GUAM POWER AUTHORITY
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TRANSMISSION AND DISTRIBUTION

SPECIFICATION No. E-019

FOR

OVERHEAD CUTOUTS

AND

ACCESSORIES

OVERHEAD CUTOUTS AND ACCESSORIES

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1.0 SCOPE:

This specification covers GPA's requirement for open fuse cutouts with or without load break capability to be used on the overhead system at 13.8 KV phase to phase at 60 hertz.

2.0 CONFORMANCE TO SPECIFICATIONS:

2.1 APPLICABLE DOCUMENTS

The equipment specified herein shall be designed, manufactured, assembled and tested in accordance with ANSI C37.34, ANSI C37.41, NEMA 5G6, and ANSI C37.32 latest revision unless otherwise stated herein.

2.2 ACCEPTANCE REQUIREMENTS

2.2.1 Equipment purchased under this specification will be accepted under the requirements specified herein.

2.3 DEVIATIONS AND NONCONFORMANCE REQUIREMENTS

2.3.1 Deviations from this specification or changes in the material or design after the purchase order has been placed must be approved by the GPA Engineering Department and acknowledged by an addendum to the specification which shall be issued by a Purchase Order Amendment.

2.3.2 Units received with deviations or non-conformances which are not acknowledged as specified in subparagraph 2.3.1 are subject to rejection. The Supplier of units rejected in this paragraph is responsible for any corrective action including but not limited to materials, labor, and transportation necessary to dispose of, or make the units conform to the specification.

2.3.3 Notification of defective units discovered before or after installation that are believed to be inherent to manufacturing problems or workmanship shall be made and forwarded to the Supplier. The description information, disposition and/or follow-up (as appropriate) that GPA expects from the Supplier will be specified. The Supplier's response shall be made within thirty (30) days unless an extension is acknowledged and approved in writing by the GPA Manager of Engineering.

3.0 DESIGN:

3.1 RATING AND CAPABILITIES

3.1.1 All devices shall have ratings as indicated by Table I.

TABLE I - RATINGS

15 KV DEVICES

ITEM DESCRIPTION	DESIGN VOLTAGE	B.I.L.	CONTINUOUS CURRENT RATING	MINIMUM INTERRUPTING CURRENT RMS (KA)	
	KV	KV	AMPS	SYM.	ASYM
Cutout Body	15	110	300	-	-
100 A. Fuse Holder	15	110	100	10.0	16.0
200 A. Fuse Holder	15	110	200	7.5	12.0

3.1.2 Terminal connectors shall be a bronze eyebolt design, tin plated, and shall accept conductors from 6 solid to 250 MCM aluminum or copper.

3.1.3 The cutout shall not exert more than 8 pounds of tension on the fuse link with the fuse holder in the closed position. Tension on the fuse link should not exceed 15 pounds during closing. A description of the test method used shall be submitted upon request by GPA. All surfaces that come in contact with the fuse link, such as the bottom of the fuse holder and the flipper or link ejector shall be finished in such a manner so as not to cause corrosion of the conductor.

3.1.4 The upper and trunnion contact surfaces shall be silver plated and contact aid shall be factory applied. A lubricant shall be factory applied to all rotating pins.

3.1.5 Leakage distance minimum is given by Table II.

TABLE II

VOLTAGE CLASS KVA	MINIMUM LEAKAGE DISTANCE (INCHES)
15	11.5

3.1.6 Load break cutouts must have self contained arc-extinguishing material. The load break cutout shall have ratings indicated by Table III.

TABLE III

LOAD BREAK RATING

VOLTAGE		CURRENT		
		CONTINUOUS	INTERRUPTING	
NOMINAL	B.I.L	LOAD BREAK AMPS	SYM.	ASYM.
15 KV	110 KV	100	10,000A	16,000A
15 KV	110 KV	200	7,500A	12,000A

3.1.7 The fuse holders shall have an expendable cap.

3.2 OPERABILITY

3.2.1 Cutouts, and fuse holders, purchased under this specification shall be used for sectionalizing, fusing, and switching. They shall be operable with standard industry hotline tools and load break devices.

