



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

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE USA/0597/S-96, REVISION 4**

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. Models X2050, X2050/1, X2050/2 and X2050/3.
2. Source Description - Cylindrical double encapsulations made of titanium and tungsten inert gas or laser seal welded. Approximate outer dimensions are 3.3 mm (0.13 in.) in diameter and 12.0 mm (0.47 in.) in length. Minimum wall thickness of the outer encapsulation is 0.43 mm (0.017 in.). Construction shall be in accordance with attached AEA Technology QSA, Inc. Drawing Nos. R2050, Rev. B; R2050-3, Rev. B; and R1285, Rev. B.
3. Radioactive Contents - No more than either 7.5 TBq (202.7 Ci) of Cobalt-60, 7.5 TBq (202.7 Ci) of Iridium-192, 7.5 TBq (202.7 Ci) of Ytterbium-169, or 1.11 TBq (30.0 Ci) of Selenium-75. The Co-60 and Ir-192 are in the form of a solid metal. The Yb-169 is in the form of a ceramic pellet. The Se-75 is in the form of refractory composite materials such as metals, ceramics, or glasses.
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, 2015.

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.

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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 June 04, 2010 petition by QSA Global, Inc., Burlington, MA, and in consideration of other information on file in this Office.

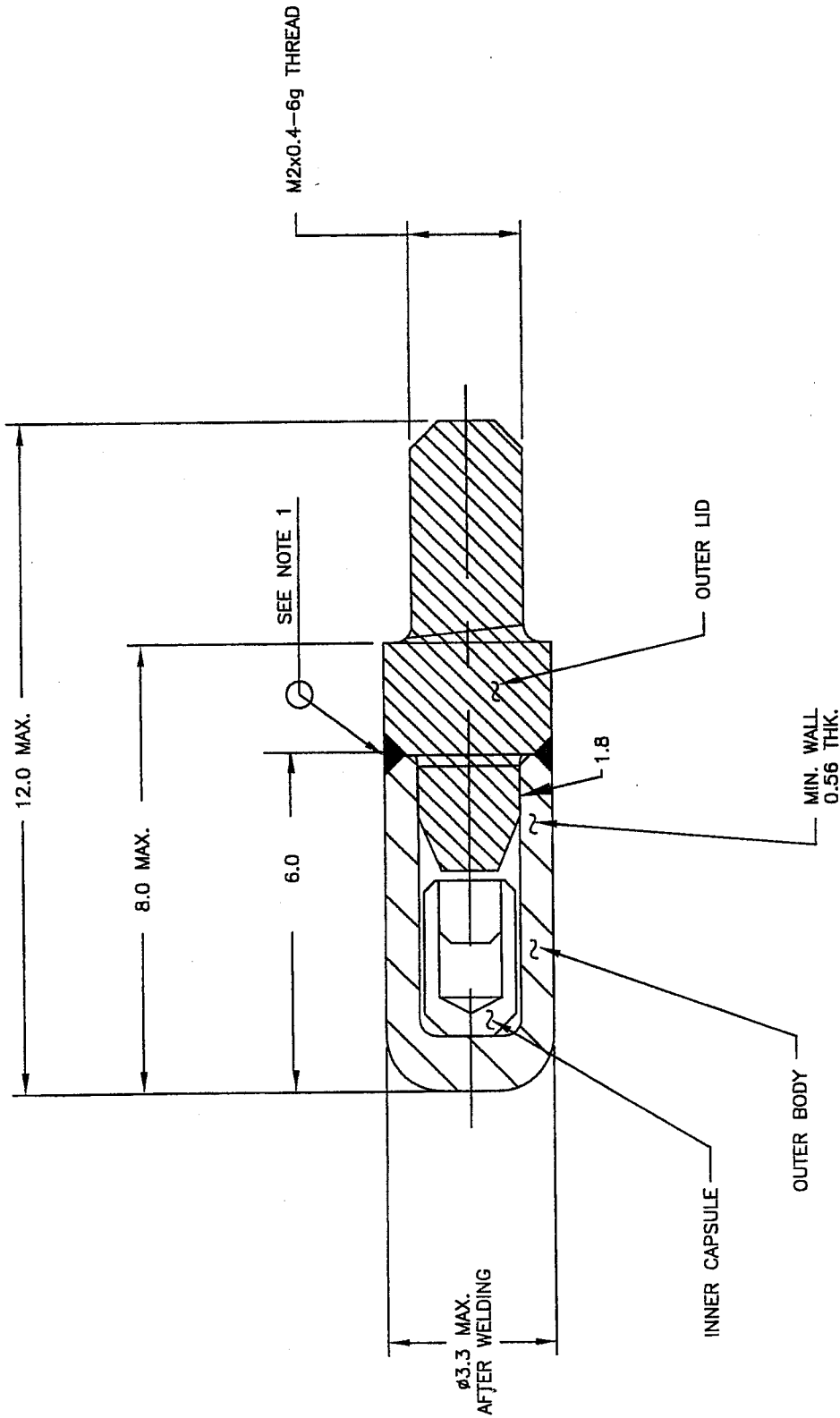
Certified By:



