

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A SEALED SOURCE
(AMENDED IN ITS ENTIRETY)

No.: NR-0155-S-111-S

DATE: March 7, 2006

PAGE 1 OF 2

SOURCE TYPE: Radioluminous Lamp

MODEL: 11733737

MANUFACTURER/DISTRIBUTOR: Department of the Army
U.S. Army TACOM Life Cycle
Management Command
AMSTA-CS-CZR
(Previously U.S. Army Tank-
Automotive & Armaments Command)
Rock Island, IL 61299-7630

ISOTOPE:

Hydrogen-3

MAXIMUM ACTIVITY:

1.2 Curies (44.4 GBq)

LEAK TEST FREQUENCY:

As specified in the user's materials
license

PRINCIPAL USE: (R) Gas Sources

For use in the Model M64 and M64A1 sight units

CUSTOM SOURCE: YES NO

CUSTOM USER: U.S. Department of Defense

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DIAGRAM:

See Attachments 1 & 2.

REFERENCES:

The following supporting documents for the Model 11733737 radioluminous lamp are hereby incorporated by reference and are made a part of this registry document.

- Department of the Army letter dated March 20, 1995, requesting changes to specific certificates, and letters dated January 22, 2001, May 23, 2001, and March 24, 2004, with enclosures thereto.
- Department of the Army email received September 23, 2005, with enclosures thereto.
- Department of the Army facsimile dated December 12, 2005, with enclosures thereto.
- U.S. Department of the Army License No. 12-00722-06.

ISSUING AGENCY:

US Nuclear Regulatory Commission

Date: March 7, 2006

Reviewer: Tomas Herrera
Tomas Herrera

Date: March 7, 2006

Concurrence: John P. Jankovich
John P. Jankovich

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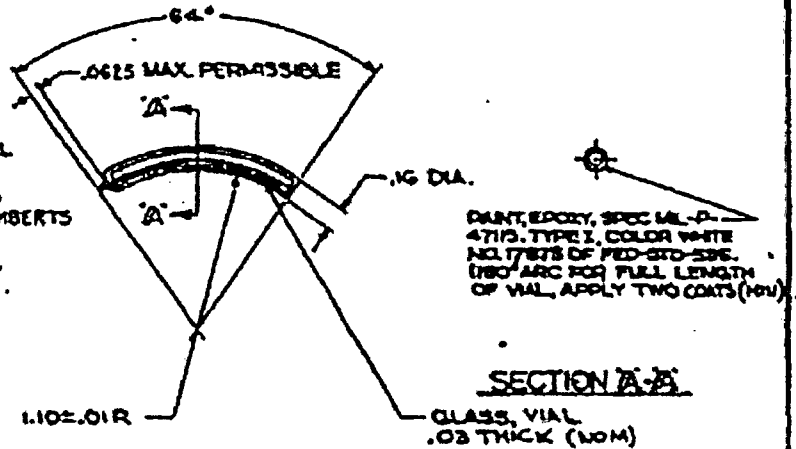
No.: NR-0155-S-111-S DATE: March 7, 2006

ATTACHMENT 1 OF 2

REQUIREMENTS:

2. THERE SHALL BE NO EVIDENCE OF PHYSICAL FAILURE SUCH AS FRACTURING OR LIGHT LOSS DUE TO EXPOSING THE LAMP TO -80°F AND +100°F FOR A PERIOD OF 8 HOURS AT EACH TEMPERATURE.
3. AFTER SUBMERGING LAMP IN ROOM TEMPERATURE WATER FOR 4 HOURS RADIOACTIVE CONTENT OF THE WATER SHALL NOT EXCEED .005 MICROCURIE.
4. VIAL TO BE FILLED WITH TRITIUM (H3) OF 94% - 96% PURITY. TOTAL 12 CURIES MAXIMUM.
5. PRIOR TO MAKING BRIGHTNESS MEASUREMENTS, LAMPS SHALL BE ALLOWED TO STABILIZE FOR A PERIOD OF 25 DAYS FROM MANUFACTURE.
6. FOLLOWING THE STABILIZATION PERIOD AND UP TO 120 DAYS FROM DATE OF MANUFACTURE, BRIGHTNESS MEASUREMENTS SHALL NOT SHOW A DECAY IN EXCESS OF 2.5% WHEN MEASURED OVER ANY CONSECUTIVE 30 DAY PERIOD. FURTHER, THE FINAL BRIGHTNESS MEASUREMENT AT TIME OF ACCEPTANCE SHALL BE 600 MICROLAMBERTS MIN.
7. INTERNAL PRESSURE 2.50 ATMOSPHERES (NOMINAL) AT +70°F.
A. COLOR OF PHOSPHOR GREEN SPECTRAL PEAK 5250Å ± 30Å.
B. PEAK WIDTH 700Å ± 30Å.

