



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/0816/S-96, REVISION 2

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 - J.L. Shepherd & Associates Model 7810-484-1A Capsule Series.
2. Source Description - Cylindrical double or triple encapsulations constructed of Type 304, 304L, 316, or 316L stainless steel and metal inert gas, tungsten inert gas, or helium arc welded. Approximate outer dimensions are 1.1 cm (0.435 in.) to 1.78 cm (0.702 in.) in diameter and 5.08 cm (2.0 in.) to 27.5 cm (10.83 in.) in length. Construction shall be in accordance with attached J.L. Shepherd and Associates Drawing A-0068-500-CAN Rev. B.
3. Radioactive Contents - No more than 925 TBq (25,000 Ci) of Cobalt-60. The Co-60 is in the form of pellets, rods, slugs, wafers, or discs. Spacers of aluminum, stainless steel, or Co-59 pellets may be used to fill void spaces.
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.

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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5. Expiration Date - This certificate expires on March 31, 2029. 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 23, 2024 petition by J.L. Shepherd & Associates, San Fernando, CA, and in consideration of other information on file in this Office.

Certified By:

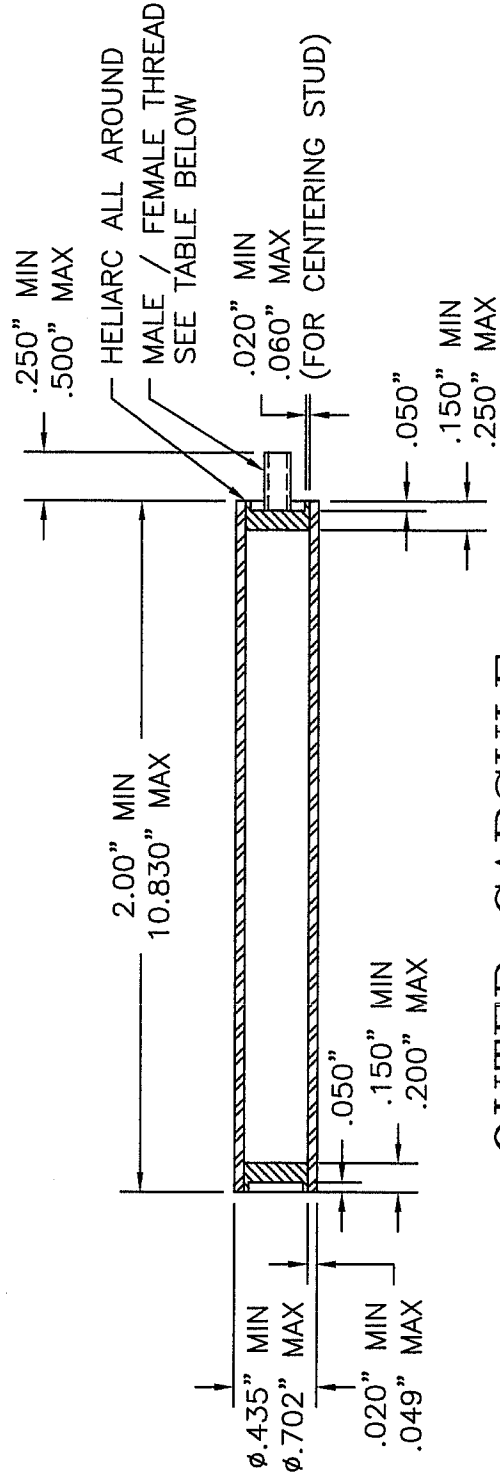


March 26, 2024
(DATE)

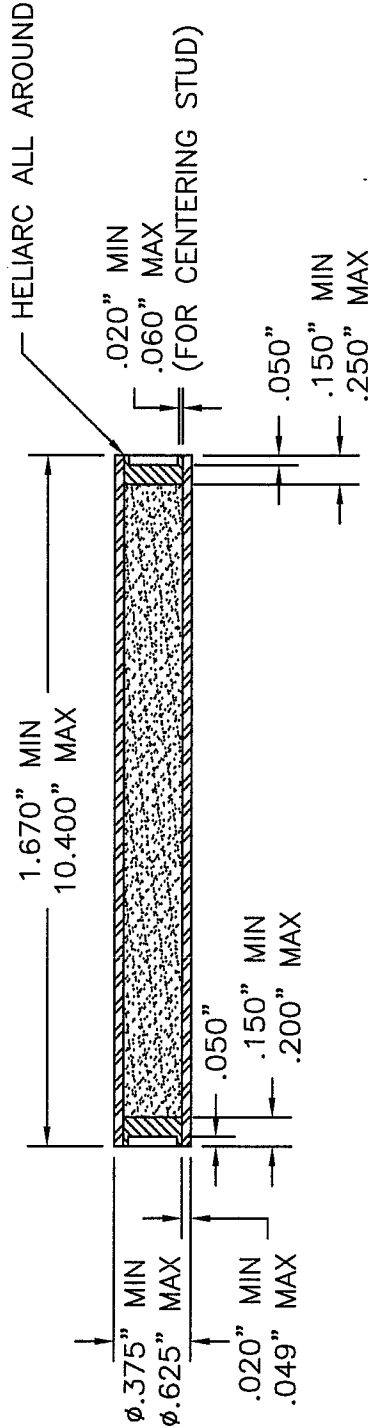
 William Schoonover
Associate Administrator for Hazardous
Materials Safety

Revision 2 - Issued to include a triple encapsulation option as documented in Drawing A-0068-500-CAN Rev. B and to extend the expiration date.

