



U.S. Department
of Transportation
**Pipeline and
Hazardous Materials
Safety Administration**

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE USA/0632/S-96, REVISION 8**

East Building, PHH-23
1200 New Jersey Avenue Southeast
Washington, D.C. 20590

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. AX1, X.1, and X.1/2 (All models manufactured on or after May 17, 1977).
2. Source Description - Cylindrical double encapsulations made of stainless steel and tungsten inert gas or laser seal welded. Approximate outer dimensions of all models are 7.9 mm (0.31 in.) in diameter and 10.15 mm (0.4 in.) in length. Construction shall be in accordance with attached QSA Global, Inc. Drawing No. RBA10880, Rev. F.
3. Radioactive Contents - No more than either 3.7 GBq (100.0 mCi) of Americium-241 or 13.0 GBq (351.0 mCi) of Californium-252. The Am-241 is in oxide form and mixed with beryllium powder and pressed into a solid pellet. The Cf-252 is in the form of an oxide pressed into a pellet, a metal wire, or an oxide solid ceramic.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations¹ 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 applicable requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires on October 31, 2017.

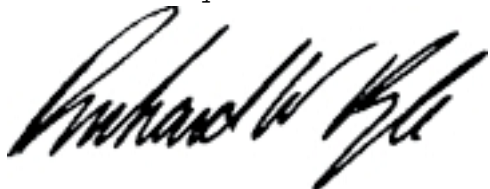
¹ "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

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

CERTIFICATE USA/0632/S-96, REVISION 8


This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the October 04, 2012 petition by QSA Global, Inc., Burlington, MA, and in consideration of other information on file in this Office.

Certified By:



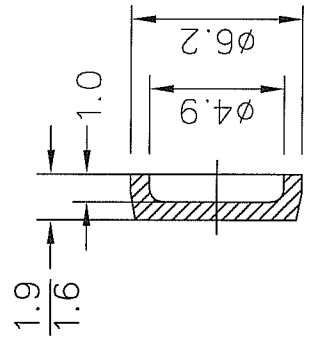
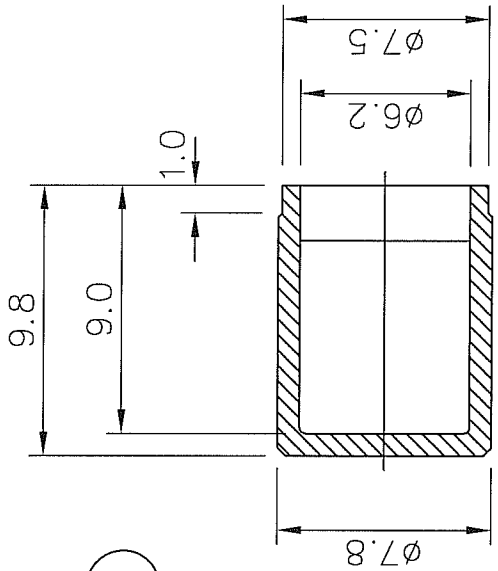
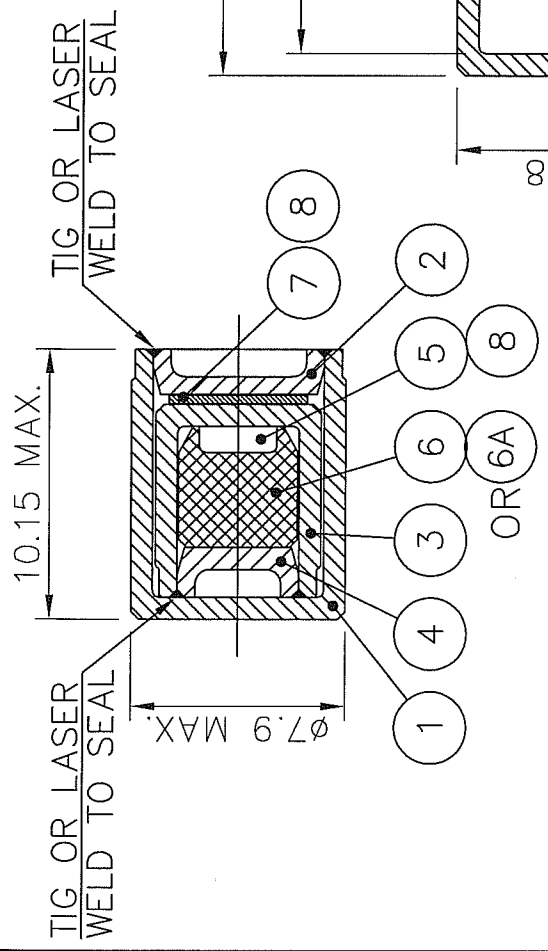
Oct 25 2012