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

Oct 22 2010
(DATE)

Revision 4 - Issued to extend the expiration date.



NOTES:
 1. MIN. PENETRATION 0.56 mm

INNER CAPSULE	1	TITANIUM
OUTER LID	1	TITANIUM
OUTER BODY	1	TITANIUM
PART NAME	QTY	MATERIAL



DESCRIPTIVE DRAWING

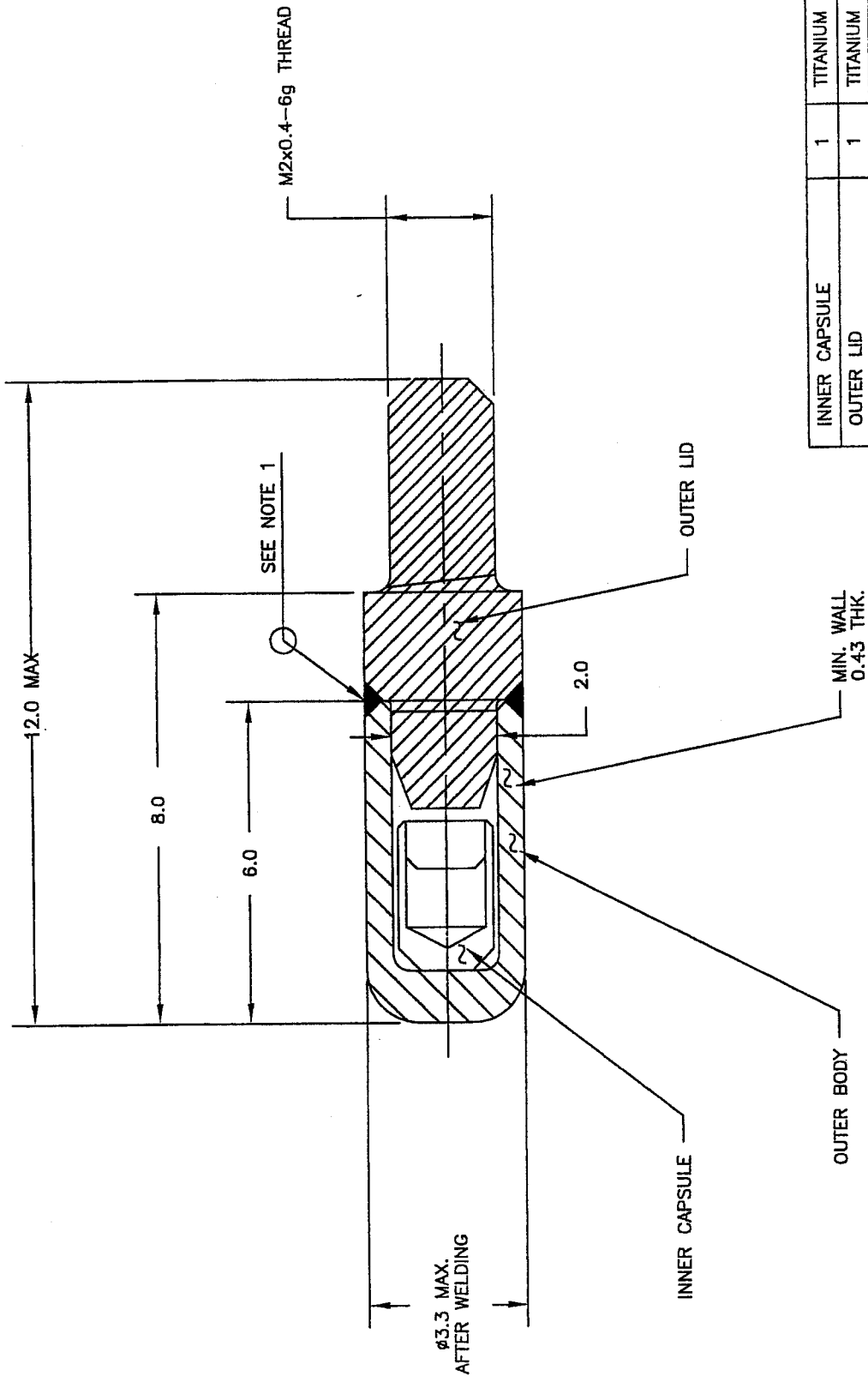
TITLE	ASSEMBLY OF CAPSULE X2050, X2050-1, X2050-2
SIZE	DWG. NO. R2050
A	SCALE: 8/1
B	SHEET 1 OF 1

