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

U.S. Department of Transportation

Pipeline and Hazardous Materials Safety Administration

IAEA CERTIFICATE OF COMPETENT AUTHORITY SPECIAL FORM RADIOACTIVE MATERIALS

CERTIFICATE USA/0367/S, REVISION 11

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 Agency[1] and the United States of America[2] for the transport of radioactive material.

1. Source Identification - Frontier Technology Corporation Model 10 Series and Model 100 Series.

2. Source Description - The Model 10 Series source capsules are cylindrical single encapsulations made of Type 304L stainless steel or Zircalloy-2 and tungsten inert gas fusion welded. Approximate outer dimensions are 5.5 mm (0.22 in.) in diameter and either 11.9 mm (0.47 in.) or 24.6 mm (0.97 in.) in length. The Model 100 Series source capsules are cylindrical double encapsulations made of Type 304L stainless steel or Zircalloy-2 and tungsten inert gas fusion welded. The inner capsule is a Model 10 Series source capsule. Approximate outer dimensions are either 7.7 mm (0.3 in.) or 9.4 mm (0.37 in.) in diameter and either 19.6 mm (0.77 in.) or 32.5 mm (1.28 in.) in length. The overall length may be extended by attachment devices. Construction shall be in accordance with attached drawings entitled FTC Model 10 Series Standard Neutron Source or FTC Model 100 Series Standard Neutron Source.

3. Radioactive Contents - No more than 192.0 GBq (5.2 Ci) of Californium-252. The Cf-252 is in the form of a Cf-Pd cermet or Cf-Pd alloy.

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[1] "Regulations for the Safe Transport of Radioactive Material, 2018 Edition, No. SSR-6 (Rev. 1)" 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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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 February 28, 2030. 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 18, 2025 petition by Frontier Technology Corporation, Xenia, OH, and in consideration of other information on file in this Office.

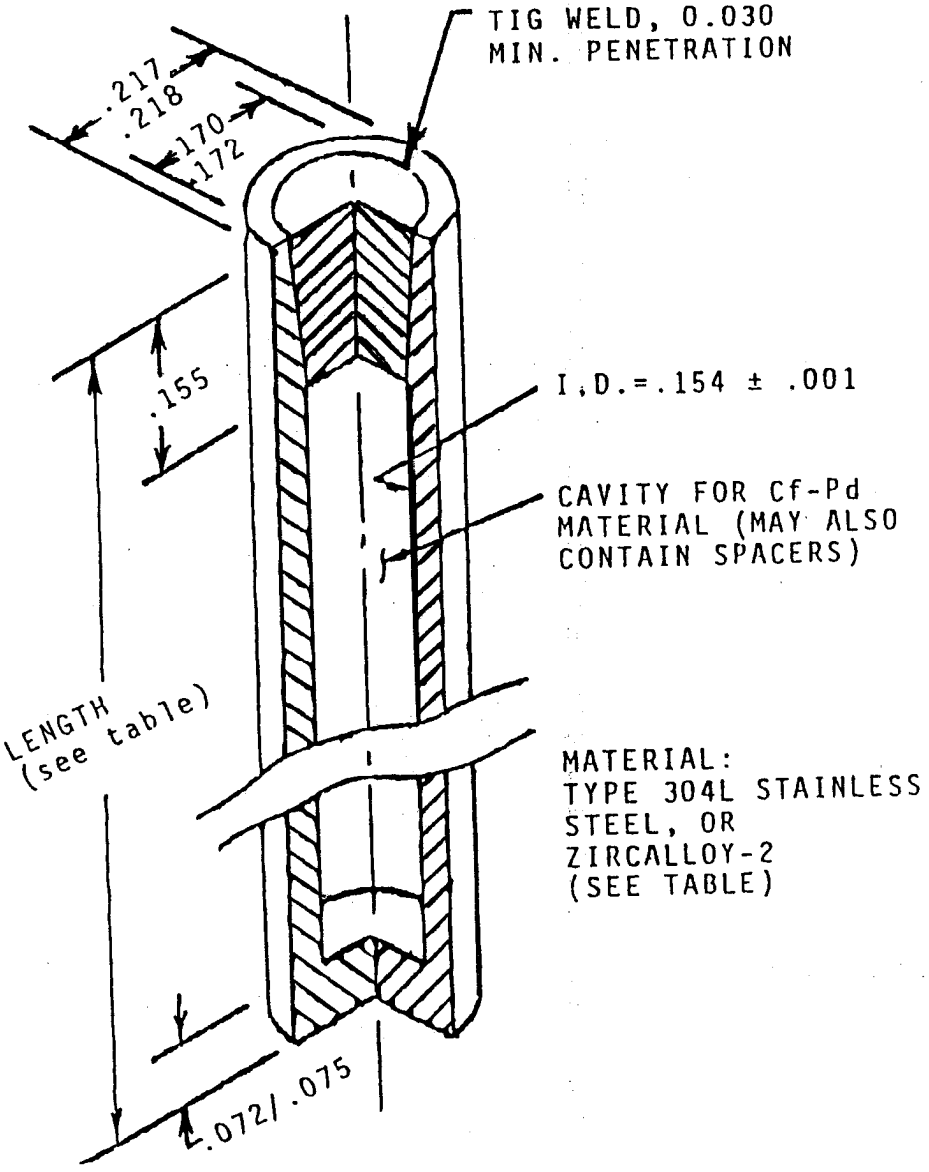
Certified By:

for William Schoonover
Associate Administrator for Hazardous Materials Safety

February 27, 2025
(DATE)