3.2.2 Cutouts, and fuse holders, shall be suitable for use with a loadbuster tool.

3.2.3 Clearly visible hooks shall be provided for operation on 13.8 KV overhead systems.

3.2.4 Each cutout shall be provided with brackets and hardware, a complete assembly, for crossarm mounting.

3.3 TESTING REQUIREMENTS

3.3.1 Dielectric tests shall be performed per ANSI C37.41.4. All devices shall meet the following voltage withstand levels:

TERMINAL TO GROUND

TEST	VOLTAGE (KV) 15 KV CLASS	TIME
60 Hz Dry	35	1 Min.
60 Hz Wet	30	10 Sec.
1.2 x 50 us Impulse (B.I.L.)	110	-

3.3.2 Interrupting tests shall be performed in accordance with NEMA SG2, latest revision.

3.3.3 The following tests shall be performed in accordance with ANSI C37.41, subparagraph 5, and subparagraphs C37.41-8 through C37.41-11, latest revision.

Static Pressure Test for Expendable Caps
Making Current Tests
Radio-Influence Tests
Short-Time Current Tests
Temperature Rise Tests

3.3.4 Salt fog tests shall be performed by the manufacturer according to ASTM B-117 prior to any GPA evaluation of the device. No manufacturer will be considered until this test has been completed and the results presented to GPA for Engineering evaluation.

3.4 MATERIAL

The mounting hardware and bracket shall be hot-dipped galvanized steel. All other steel including pins, clamps and bolts must be 300 series passivated stainless steel. The composition of all materials used shall be described and must be approved by GPA Engineering prior to acceptance by GPA.

4.0 MANUFACTURING:

4.1 MARKING AND IDENTIFICATION

Cutout frames and fuse holders, shall be indelibly marked with the manufacturer's name, month and year of manufacture, and the maximum voltage and current ratings.

5.0 QUALITY CONTROL:

5.1 QUALITY CONTROL PROGRAM

The manufacturer shall have a quality control program to enable them to assure compliance with our specification.

5.2 QUALITY CONTROL DOCUMENTATION

The quality control program shall be documented and available upon request for GPA review.

5.3 CERTIFIED TEST REQUIREMENTS

The following certified tests shall be performed and available to GPA Engineering and furnished when requested.