APPROVALS

[Signature] 10/1/02

[Signature] 10/05/05

DIMENSIONS IN MM
 TOLERANCES:
 FRACTIONS ±1/16
 .X ± 0.2
 .XX ± 0.02
 .XXX ± 0.005



INNER CAPSULE	1	TITANIUM
OUTER LID	1	TITANIUM
OUTER BODY	1	TITANIUM
PART NAME	QTY	MATERIAL



DESCRIPTIVE DRAWING

TITLE ASSEMBLY OF CAPSULE X2050/3

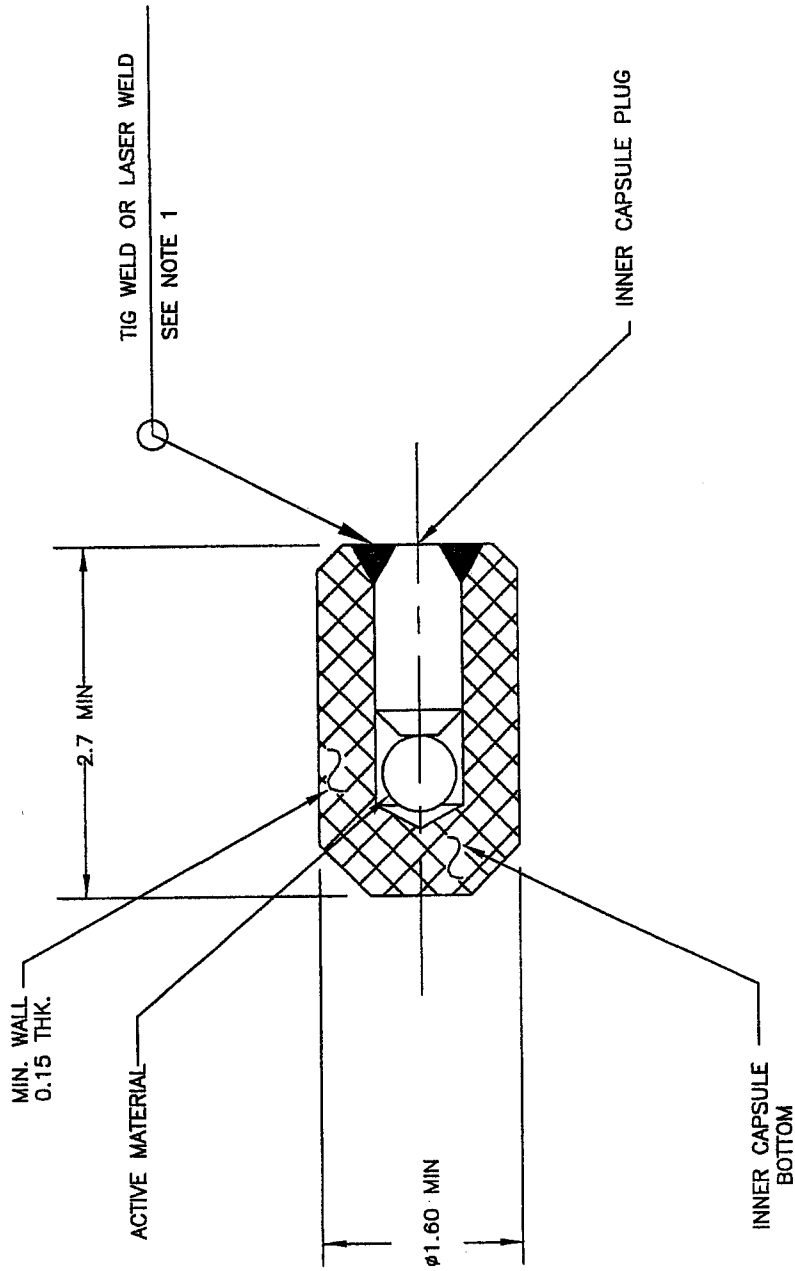
SIZE DWG. NO. R2050-3

A SCALE: 8/1 SHEET 1 OF 1

APPROVALS	
<i>[Signature]</i>	10/11/01
<i>[Signature]</i>	17 Oct 05

DIMENSIONS IN MM
TOLERANCES:
FRACTIONS ±1/16
X ± 0.2
XX ± 0.02
.XXX ± 0.005

NOTES:
1. MIN. PENETRATION 0.43 mm




NOTES:

1. PHYSICAL DIMENSIONS OF PLUG WILL VARY TO ACCOMMODATE DIFFERENT SIZE ACTIVE MATERIALS. THE OUTER DIAMETER DIMENSION ON THE PLUG AND THE INNER DIAMETER DIMENSION ON THE CAPSULE BOTTOM WILL BE THE SAME TO PROVIDE A PRESS/INTERFERENCE FIT PRIOR TO WELDS.
2. PHYSICAL COUNTER OF THE BODY MAY VARY BUT THE OVERALL DIAMETER, LENGTH AND MINIMUM WALL THICKNESS STATED WILL BE MAINTAINED.

