

NDBC STANDARD SPECIFICATION FOR FABRICATION OF 3M VE FOAM BUOY HULL STRUCTURE USED IN THE WEATHER BUOY ARRAY

1.0 SCOPE

1.1 General. This specification describes the requirements for the fabrication of buoy hull structure used in the Weather Buoy array for the 3m VE Foam Hull. This requirement also includes the buoy well, hatch cover, cable pass-thru, bridle, bridle head and all associated hardware. The contractor shall provide all the necessary labor, material, equipment, facilities and services to fabricate and deliver the hulls to the National Data Buoy Center (NDBC).

1.2 Government Furnished Property. The government will be purchasing the 3 Meter VE Discus Buoy Flotation Element (3METERVE-N2001) as a separate entity and the contractor is not responsible for providing this piece part.

1.3 Precedence. Any ambiguity or conflict between this specification and other applicable documents shall be resolved by the following order of precedence:

- a) The issued contract with any amendments or modifications
- b) This specification
- c) The drawings listed in paragraph 2.4
- d) Other applicable documents listed in paragraph 2.0

2.0 APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are referenced in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification, which are recommended for additional information or used as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements cited in sections 3 and 4 of this specification, whether or not the referenced documents are listed here.

2.2 Government Documents. The following documents form a part of this specification to the extent referenced herein. Suffixes denoting the specific issue of each document are omitted from future references to the documents in this specification.

<u>STANDARD</u>	<u>DATE</u>	<u>TITLE</u>
NDBC-8029	20 Sep 2001	NDBC Standard Test Procedure for the Inspection, Maintenance, and Securing of Watertight Fittings
NDBC-8172	28 Apr 2015	NDBC Standard Test Procedure for a 3-Meter Buoy Final Air Test

NDBC-1103	25 Mar 2009	NDBC Standard Test Procedure for 3-Meter Discus Buoy Structural Testing of Lifting and Mooring Eyes
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2.3 Industry Publications. The following documents of the issues specified form a part of this specification to the extent referenced herein. Suffixes denoting the specific issue of each document will be omitted from future references to the document in this specification.

<u>STANDARD</u>	<u>DATE</u>	<u>TITLE</u>
AWS D1.1/D1.1M	10 Mar 2015	Structural Welding Code - Steel
AWS D1.2/D1.2M	11 Jun 2013	Structural Welding Code - Aluminum

2.4 Drawings. The following NDBC drawings form a part of this specification to the extent referenced herein and shall be referred to as "the drawings" throughout this specification:

<u>Drawing</u>	<u>Rev</u>	<u>Title</u>
3METERVE-N1002	-	3 Meter VE Basic Hull Assembly
3METERVE-N2002	-	3 Meter VE Upper Clamping Weldment
3METERVE-N2003	-	3 Meter VE Bottom Clamping Plate
3METERVE-N2004	-	3 Meter VE Lid Weldment
3METERVE-N2005	-	3 Meter VE Lid Gasket
3METERVE-N2006	-	3 Meter VE Moon Well Cap
3METERVE-N2007	-	3 Meter VE Moon Well Gasket
NDBC-9209	E	Hatch Dog Bolt Assembly
03DV001001	D	VE 3 Meter Discus Buoy Bridle Structure
03D0001403	A	3 Meter Discus Buoy Bridle Leg Weldment
03D0001404	-	3 Meter Discus Buoy Bridle to Hull Bushing
03D0001405	-	3 Meter Discus Buoy Bridle to Hull Spacer
03D0001407	-	3 Meter Discus Buoy Bridle to Hull Anchor Bolt
03D0001408	-	3 Meter Discus Buoy Bridle to Head Anchor Bolt
03DV001006	-	VE 3 Meter Discus Buoy Bridle Head Assembly
03D0001406	-	3 Meter Discus Buoy Bridle Head Mounting Weldment
03DV001405	-	VE 3 Meter Discus Buoy Bridle Head Anchor Plate

3.0 REQUIREMENTS

3.1 General. The buoy structure shall be Aluminum 5086 unless otherwise specified. The bridle shall be A-36 mild steel unless otherwise noted.

3.2 Welding. All mild steel welding shall be in accordance with AWS D1.1. All aluminum welding shall be in accordance with AWS D1.2.

4.0 QUALITY ASSURANCE

4.1 Welding Procedures and Qualifications. The contractor shall submit welding procedures and welder qualifications that conform with AWS D 1.1 and AWS D 1.2 prior to fabrication of the buoy framework, bridle, and buoy lid.

4.2 Hull Pressure Test. The contractor shall perform a hull pressure test in accordance with NDBC-8172. Any leaks will require repair and a retest until the test is passed. At least two weeks prior to performing this test the contractor shall notify the government so they can witness the test.

4.3 Inspection of Water Tight Fitting. The contractor shall perform an inspection of the well coaming and hatch cover in accordance with NDBC-8029. Any deficiency identified in this test will require repair and a retest until the test is passed. At least two weeks prior to performing this test the contractor shall notify the government so they can witness the test.

4.4 Structural Integrity Test. The contractor shall conduct a proof test of the entire framework from the padeye through to the lifting eye according to NDBC-1103. This test shall be completed on all three of the lifting rings. Following the test all welds and materials shall be inspected for deformation and cracking. Any signs of cracking or deformation will require repair and a retest until the test is passed. At least two weeks prior to performing this test the contractor shall notify the government so they can witness the test. The contractor will submit a signed and dated certificate to indicate the date in which this test was successfully completed.

4.5 Material Certifications. The contractor shall provide vendor supplied material certifications for all materials used in the construction of the hull assembly and bridle assembly.

4.6 First Article. The contractor shall produce and deliver a first article of the buoy assembly for inspection prior to commencing fabrication of the remainder of the articles. This requirement may be waived at the contracting officer's discretion if the contractor has successfully completed a 3M VE Basic Hull Assembly contract in the past.

5.0 DELIVERABLES

All deliverables shall be shipped to the following address:

National Data Buoy Center
Attn: Property Officer
Building 3203
Stennis Space Center, MS 39529