

GENERAL DYNAMICS

Electric Boat

SQ/09-75
February 5, 2010

Subject: Packaging and Marking Requirements for O-Rings and Rubber Gaskets

Dear Valued Supplier,

Electric Boat purchase orders for o-rings and rubber gaskets invoke Level A packaging and marking requirements in accordance with MIL-P-4861 Revision B with Amendment 4 (Reference EB2P756, page 113). Although MIL-P-4861 has been replaced by SAE AMS2817, this replacement is not authorized for use on Electric Boat orders. The packaging and marking requirements must be adhered to in order to ensure maximum shelf life and identification. O-Rings and gaskets supplied in clear plastic bags or cellophane coated UV resistant polyethylene film bags are not acceptable when Level A packaging is required.

During the past year, Electric Boat has experienced several instances where o-rings were not packaged and / or identified correctly, which adversely impacted construction schedules. The following is a summary of the packaging and marking requirements invoked by Electric Boat; it is not intended to be a complete description, but an outline of the many specifications referenced which make up the requirements:


Packaging:

- Military Specification MIL-P-4861 revision B, Amendment 4 paragraph 3.2.1 specifies Level A packaging as one piece per package in accordance with MIL-P-116 Method 1C1. The envelope (bag) shall be constructed of opaque material only, with no preservation applied.
- MIL-P-116 revision J paragraph 3.6.4.1.1 describes packaging method 1C1 as a waterproof, grease proof enclosure. Trapped air is to be removed prior to sealing. The bag shall conform to MIL-B-117, Type I or Type II, Class C, Style 1.
- Table I of MIL-B-117 revision G requires MIL-B-121 Type I or II, Grade A Class 1 material to be used for the bag.
- MIL-B-121 revision F describes Type I, Grade A Class 1 material as heavy duty, grease proofed, waterproofed, noncorrosive, heat sealable and non-stretchable material. Type II is a medium duty material of the same characteristics.
- MIL-P-4861 revision B, Amendment 4 paragraph 3.2.2.2 describes the method to coil and pack O-Rings that are over 13 inches in diameter. The O-Ring shall be sandwiched firmly between two fiberboard stiffeners in accordance with PPP-F-320 (replaced by ASTM D4727).
- ASTM D4727 sets the standard for fiberboard material. The type of fiberboard is not defined; however, it must perform under the conditions described above.
- MIL-P-4861 revision B, Amendment 4 paragraph 3.2.3 describes the sizes of envelopes (bags) that may be used.
- MIL-P-4861 revision B, Amendment 4 paragraph 3.3 requires an intermediate packaging; grouping the unit packages of each part and cure date. Intermediate containers shall conform to PPP-B-566, PPP-B-665, PPP-B-676, or PPP-B-636 (replaced by ASTM D1974), class weather-resistant. The intermediate containers are cardboard boxes constructed to these specifications.

Marking:

- MIL-P-4861 revision B, Amendment 4 paragraph 3.5 requires shelf life markings and marking of interior packages and exterior shipping containers to be in accordance with MIL-STD-129 and describes the marking method used to identify the cure date, as well as the type of markings required to be applied on the packages.
- In addition to the type of marking required by MIL-P-4861, the Electric Boat purchase order number, item number and part number must also be marked on the packages.
- Applicable material specifications, such as MIL-R-83248, MIL-R-83285, MIL-G-21610, MIL-R-6855, MIL-P-25732, will also specify the type and methods of marking. Rubber product suppliers are responsible for determining the proper marking requirements and must comply with such requirements, otherwise the material will be rejected upon receipt at Electric Boat.

Very truly yours,



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