APPROVALS	
<i>[Signature]</i>	<i>[Signature]</i>
<i>[Signature]</i>	17 Oct 05

DIMENSIONS IN MM
 TOLERANCES:
 FRACTIONS ±1/16
 .X ± 0.1
 .XX ± 0.01
 .XXX ± 0.005

ACTIVE MATERIAL	1	TITANIUM
INNER CAPSULE	1	MATERIAL
PART NAME	QTY	
 40 NORTH AVE, BURLINGTON, MA 01803		
TITLE		2050 SERIES INNER CAPSULE
SIZE	DWG. NO.	R1285
A	SCALE:	16/1
SHEET		1 OF 1

DESCRIPTIVE DRAWING

RE	E
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1200 New Jersey Avenue SE
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Hazardous Materials
Safety Administration**

CERTIFICATE NUMBER: USA/0597/S-96, Revision 4

ORIGINAL REGISTRANT(S):

Ms. Lori Podolak
Product Licensing Specialist
QSA Global, Inc.
40 North Avenue
Burlington, MA 01803

Ms. Cathleen Roughan
Director, Regulatory Affairs and QA
QSA Global, Inc.
40 North Avenue
Burlington, MA 01803

Mr. Michael Fuller
Regulatory Compliance Associate
QSA Global, Inc.
40 North Avenue
Burlington, MA 01803