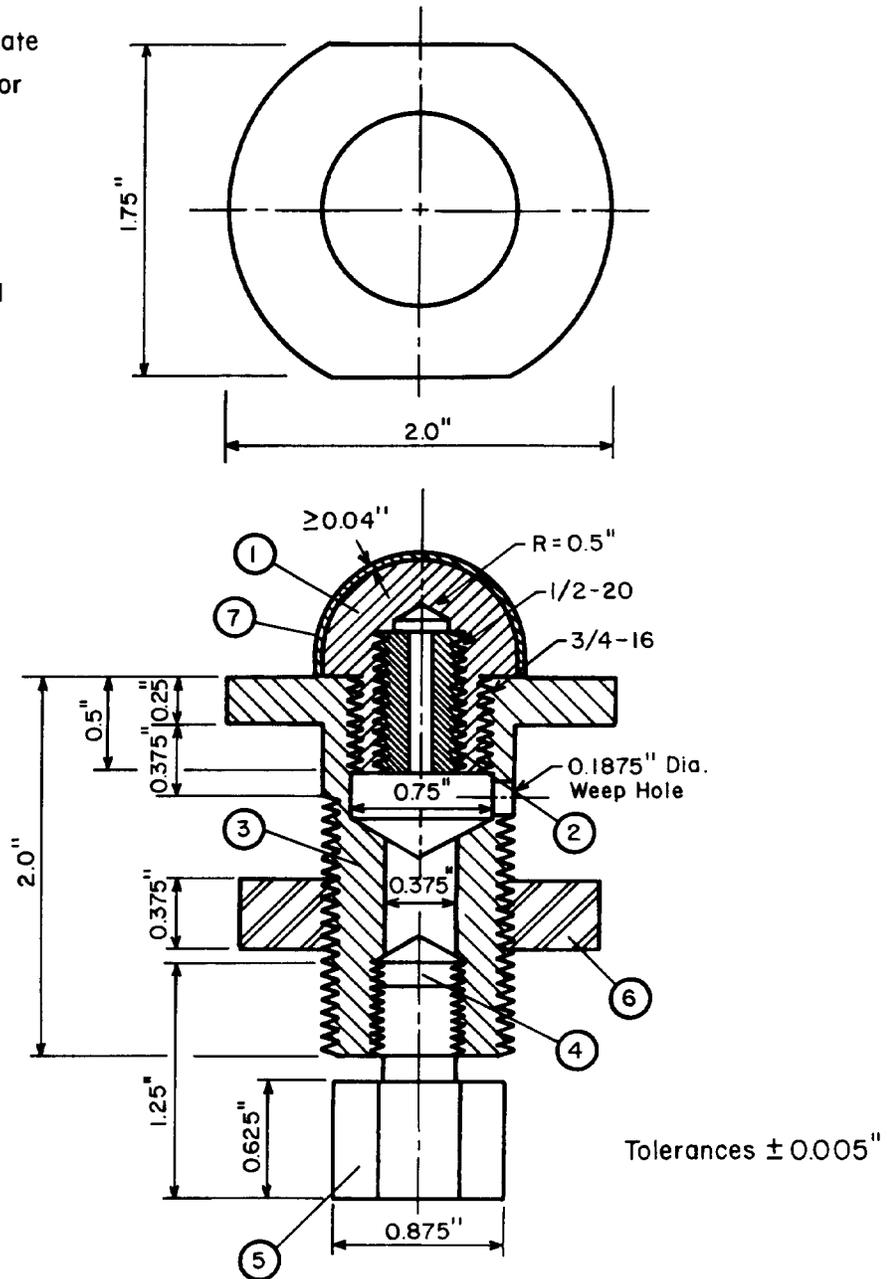


APPENDIX E SPECIFICATIONS FOR CERAMIC ANODE

E-1. Thickness of ceramic coating.

The coating shall be no less than 0.002 inches thick as shown in figure E-1.

- 1) Niobium Substrate
- 2) Brass Connector
- 3) Delrin Gland
- 4) Delrin Ferrule
- 5) Delrin Plug
- 6) Delrin Nut
- 7) Ceramic Coating



CERAMIC ANODE SPECIFICATIONS

US Army Corps of Engineers

Figure E-1. Ceramic anode specifications.

TM 5-811-7

E-2. Dissolution rate.

For a current density of 20 amperes per square meter—

- Freshwater, 10 grams per ampere-year.
- Saltwater, 15 grams per ampere-year.

E-3. Resistivity.

The anode's resistivity shall be 1500 ohm-centimeters.

E-4. Impact resistance.

A Gardner heavy-duty impact tester (Pacific Scientific, West Silver Spring, MD) shall be used. The anode will be screwed into a modified holder and a round-nose punch 0.625 inches in diameter will be placed on the specimen. A 2-pound weight shall be raised to the desired height in a graduated tube and released. Damage to coatings, such as chipping or cracking, should be observed visually or with low-power (10X) magnification. The sample should withstand a force of 32 inch-pounds when the weight is dropped; the punch should be located within an area **C** inch from the center of the anode without observable damage.