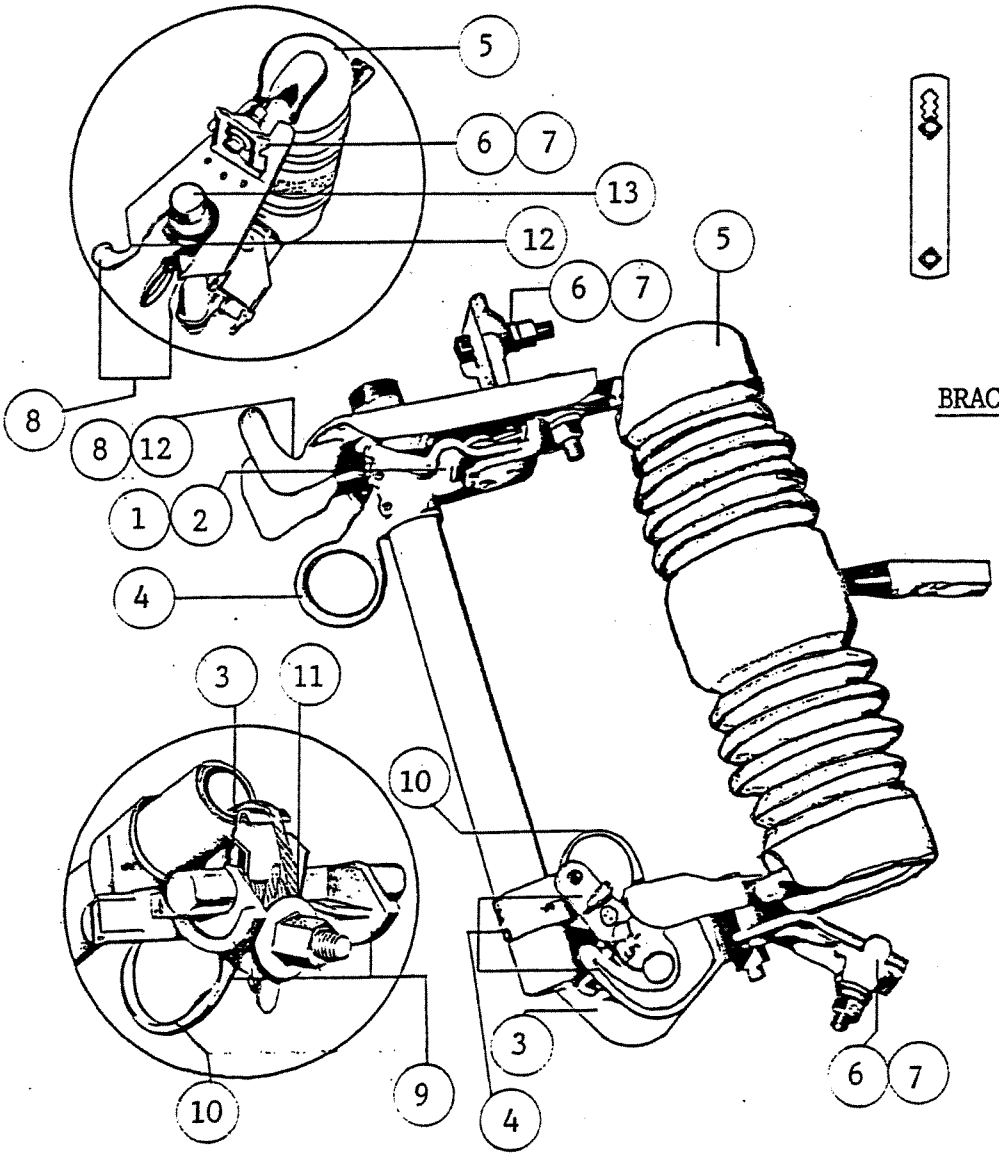
1. Temperature rise tests shall be performed per 3.3.3
2. Maximum Asymetrical and Symetrical Interrupting Tests per 3.3.2.
3. Dielectric Tests per 3.3.1.
4. Certified raw materials.

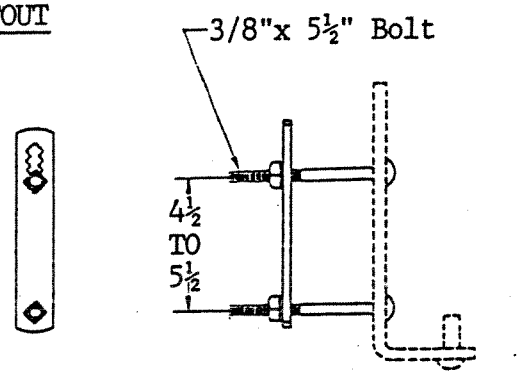
Materials	Certification Required
Fasteners and Hardware	Passivation, Series 300 Stainless Steel

6.0 PREPARATION FOR SHIPMENT:

The supplier shall have adequate work and inspection instructions for handling, interim storage, preservation, packaging, and shipping to protect the quality of fuses and prevent damage, loss, deterioration and substitution of products.

