

Leak Testing Service

Isovac Laboratory



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Kr-85 Radioisotope Leak Test Lab

IsoVac Engineering provides Radiflo® radioisotope leak testing service at our Glendale, CA facility using all of the latest Radiflo equipment. The range of testing offered includes:

- Gross Leak
- Fine Leak
- Gross/Fine Leak Combination
- Wet Gross
- Thermal Leak Testing
- Dye Penetrant Leak Site Identification
- High Sensitivity Testing Up To 10^{-12} atm-cc/sec
- Surface Contamination Identification
- Gamma Spectrometry
- Multiple Crystal Configurations To Handle Any Device

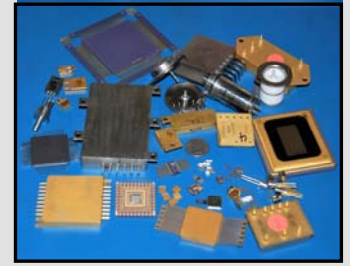


Fig. 1 Examples of Packages Tested with Radiflo.

Our test lab is equipped to test many types of hermetic devices including packages constructed of glass, metal, ceramic, plastic, silicon, or any combination of materials (Fig.1). Individual and/or lot testing in quantities of one piece, to thousands of pieces are commonly processed through the IsoVac Test Lab. Normal turnaround times are 72 hours, but can easily be expedited to 48, 24, or 8 hours depending on the specifications of the part. We make ESD handling a top priority for all ESD sensitive devices.

IsoVac can provide failure analysis and leak path identification of those devices that fail leak testing. This may be done through dye penetrant, sectioning, photomicrographs, and analytical engineering reports. New designs as well as packaging characteristics which are challenging, and in most cases seem impossible to leak test, are welcome at Isovac.

Isovac lab capabilities include the following military specifications:

- MIL-Std-883 Method 1014 condition B1, B2, B1/B2, B3, G1 (DLA Suitability)
- MIL-Std-750 Method 1071 condition A, G1, G2, G1/G2, Gt (DLA Suitability)
- MIL-Std-202
- MIL-Std-19500
- MIL-Std-38103 B
- Missile SPEC 135
- MIL-R-6106

The Krypton-85 Leak Testing Process

Devices are loaded into metal trays and placed in the Radiflo (Fig.2) to be pressurized for a pre-set soak time, which is calculated using the Radiflo equation. Depending on the size of the package either one part or one thousand parts can be tested at the same time. Parts are then taken to the counting station for reading. The Well crystal can be used for most devices and a Flat-Top can be used for larger hybrids (Fig.3). If a device fails, there is a reject light indicator and audio indicator simultaneously (Fig.4).



Fig. 2- Radiflo Mark VI Pressurization Unit



Fig. 3- Dual Crystal Counting Station



Fig. 4- Front Panel of Ratemeter

