

MINIMUM REQUIREMENTS OF A RADIOACTIVE SOURCE FOR PORTABLE DENSITY/MOISTURE GAUGES

CRITERIA	DESCRIPTION
Radioactive Substance	
Radioactive substance certification	Source specifications must satisfy the requirements specified in Schedule A of the Code of Practice and Safety Guide for Portable Density/Moisture Gauges Containing Radioactive Sources (2004)
Radiation source fixed in sealed source apparatus	The radioactive substances must be permanently mounted in the sealed source apparatus and be capable of extension and retraction for normal use. The radioactive substance must not be capable of being physically separated from the sealed source apparatus under operational and transport conditions.
Radioactive substance assembly	The radioactive substance assembly must be capable of being positively located in the correct operating positions.
Radiation Dose Rates	
Radiation Dose Rate	When the radioactive substances are locked in the "beam off" position, the radiation dose rates must not exceed: <ul style="list-style-type: none"> o 250μSv in one hour at any point 5 centimetres from the external surface of the sealed source apparatus; and o 10μSv in one hour at any point 1 metre from the external surface of the sealed source apparatus.
Warning Signs	The external surface of the gauge must be durably and legibly marked with a fire resistant label, or labels, incorporating: <ul style="list-style-type: none"> o the radiation warning sign (trefoil) o the word "caution" o words to the general form of "radioactive material". The trefoil and markings must be black on a yellow background.
Labels	The gauge must be labelled on its exterior surface with a durable label incorporating the: <ul style="list-style-type: none"> o radiation hazard warning symbol; o name(s) of the radioactive substance(s); o activities of the radioactive substance(s) and the date(s) of measurement; o maximum dose rate at the gauge surface when the source(s) is/are in the shielded position, and the date that this measurement was made; o name and address of the manufacturer of the gauge; o serial numbers of the source(s) and the gauge; and o additional (where applicable) information required by the relevant regulatory authority. The gauge must be durably labelled, marked or engraved in a conspicuous location on the exterior surface of both the gauge and the transport case with the: <ul style="list-style-type: none"> o Responsible Person's name or organisation; and o Responsible Person's full contact telephone number.
Shutter Mechanism	
Shutter Lock	The radioactive substances must be able to be locked in the "beam off" position. This locking device must be an integral part of the sealed source apparatus.