



FACSIMILE MESSAGE

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Date: June 13, 1994

To: JARRY JONES
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From: RICK PRIOR
CHICAGO BRIDGE & IRON
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WE ARE TRANSMITTING 3 PAGE(S) (INCLUDING THIS COVER SHEET). IF THERE ARE ANY PROBLEMS, PLEASE CALL(713) 896 - 2916 .

REFERENCE: Revised WMS-ER308L

Per your phone conversation with Ken Flessas, attached you'll find a revised WMS (weld material specification). This specification is generic due to the fact that Techalloy will not release the details of the cleaning process used. Ken has told me that the outgassing rate is acceptable (preliminary) and we will go ahead and plan on using the remainder of the wire from Techalloy for the Qualification Test.

Section 5.0 states that a cleaning process must be applied to control the level of surface contamination that will result in a uniform wire condition. Section 6.0 states that before any wire may be used for the LIGO Project, it must be qualified. This qualification consists of approval of the proposed cleaning process from possible suppliers and passing outgas tests performed by Caltech. Techalloy has passed this required qualification so wire from them would be acceptable for the LIGO Project. In order for other suppliers to be qualified, they must pass all the tests that were performed on the Techalloy wire.

If you have any questions or comments, please give me a call.

Rick W. Prior
Houston Corporate Welding

attachments

cc: BGG/CNS/930212-9.1
KEN FLESSAS - CBICLH
MARTY TELLALIAN - RCE



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FILE
CLEANED ER308L FILLER MATERIAL
SPECIFICATION
PRODUCT LIGO BEAM TUBE MODULES
CALIFORNIA INSTITUTE OF TECHNOLOGY

IDENTIFICATION WMS-ER308L			
REFERENCE NO. 930212		SHT 1 OF 2	
OFFICE COH		REVISION 2	
MADE BY RWP	CHKD BY BGG	MADE BY RWP	CHKD BY BGG
DATE 12/9/93	DATE 12/9/93	DATE 5/26/94	DATE 5/26/94

1.0 SCOPE:

This procedure covers the purchasing specifications, cleaning, qualification and handling of filler material to be used during the construction of the LIGO Beam Tube Modules.

2.0 REFERENCES:

- 2.1 ASME Section II, Part C, latest edition.
- 2.2 California Institute of Technology Technical Specification Number 1100007 for Low Hydrogen, Type 304L Stainless Steel Vacuum Products.

3.0 MATERIAL:

- 3.1 ASME Specification SFA 5.9, latest edition in Part C, Section II Material Specification.
- 3.2 AWS Classification - ER308L.
- 3.3 Unit Package Type - 25-30 lb. and 2-3 lb. spools of 0.035" diameter.

4.0 CERTIFICATION AND TESTING per SFA 5.01, latest edition in Part C, Section II Material Specification:

- 4.1 Lot Classification - S3.
- 4.2 Level of Testing - Schedule F.

5.0 CLEANING:

Filler material in accordance with 2.0, 3.0 and 4.0 shall have a cleaning process applied to control the level of surface contamination. This cleaning process need not to remove all surface contamination, only control the level of contamination with a result of a consistent surface condition.



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TITLE CLEANED ER308L FILLER MATERIAL SPECIFICATION		IDENTIFICATION WMS-ER308L			
		REFERENCE NO. 930212		SHT 2 OF 2	
PRODUCT LIGO BEAM TUBE MODULES CALIFORNIA INSTITUTE OF TECHNOLOGY		OFFICE COH		REVISION 2	
		MADE BY RWP	CHKD BY BGG	MADE BY RWP	CHKD BY BGG
		DATE 12/9/93	DATE 12/9/93	DATE 5/28/94	DATE 5/26/94

6.0 QUALIFICATION:

The cleaning process and filler material for each supplier shall be qualified prior to any production welding using the suppliers filler material. Qualification of each supplier shall include the follow:

- 6.1 Cleaning process and method of fabrication shall be approved by purchaser.
- 6.2 Approximately 25 lbs of sample filler material shall be provided for evaluation.
- 6.3 Supplied filler material shall have satisfactory wire feed characteristics.
- 6.4 Welds deposited using supplied filler material shall pass required hydrogen outgassing tests.

7.0 PACKAGING:

- 7.1 All handling of the cleaned filler material shall be done wearing cloth gloves. No contact with skin shall occur.
- 7.2 Each spool of clean filler material shall be packed and sealed to prevent outside contamination from the atmosphere.