(DATE)

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Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

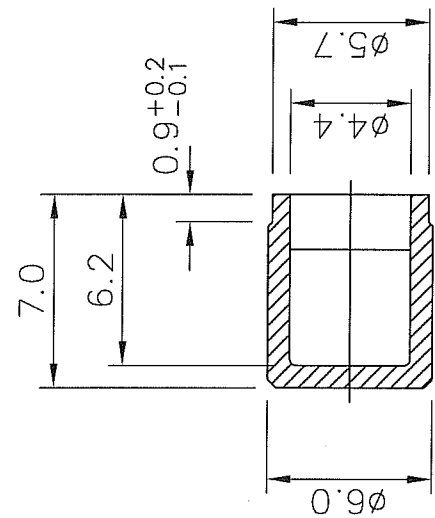
Revision 8 - Issued to extend the expiration date.

| ITEM No. | DESCRIPTION | QTY. |
|----------|--|------|
| 1 | SHEATH BODY STAINLESS STEEL | 1 |
| 2 | SHEATH LID STAINLESS STEEL | 1 |
| 3 | CELL BODY STAINLESS STEEL | 1 |
| 4 | CELL LID STAINLESS STEEL | 1 |
| 5 | ACTIVE MATERIAL | 1 |
| 6 | SPACER (MODEL X1/2 ONLY) ALUMINIUM OR STAINLESS STEEL | AR |
| 6A | SPACER (X1 OR AX1) STAINLESS STEEL (OPTIONAL) | AR |
| 7 | SPACER (X1 OR AX1) STAINLESS STEEL (OPTIONAL) | AR |
| 8 | CERAMIC FIBER PACKING(OPTIONAL) | AR |

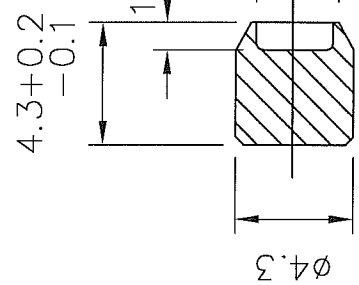


ITEM 1

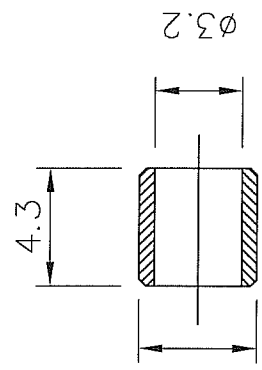
ITEM 2



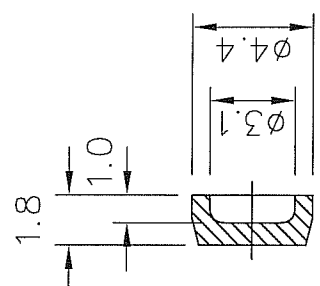
ITEM 3



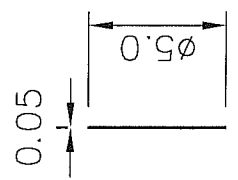
ITEM 6



ITEM 6A



ITEM 4



ITEM 7

| APPROVALS | DATE |
|--------------------|-----------|
| <i>[Signature]</i> | 11 Aug 08 |
| <i>[Signature]</i> | 11 Aug 08 |

DIMENSIONS IN MILLIMETERS
UNLESS OTHERWISE STATED TOLERANCES:

X ±0.5
X.X ±0.1
X.XX ±0.05
ANGULAR ±5°

INTERNAL
EXTERNAL

QSA GLOBAL
40 NORTH AVE, BURLINGTON, MA 01803

DESCRIPTIVE
DRAWING

| | |
|-------|-----------------------------|
| TITLE | AX1, X1 & X1/2 CAPSULE ASSY |
| SIZE | DWG. NO. RBA10880 |
| A | SCALE: NONE |
| | SHEET 1 OF 1 |
| REV | F |

ERF # 1878



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**Pipeline and
Hazardous Materials
Safety Administration**

CERTIFICATE NUMBER: USA/0632/S-96, Revision 8

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