Marine Corrosion Engineers
Marine and Industrial Agents

Wilson, Walton International Inc.
66 Hudson Street, PO Box M-890, Hoboken, New Jersey 07030, USA
Tel. (212) 227-6657, (201) 795-2044 Telex 1-25919 Cable: Wazedens

75 AMP PLATINIZED/NIOBIUM ANODE DIELECTRIC SHIELD COMPOUND SURFACE PREPARATION AND INSTRUCTIONS FOR ICEBREAKER APPLICATIONS

A. INTRODUCTION

The purpose of a dielectric shield in the immediate vicinity of the AQUAMATIC system anodes is to allow the corrosion protection provided by the anodes to project outward instead of being localized around the anode. The proper application of the dielectric shield around the anodes extends the long-term efficiency by reducing the possibility of the current density being excessively concentrated.

Due to the extreme conditions encountered in Arctic conditions, an extremely abrasion resistant dielectric shield must be applied. This shield consists of a International Paint Red Hand Epoxy filler paste along with International Paint INERTA - ICEBREAKER coating. The proper combination of the above will provide both abrasion resistance and dielectric strength.

Since the anodes efficiency is greatly determined by the quality of the dielectric shield application, it is very important that these instructions are carefully carried out. It is important to have a WWI engineer present for this of the installation.

B. SURFACE PREPARATION

1.) Welds where present should be ground to a smooth rounded contour. Remove weld spatter by grinding.

2.) Oil and grease should be removed using clean dry oil free rags soaked in the hydrocarbon solvent such as Xylol, Toluol, white spirit etc. The rags should be changed frequently to avoid merely spreading contamination.

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B. SURFACE PREPARATION (continued)

3.) Grit blast hull 10' (3 m) radius from anode cable entry hole to SSPC-SP10 near-white metal finish, SA2½, Swedish standard 05 5900), using a clean dry abrasive that will provide an average peak to trough profile of 3 to 4 mils.

4.) Remove residual dust by blowing off with clean dry oil free air, or a dry bristle brush, or a combination of both.

5.) Apply epoxy within four hours of blasting and before the formation of visible rust bloom.

C. APPLICATION

1.) Before mixing any epoxy, be sure anode properly fits in place.

2.) Cut-out a elliptical board approximately 1/8" (3 mm) thick using anode as template. Bolt board in place on doubler plate. This will act as a mask while applying first layer of INERTA-160. Protect studs with rubber tubing.

3.) Spray on INERTA-160 to achieve a dry film thickness of ¼" (6 mm) at anode. Taper to 1/8" (3 mm) at 10' periphery. (See drawing No. AA-313).

4.) Remove elliptical board (mask) from doubler plate.

5.) Mix equal parts of International Paint Red Hand Epoxy. Apply epoxy on both inside edge of elliptical cut-out and back of anode. Apply material ¼" (6 mm) thick.

6.) Insert anode over stud holes. Be sure to keep cable tail taught.

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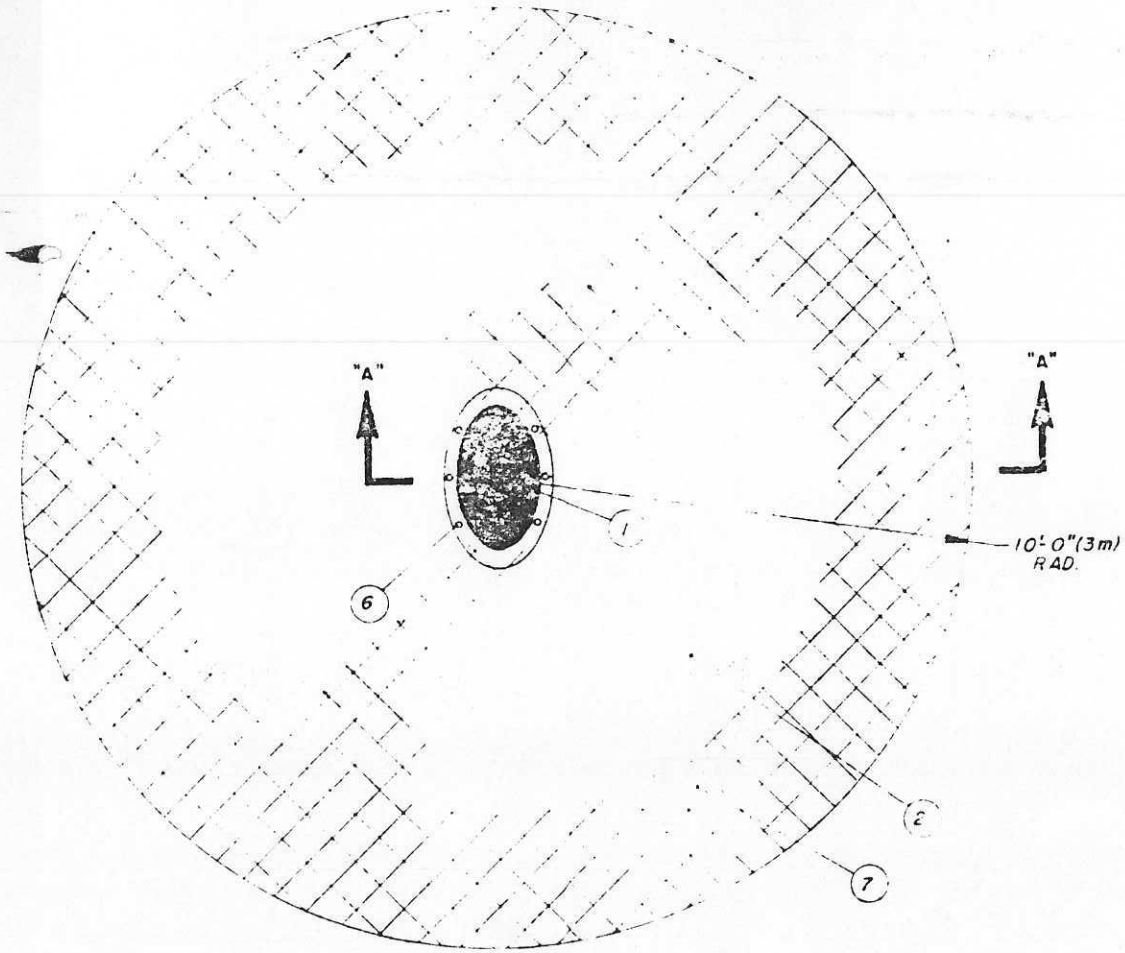
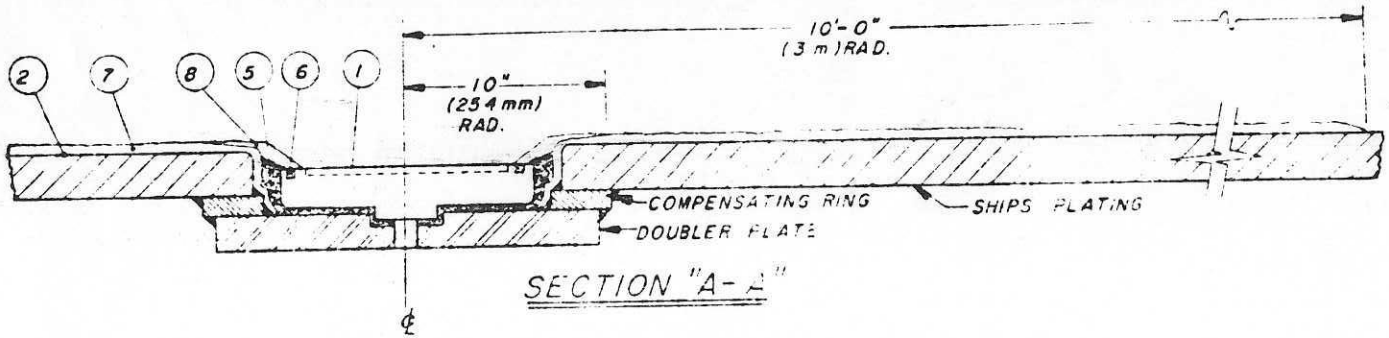


