil Heitzenroeder [mailto:pheitzen@pppl.gov]
Sent: Thursday, December 07, 2006 4:08 PM
To: Ruud, Chuck; Lawrence E. Dudek
Subject: RE: Weld Material

Chuck,
Thanks for the offer....Larry, what do you think.- should we buy it all? Chuck, we'll get back to you soon.
Phil

From: Ruud, Chuck [mailto:Charles.Ruud@metaltek.com]
Sent: Tuesday, December 05, 2006 6:20 PM
To: Phil Heitzenroeder
Subject: Weld Material

We have the order for 60 pounds of weld wire.
Turns out we have 141 pounds of the LNM 4455 weld wire. All from the same certified lot.
Do you want to purchase all?

Chuck Ruud
Quality Manager
MetalTek International

WBS Number: 145
WBS Title: Modular Coil-Coil Interfaces
Job Number: 1431
Job Title: Modular Coil Interface Harware
Job Manager: Larry Dudek

Modular Coil Test Flange
For A-B joints, assumed 18 inch centers which results in 6 bolts/joint vs. the assumed 2-3 (by Task Force)