



U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

East Building, PHH-23
1200 New Jersey Ave, SE
Washington, D.C. 20590

IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS

CERTIFICATE USA/0502/S-96, REVISION 12

This certifies that the sources described have been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America² for the transport of radioactive material.

1. Source Identification - QSA Global, Inc. Model Nos. X54 (Manufactured before January 1, 1998), X540 (Manufactured on or after February 17, 1981), and X540/1 (Manufactured on or after September 27, 2000).
2. Source Description - Tungsten inert gas or laser seal welded cylindrical single or double encapsulations. The outer encapsulation is made of titanium or stainless steel and the inner encapsulation, if used, is made of titanium, stainless steel, or aluminum. Approximate exterior dimensions are 5.15 mm (0.2 in.) maximum diameter and 15.15 mm (0.6 in.) in length (Model X54); and 5.16 mm (0.2 in.) in diameter and 7.65 mm (0.3 in.) in length (Models X540 and X540/1). Construction shall be in accordance with attached Amersham Drawing No. A10639, Issue C (Model X54) or QSA Global Inc. Drawing No. R87527, Rev. H (Models X540 and X540/1).

¹ "Regulations for the Safe Transport of Radioactive Material, 2012 Edition, No. SSR-6" published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

² Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

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3. Radioactive Contents - No more than 17.0 TBq (459.5 Ci) of Cobalt-60, in the form of a metal, in the Model X54. No more than either: 20.0 TBq (540.5 Ci) of Cobalt-60 in the form of a metal; 17.0 TBq (459.5 Ci) of Iridium-192 in the form of a metal; or 5.56 TBq (150.3 Ci) of Selenium-75 in the form of a physically inert and stable metal-selenide compound, in the Models X540 and X540/1. Only the activity of Ir-192 in special form may be determined from a measurement of the rate of decay or a measurement of the radiation level at a prescribed distance from the source.
4. Management System Activities - Records of Management System activities required by Paragraph 306 of the IAEA regulations shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires on March 31, 2023. Previous editions which have not reached their expiration date may continue to be used.

This certificate is issued in accordance with paragraph(s) 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the February 22, 2018 petition by QSA Global, Inc., Burlington, MA, and in consideration of other information on file in this Office.

Certified By:



William Schoonover
Associate Administrator for Hazardous
Materials Safety

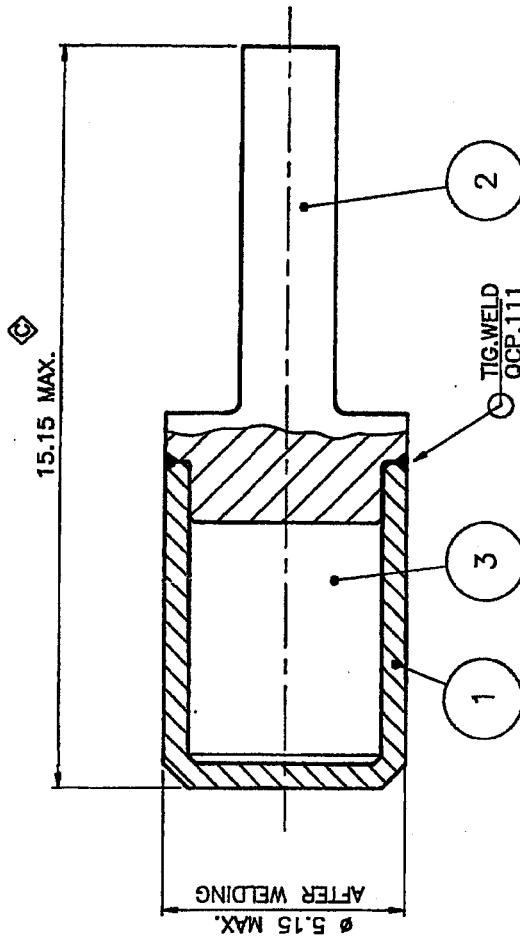
May 31, 2018
(DATE)

Revision 12 - Issued to extend the expiration date, clarify Se-75 physical form, and update production drawings.