PLAN VIEW



SECTION "A-A"

NOTES:

1. ELLIPTICAL ANODE IN GLASS-REINFORCED RESIN HOLDER. SHADED AREA OF ANODE TO BE MASKED DURING FITTING AND PAINTING.
2. ENTIRE 10' (3m) RADIUS TO BE GRIT BLASTED TO SSPC-SP10 NEAR WHITE METAL (SA2½ SWEDISH STANDARD 05 5900) INERTA 160 (OR EQUIVALENT) TO BE APPLIED NO MORE THAN FOUR(4) HOURS AFTER BLASTING.
3. DIELECTRIC SHIELD MATERIAL INTERNATIONAL INERTA 160 OR EQUIVALENT.
4. STRICT OBSERVANCE OF MANUFACTURER'S APPLICATION INSTRUCTIONS IS RECOMMENDED WHEN APPLYING DIELECTRIC SHIELD MATERIAL.
5. INTERNATIONAL RED HAND EPOXY PASTE, (WWI SUPPLIED PART Nº DSA-5000 (PASTE A) DSA-5100 (PASTE B). TO BE APPLIED TO THE BOTTOM AND SIDES OF ANODE, PROVIDING SEAL WITHIN RECESS-¼" (6mm) MINIMUM THICKNESS.
6. FILL ANODE STUD HOLES WITH RED HAND EPOXY AFTER FITTING ANODE TO STRUCTURE. REMOVE ALL ENTRAPPED AIR FOR BEST RESULTS.
7. INERTA 160 OR EQUIVALENT TO BE APPLIED WITH A MINIMUM THICKNESS OF ¼" (250 MILS) AT ANODE EDGE. TAPPER INERTA 160 TO ⅛" (125 MILS) AT 10' (3m) RADIUS PERIFERY.
8. INERTA 160 OR EQUIVALENT TO BE APPLIED OVER-LAPPING BOTH ANODE RESIN HOLDER AND APPROXIMATELY 10" (254mm) RADIUS OUTWARD. OVERCOATED SURFACES MUST BE ROUGHENED TO PROVIDE PROPER ADHESION BEFORE APPLICATION.

WILSON WALTON INTERNATIONAL
HOBOKEN N.J. - NEW ORLEANS LA - CROYDON SURREY ENGLAND

ICEBREAKER DIELECTRIC SHIELD
75 AMP PT/NI ANODE

DATE	DESIGNED BY	DRAWN BY	APPR'D BY	SCALE	DRAWING NO
6-83	D. N	P.W.	G A O		AA-320

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C. APPLICATION (continued)

7.) Do not completely tighten down anode. Tighten just enough to cause squeezing of epoxy from sides of anode.

8.) Fill stud holes completely with Red Hand Epoxy. Free all trapped air using a cylindical object such as a welding rod or nail.

9.) Fill remaining void areas around anode with Red Hand Epoxy. Several coats may be required to prevent sagging. Overcoat in approximately 30 minutes at 70° F (21° C). Overcoat when base coat is still tacky or sanding will be required for proper adhesion.

10.) Apply an overcoat of INERTA-160 over both the anode resin holder (NOT THE ANODE METAL SURFACE) and approximately 10" (255 mm) into the existing INERTA-160 shield area. If any of the areas to be overcoated have hardened, sanding will be required for proper adhesion.

11.) Remove protective tape from anode face plate to complete installation.