**Section 346.210 Performance Criteria for Sealed Sources**

a) Requirements. Sealed sources installed after December 1, 2005:

1) Shall have an evaluation sheet issued by the Agency, an Agreement State, a Licensing State or the U.S. Nuclear Regulatory Commission;

2) Shall be doubly encapsulated;

3) Shall use radioactive material that is as nondispersible as practical and that is as insoluble as practical if the source is used in a wet-source-storage or wet-source-change irradiator. Cs-137 sources are prohibited from use in a wet-source-storage or wet-source-change irradiator;

4) Shall be encapsulated in a material resistant to general corrosion and to localized corrosion, such as 316L stainless steel or other material with equivalent resistance, if the sources are for use in irradiator pools;

5) In prototype testing of the sealed source, shall have been leak tested and found leak-free after each of the tests described in subsections (b) through (g) of this Section.

b) Temperature. The test source shall be held at -40ºC for 20 minutes, 600ºC for one hour, and then be subjected to a thermal shock test with a temperature drop from 600ºC to 20ºC within 15 seconds.

c) Pressure. The test source shall be twice subjected for at least 5 minutes to an external pressure (absolute) of 2 million newtons per square meter.

d) Impact. A 2-kilogram steel weight, 2.5 centimeters in diameter, shall be dropped from a height of 1 meter onto the test source.

e) Vibration. The test source shall be subjected 3 times for 10 minutes each to vibrations sweeping from 25 hertz to 500 hertz with a peak amplitude of 5 times the acceleration of gravity. In addition, each test source shall be vibrated for 30 minutes at each resonant frequency found.

f) Puncture. A 50-gram weight and pin (0.3-centimeter pin diameter) shall be dropped from a height of 1 meter onto the test source.

g) Bend. If the length of the source is more than 15 times larger than the minimum cross-sectional dimension, the test source shall be subjected to a force of 2000 newtons at its center, equidistant from the two support cylinders, the distance between which is 10 times the minimum cross-sectional dimension of the source.