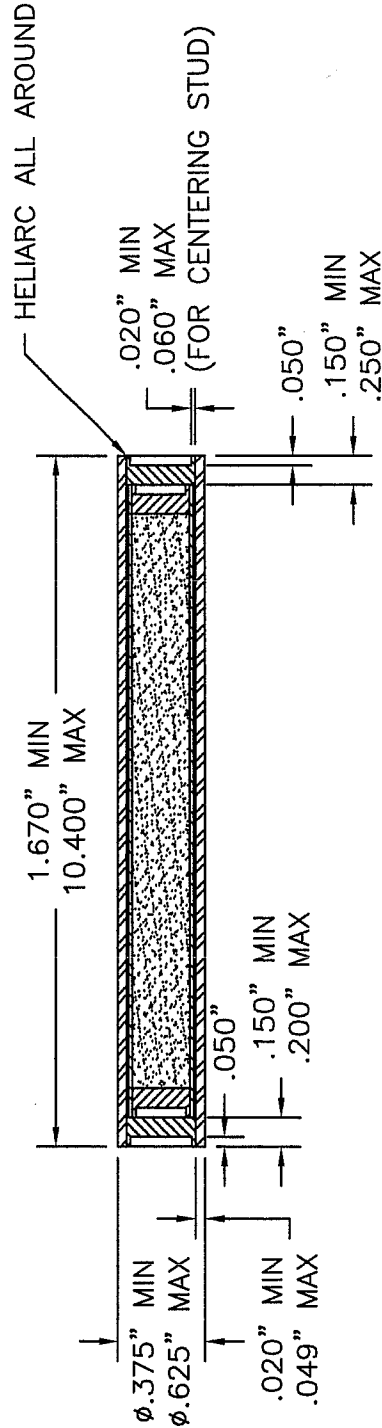
REV NO	REVISION NOTES	DATE	SIGNATURE	CHECKED
A	NOTE 8 ADDED TOLERANCE PER ANSI Y 14.5 & ADDED OUTER CAPSULE SIZE RANGES TABLE.	24MAR16	D. TRAN	
B	REDRAWN ON B SIZE. TRIPLE CAPSULE ADDED.	23FEB24	C. SORESEN	QUE



OUTER CAPSULE



INNER CAPSULE (DOUBLE)



INNER CAPSULE (TRIPLE)

NOTES:

- MATL 304, 304L, 316, OR 316L S.S. CAPS & BODIES FABRICATED FROM SAME ALLOY.
- HELIARC - ALL AROUND BOTH ENDS.
- END CAPS - 304 S.S. HAVE .002 REGISTER
- PLUGS .0005" INTERFERENCE FIT.
- BEFORE LOADING, 1 END OF EA. TUBE WELDED & HEL. LEAK TESTED TO SENSITIVITY OF 1.3×10^{-4} atm/cm³ sec.
- REMOVEABLE CONTAMINATION (LEAK TEST) AFTER LOADING $\leq 5 \times 10^{-3}$ μ Ci.
- SCRIBE / ENGRAVE 3/32" HIGH LETTERS: JLS 7810-484-1 _____ Ci Co-60 S/N _____ DATE _____
- ALL DIMENSIONS ARE IN INCHES. TOLERANCE PER ANSI Y 14.5
- MAXIMUM ACTIVITY: 25,000 Ci / 925 TBq Co-60.

OUTER CAPSULE SIZE RANGES					
CAPSULE DIAMETER	.435" TO .500"	.501" TO .567"	.568" TO .702"	.568" TO .702"	
CAPSULE LENGTH	2.0" TO 3.9"	4.0" TO 5.9"	6.0" TO 7.9"	8.0" TO 10.830"	
OUTER CAPSULE WALL THICKNESS	.020"	.020" TO .032"	.020" TO .049"	.020" TO .049"	
OPTIONAL MAKE THREAD	6-32	MIN: 6-32 MAX: 8-32	MIN: 8-32 MAX: 1/4-28	MIN: 1/4-28 MAX: 3/8-24	
OPTIONAL FEMALE THREAD	6-32	MIN: 8-32 MAX: 1/4-28	MIN: 8-32 MAX: 1/4-28	MIN: 1/4-28 MAX: 5/16-24	
OPTIONAL MALE STUD DIAMETER	.138"	MIN: .138" MAX: .164"	MIN: .164" MAX: .250"	MIN: .250" MAX: .375"	
OPTIONAL FEMALE STUD DIAMETER	.250"	.312"	.375"	.500"	
OPTIONAL MALE/FEMALE STUD LENGTH	.250"	.312"	.375"	.375"	

J. L. SHEPHERD and Associates

TITLE	MODEL	DATE	DWG NO.	REV
MODEL 7810 484-1A CAPSULE SERIES	23FEB24	A-0068-500-CAN	B	
APPROVED	SCALE	NONE	SHEET	1 OF 1



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CERTIFICATE NUMBER: USA/0816/S-96

ORIGINAL REGISTRANT(S) :

J.L. Shepherd & Associates
1010 Arroyo Ave.
San Fernando, CA, 91340-1822
USA