DRG NO. A10639

FOR ENGRAVING DETAIL
SEE DRAWING A62615

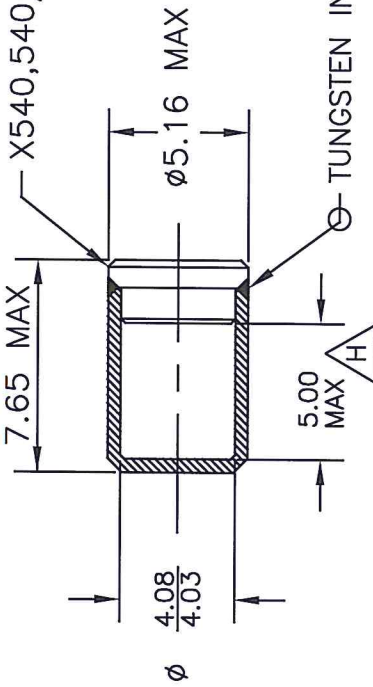
Item	Description	Material	Drawing No.	No. off
1	BODY	STAIN.STL.	A10636	ITEM.1 1
2	PLUG	STAIN.STL.	A10638	1
3	ACTIVE MATERIAL			



ACTUAL SIZE

TOLERANCES	MATERIAL	GENERAL NOTES	SCALE	C	MS1211	4.1.95	M.A.	DATE	DRAWN	CHECKED	APPROVED	QA APPROVED
UNLESS OTHERWISE STATED		THIRD ANGLE PROJECTION	10:1	ISSUE	MOD No.							
SURFACE TEXTURE	FINISH	MODIFICATIONS INDICATED BY ISSUE IN THIS DRAWING CONFORMS TO BS308. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED. DO NOT SCALE	<p>THIS DOCUMENT INCLUDING THE COPYRIGHT THEREIN IS THE EXCLUSIVE PROPERTY OF AMERSHAM INTERNATIONAL PLC. AMERSHAM UK. IT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS ISSUED. IT MAY NOT BE REPRODUCED IN ANY WAY, NOR TRANSMITTED TO ANY THIRD PARTY WITHOUT THE EXPRESS PERMISSION OF AMERSHAM INTERNATIONAL PLC.</p> <p>TITLE ASSEMBLY OF CAPSULE X54</p> <p>USED ON _____ SHT. SIZE A3 DRG NO. A10639 SHT 1 OF SHTS 1</p>									
UNLESS OTHERWISE STATED	REMOVE ALL BURRS	APPROVAL	<p>ASS <i>[Signature]</i></p> <p>Amersham The Health Science Group</p>									

X540,540/1 LID SHANK



MODEL	MATERIAL
X540	316L STAINLESS STEEL
X540/1	TITANIUM

NOTES:

- INTERNAL VOID TO BE 0.010 mL OR GREATER.
- MATERIAL: SEE TABLE
- INNER CAVITY DIMENSIONS MAY VARY. METALLIC SPACERS, SPRINGS AND GUARDS WHICH SECURE AND/OR LOCATE THE RADIOACTIVE MATERIAL OR INNER SOURCE CAPSULE WITHIN THE CAPSULE MAY BE USED.
- MINIMUM WALL THICKNESS TO BE 0.22.
- DIMENSIONS ARE IN MILLIMETERS

NOTES:

- MATERIAL: SEE TABLE

APPROVALS	DATE	 QSA GLOBAL 40 NORTH AVE, BURLINGTON, MA 01803	DESCRIPTIVE DRAWING
<i>[Signature]</i>	04 DEC 17		
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES: FRACTIONS $\pm 1/8$ XX ± 0.12 X.XX ± 0.06 X.XXX ± 0.020		TITLE	X540 CAPSULE SERIES
		SIZE	A
		DWG. NO.	R87527
		SCALE:	NONE
		SHEET	1 OF 1
		REV	H

ERF # 3726



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CERTIFICATE NUMBER: USA/0502/S-96

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