Revision 11 - Issued to extend the expiration date and to issue the certificate to the 2018 edition of SSR-6.

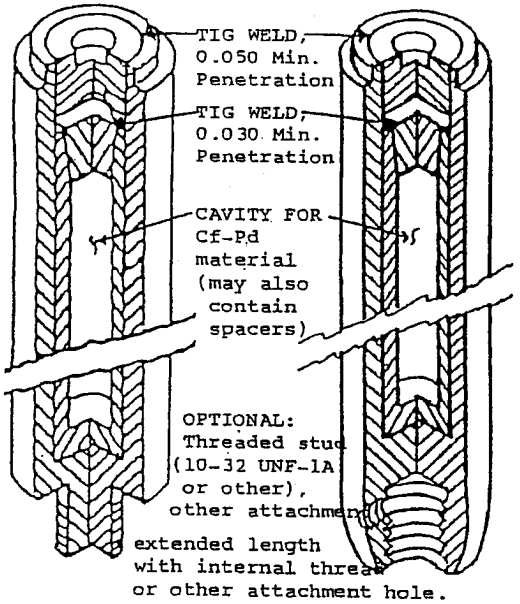
FTC MODEL 10 SERIES - Standard Neutron Source



DIMENSIONS IN INCHES
(FOR REFERENCE)

MODEL DESCRIPTION CHART

MODEL	LENGTH(inches)	MATERIAL	Cf LIMIT
10	0.970/0.980	304L Stainless Steel	10 mg.
10S	0.465/0.475	304L Stainless Steel	4 mg.
Z10	0.970/0.980	Zircalloy-2	10 mg.
Z10S	0.465/0.475	Zircalloy-2	4 mg.



LABELING: Each source is marked on the outside surface with the letters "FTC" to denote the manufacturer, "CF" to denote the contents as Cf-252, and a unique serial number. The letter "Z" preceeds the serial number when either or both capsules are Zircalloy-2.

FTC Model 100-Series Standard Neutron Source

MODEL DESCRIPTION CHART

Model	Inner capsule	Outer capsule	Threaded stud	Cf Limit
100 & 100R	304L Stainless	304L Stainless	Yes	10 mg
Z100 & Z100R	Zircalloy-2	Zircalloy-2	Yes	10 mg
100S & 100SR	304L Stainless	304L Stainless	Yes	4 mg
Z100 & Z100SR	Zircalloy-2	Zircalloy-2	Yes	4 mg
ZS100 & ZS100R	Zircalloy-2	304L Stainless	Yes	10 mg
SZ100 & SZ100R	304L Stainless	Zircalloy-2	Yes	10 mg
ZS100S & ZS100SR	Zircalloy-2	304L Stainless	Yes	4 mg
Z100S & Z100SR	304L Stainless	Zircalloy-2	Yes	4 mg
100NS & 100NSR	304L Stainless	304L Stainless	No	10 mg
Z100NS & Z100NSR	Zircalloy-2	Zircalloy-2	No	10 mg
100SNS & 100SNSR	304L Stainless	304L Stainless	No	4 mg
Z100SNS & Z100SNSR	Zircalloy-2	Zircalloy-2	No	4 mg
ZS100NS & ZS100NSR	Zircalloy-2	304L Stainless	No	10 mg
SZ100NS & SZ100NSR	304L Stainless	Zircalloy-2	No	10 mg
ZS100SNS & ZS100SNSR	Zircalloy-2	304L Stainless	No	4 mg
SZ100SNS & SZ100SNSR	304L Stainless	Zircalloy-2	No	4 mg
Any above with "MX" in suffix	As for model designation without "MX"		Special stud or attachment	As w/o "MX"
Any above with "ML" in suffix	As for model designation without "ML"		Extended length with or without attachment hole	As w/o "ML"
100ST & 100STR	304L Stainless	304L Stainless	No	4 mg

"ST" and "STR" indicate stainless steel short versions with thin wall with a 7.7 to 7.8 mm (0.303 to 0.307") outside diameter. All others have 0.370 to 0.371" outside diameter.

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ORIGINAL REGISTRANT(S):

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Washington, DC, 20585
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