

**3701:1-49-10      Design and performance criteria for sealed sources.**

- (A) A licensee may use a sealed source in well logging applications if the sealed source:
  - (1) Is doubly encapsulated;
  - (2) Contains licensed material whose chemical and physical forms are as insoluble and non-dispersible as practical; and
  - (3) Meets the requirements of paragraph (B), (C), or (D) of this rule.
- (B) For a sealed source manufactured on or before July 14, 1989, a licensee may use the sealed source for use in well logging applications if it meets the requirements of USASI N5.10-1968, "Classification of Sealed Sources," (this publication can be viewed at "the Bureau of Radiation Protection library, 246 N. High Street Columbus, Ohio 43215") or the requirements in paragraph (C) or (D) of this rule.
- (C) For a sealed source manufactured after July 14, 1989, a licensee may use the sealed source for use in well logging applications if it meets the oil-well logging requirements of ANSI/HPS N43.6-1997, "Sealed Radioactive Sources - Classification." (This publication can be viewed at "the Bureau of Radiation Protection library, 246 N. High Street, Columbus, Ohio 43215" or may be obtained from the American National Standards Institute, 25 West 3rd Street, 4th Floor, New York, NY 10036, telephone 212-642-4900.)
- (D) For a sealed source manufactured after July 14, 1989, a licensee may use the sealed source for use in well logging applications if:
  - (1) The sealed source's prototype has been tested and found to maintain its integrity after each of the following tests:
    - (a) The test source must be held at minus forty degrees celsius for twenty minutes, six hundred degrees celsius for one hour, and then be subject to a thermal shock test with a temperature drop from six hundred degrees celsius to twenty degrees celsius within fifteen seconds.
    - (b) A five kilogram steel hammer, 2.5 centimeter in diameter, must be dropped from a height of one meter onto the test source.
    - (c) The test source must be subject to a vibration from twenty-five hertz to five hundred hertz at five g (g is the acceleration of gravity and is equal to 9.8 meters per second squared) amplitude for thirty minutes.
    - (d) A one gram hammer and pin, 0.3 centimeter pin diameter, must be dropped from a height of one meter onto the test source.
    - (e) The test source must be subjected to an external pressure of 169.5 megapascals (twenty-four thousand six hundred pounds per square inch absolute).
- (E) The requirements in paragraphs (A), (B), (C), and (D) of this rule do not apply to sealed sources that contain licensed material in gaseous form.

- (F) The requirements in paragraphs (A), (B), (C), and (D) of this rule do not apply to energy compensation sources (ECS). Energy compensation sources must be registered with the director under rule 3701:1-46-49 of the Administrative Code, or with the United States nuclear regulatory commission or an agreement state under regulations equivalent to rule 3701:1-46-49 of the Administrative Code.

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