NON-LOAD BREAK CUTOUT



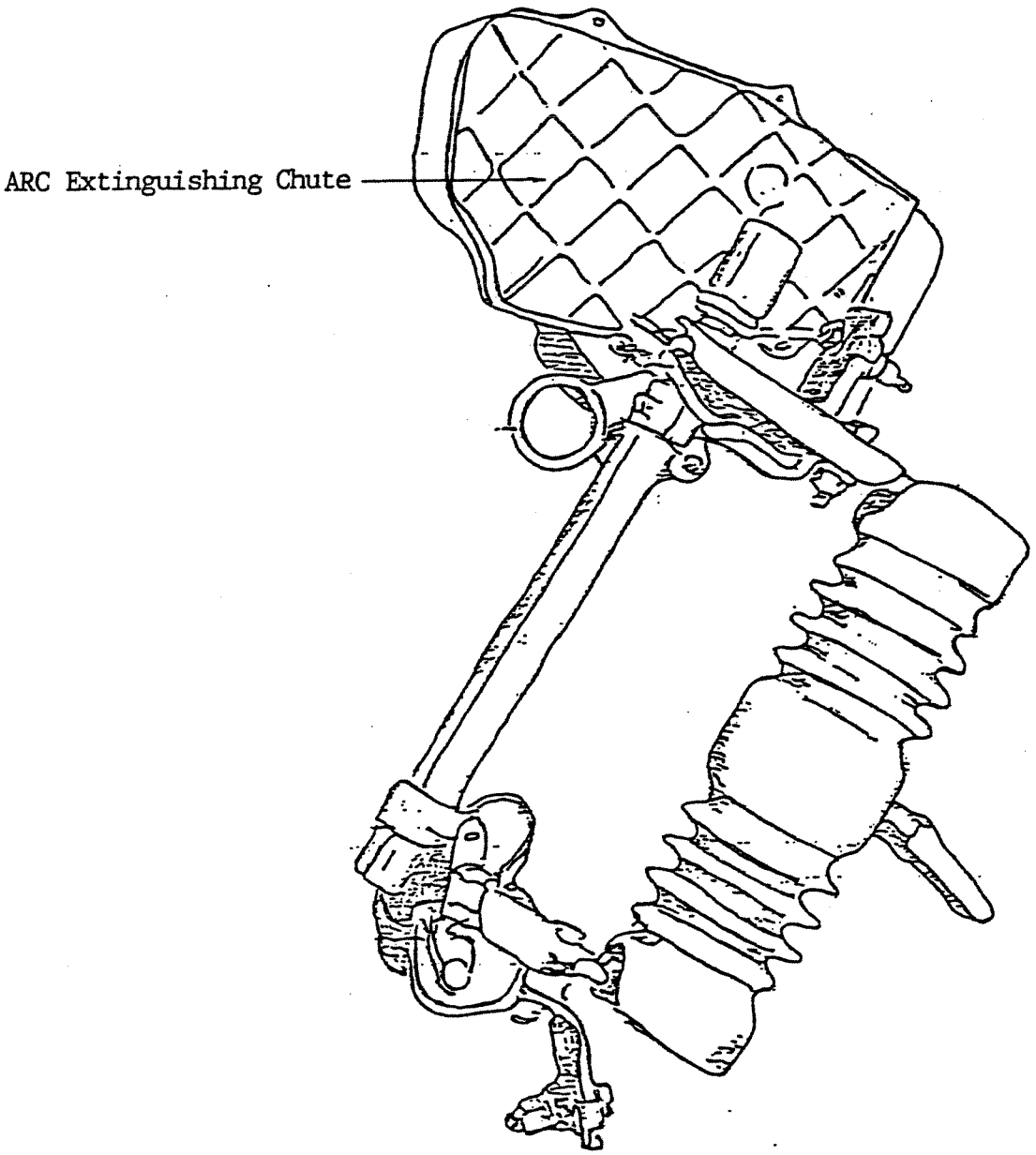


BRACKET FOR CROSSARM MOUNTING

EQUIPMENT AND DEVICES

1. Double point spring latch
2. Universal contacts
3. Spring loaded flipper
4. Aluminum bronze castings
5. Solid porcelain construction
6. Tin plated terminals
7. Centered terminals/single wrench operable
8. Guides
9. Locking cams
10. Lifting eye
11. Fuse link tension limiter
12. Hooks
13. Expendable cap

LOAD BREAK CUTOUT



NOTE: Equipment and devices are similar to non-load break cutout.