REV	DESCRIPTION	DATE	BY
1	REPLACES REV 00 WITH CHANGE FROM PERM PERCOTO	10-23-05	AKK
2	REPLACES REV 01 WITH CHANGE FROM PERM PERCOTO	10-23-05	AKK
A	NOR F01E502, 800212 (ECP F8A5042, T70109) (ECP F579002, 800212)	06-13-06	AKK
B	NOR F01E502, 800212 (ECP F01E501, 80-02-20)	06-13-06	AKK
C	NOR F1E001/840320 (ECP F1E002/840321)	06-07-06	AKK
D	NOR M8J3005/880422	08-02-06	AKK



PAINT, EPOXY, SPEC MIL-P-47175, TYPE I, COLOR WHITE
NCL 17878 OF FED-STD-595C
1780° ARC FOR FULL LENGTH OF VIAL, APPLY TWO COATS (10U)

SOURCE USED ON:
M64 SIGHTUNIT
M64A1 SIGHTUNIT

APPLICABLE DOCUMENTS
SQMP 1122222

SPECIFICATION CONTROL DRAWING

PART No. 11733737

SUGGESTED SOURCE(S) OF SUPPLY	VENDOR	VENDOR PART NO.
SELF POWERED LIGHTING LTD CODE IDENT NO. 27216 8 WESTCHESTER PLAZA ELMSFORD, N.Y. 10523	NOT AVAILABLE	
SALINDERS-ROE DEVELOPMENTS LTD. MILLINGTON ROAD MAYES MIDDLESEX UB9 4HD ENGLAND	NOT AVAILABLE	
BRANDHURST CO. LTD. P.O. BOX 70 HIGH WYCOMBE BUCKINGHAMSHIRE MK12-3PS ENGLAND	NOT AVAILABLE	
M.B. MICROTEC AG FRIEBURGSTRASSE 624 CH-3172-NEDERWANGEN SWITZERLAND	NOT AVAILABLE	

NO.	DESCRIPTION	DATE	BY	REVISION
1	11733737	06-13-06	AKK	1

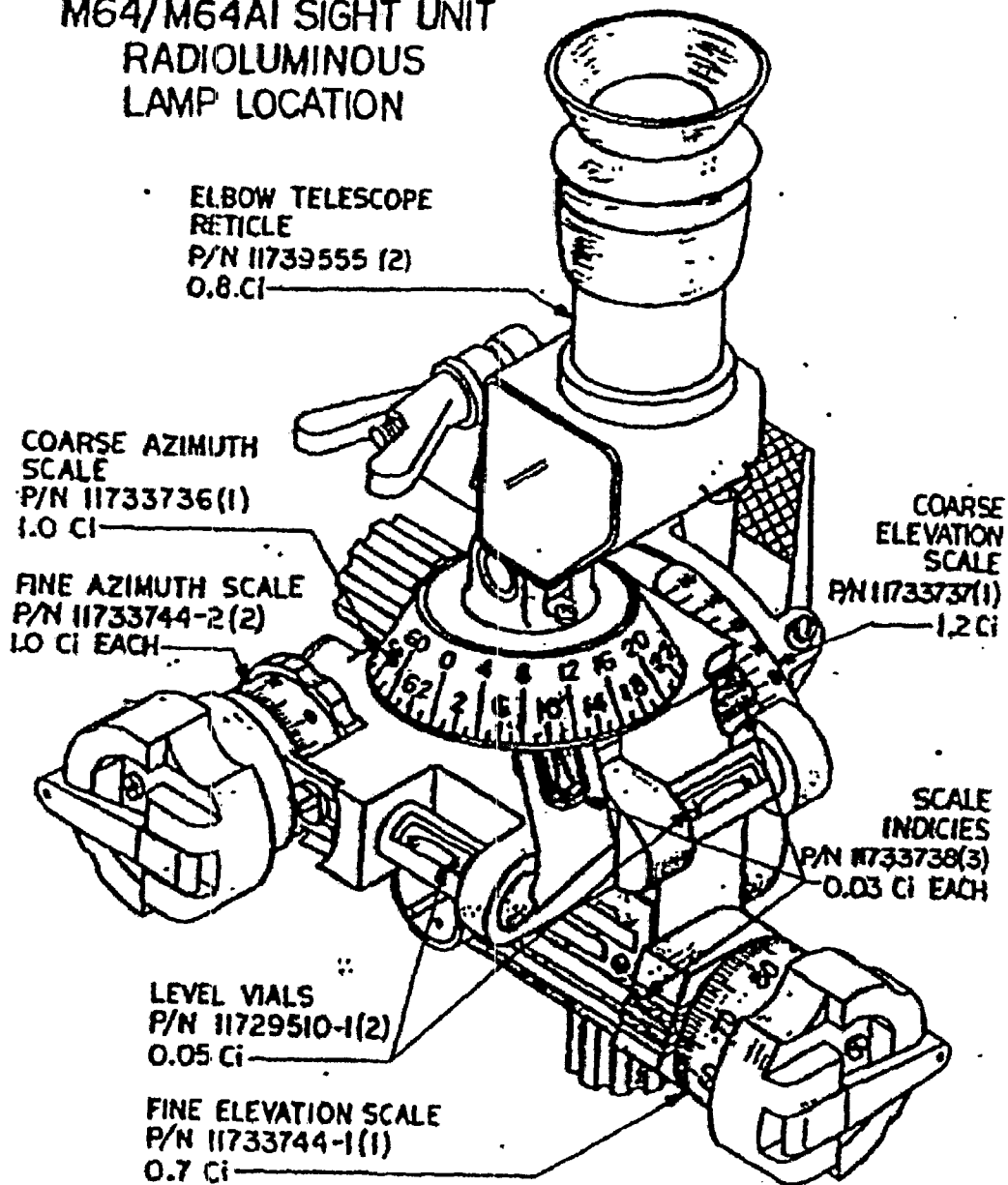
U.S. GOVERNMENT PRINTING OFFICE: 2004 O 485000 GPO: 2004 O 485000	LAMP, RADIOLUMINOUS
C 19200	11733737

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ATTACHMENT 2 OF 2

M64/M64AI SIGHT UNIT
RADIOLUMINOUS
LAMP LOCATION



TOTAL TRITIUM PER SIGHT UNIT 6.69 CURIES