

TIMEX CORPORATION  
ELECTRONICS GROUP

QUALITY CONTROL  
PROCEDURES

PROCEDURE TITLE: INCOMING RECEIVING AND INSPECTION PROCEDURE OF  
TRITIUM LIGHT SOURCE AND BACK PAN ASSEMBLIES

PROC. NO.  
QAP-11

REV.  
NEW

DATE  
12/6/77

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OF 3

I. PURPOSE:

To define the receiving and incoming inspection procedures for Tritium light source/tray assemblies.

II. SCOPE:

This specification applies to all Tritium light source assemblies.

III. PROCEDURE:

- 3.1 All packages of light assemblies are to be received sealed in the Receiving Department. Upon receipt be immediately transported to the designated controlled receiving, inspection, and storage room equipped with a Tritium monitor in "safe" condition.
- 3.2 The package is placed under a laminar flow hood and then opened and the Tritium monitor observed by authorized QA personnel.
- 3.3 If monitor device goes into an alarm state, a damaged or broken assembly is indicated. All employees must evacuate area immediately until monitor alarm stops and room is in safe condition. All incidences of monitor alarm states must be resolved and kept on file by Quality Assurance personnel.
- 3.4 A monitor device in "safe" state will indicate that all light tray assemblies can be removed from package and delivered to inspection area within controlled room.
- 3.5 Damaged assemblies will be removed from container, packaged and sealed in a metal container for disposal by an authorized radioactive waste disposal service.

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- 3.6 Lot will be 100% inspected for Tritium leakage, matched brightness and total brightness, as specified in Timex Dwg. 486-015803 and 486-060001 for material received from American Atomics Corp., Tucson, Arizona, U.S.A.

When material is received from Self-Powered Lighting, Ltd., Elmsford, New York, U.S.A., use specifications in Timex Dwg. No's 486-015804 and 486-060002.

- 3.7 A sample will be removed from lot and tested for all performance standards for self-luminous light sources as specified in ANSI-N540 issued January, 1976. Sampling plan will be:

Each lot shall be inspected according to the procedure specified herein, on a 1% AQL Level 1 sampling plan.

Lot Size	Sample Size	Acceptance Number
1 - 150	13	0
151 - 500	50	1
501 - 1200	80	2

3.7.1 Accepted lots may be committed to production.

3.7.2 Rejected lots will be returned to vendor.

## IV. TESTING PROCEDURE:

Testing will be done under the supervision of the Quality Assurance group. Testing will be conducted as follows:

- 4.1 In a darkened work area, inspect each tray for brightness matching of the tubes in tray. Reject any tray if there is a visible difference in brightness between tubes in a tray.
- 4.2 Turn the tray over and tap it lightly. The tritium tubes should remain in the tray. Reject any tray if one or more of the tubes falls out of the tray.

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- 4.3 Inspect the Tray-Tube assembly to Timex Dwg. No's 486-015803 and 486-060001 if material supplied by American Atomics Corp., Tucson, Arizona, U.S.A.
- 4.4 Inspect the Tray-Tube assembly to Timex Dwg. No's 486-015804 and 486-060002 if material supplied by Self-Powered Lighting, Ltd., Elmsford, New York, U.S.A.

## V. RECORDING:

- 5.1 Quality Assurance Department to record on test sheet lot number and total numbers of self-luminous back lights in lot.
- 5.2 Quality Assurance Department to record and verify calibration on all equipment used.
- 5.3 Quality Assurance Department to inform Production, and Research and Engineering of test results and supply one copy of test data to each.
- 5.4 Quality Assurance Manager to maintain records of test and results for a minimum of seven years.
- 5.5 Should lot fail, samples should be submitted to Research and Engineering to determine disposition.

Important: The original records shall be sent to Timex, Middlebury, Connecticut, after final lot acceptance testing. Timex, Connecticut, will review the records for compliance and acceptance to the requirements of Title 10, Code of Federal Regulation, Part 20 and 30 per Certificate of Conformance attached, and file records for a minimum of seven years at Timex, Connecticut.