

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

NO.: TX672D106S

DATE: July 1979

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DEVICE TYPE: Pipe Wall Thickness Gauge

MODEL: 2203

MANUFACTURER/DISTRIBUTOR: Wm. B. Wilson Mfg. Co.
10000 Iota Drive
San Antonio, TX 78217

MANUFACTURER/DISTRIBUTOR:

SEALED SOURCE MODEL DESIGNATION: 3M 4D6L
Gulf Nuclear CSV

ISOTOPE: Cesium-137

MAXIMUM ACTIVITY: 10 curies

LEAK TEST FREQUENCY: 6 Months

PRINCIPAL USE: Gamma Gauges

CUSTOM DEVICE: ☐ YES ☒ NO

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PDR FOIA
HAMMITT84-74 PDR

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DESCRIPTION:

This device is used to measure the thickness of pipe walls by either of two non-contact methods. In the through wall mode, the detector monitors the radiation which passes through the pipe, the amount of radiation detected being inversely proportional to the wall thickness. In the two backscatter modes, the detector monitors reflected radiation off the pipe wall, the amount detected reflecting variations in wall thickness. The system is designed to accommodate pipe casing from 4-1/2" to 13-3/8" outer diameter. The gauge is designed for use as a rotating camera at ambient temperatures and pressure in either a fixed location or mobile van.

The source holder is a tungsten alloy camera utilizing a sliding tungsten shutter to expose the source. The shutter slides from a shielded (closed) to an unshielded (open) position to allow the emission of a small, well defined beam of gamma radiation as a result of intended collimation. One end of the shutter is threaded to limit movement and ensure proper positioning in the open and closed position. The shutter is secured by a lock and may be locked in the closed position.

The source is held in place by a threaded, solid tungsten plug secured by safety wire. The cap of the plug has two angular holes to accommodate the safety wire.

In addition to the shutter movement, the source housing may be rotated from the closed to any of three open positions. When the source housing is in the closed position, the aperture is blocked by the "closed position" tungsten shield. The positions are clearly marked on the side bracket. The right bearing plate is fitted with the retractable plunger assembly which secures the source holder in the various positions. The plunger must be pulled out to change the position of the source holder. The source holder is rotated by the handle and positioned so that the plunger pin fits into the desired index hole.

LABELING:

The unit is labeled with the conventional radiation warning symbol, the isotope, the amount of activity, and date. In addition, a label also specifies that the device must be specifically licensed, leak tested each six months and source holder repaired only by authorized persons.

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EXTERNAL RADIATION LEVELS:

The manufacturer states that when the source holder (camera) is mounted with the detector assembly, radiation levels in the closed positions should not exceed 55 mrem/hr on all surfaces of the unit. The radiation levels in the open positions should not exceed 55 mrem/hr on all surfaces except at the aperture.

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE:

The manufacturer provides printed instructions for the safe operation of the unit and will instruct the customers operators upon delivery of the unit. All maintenance on the source shield is to be performed only by the manufacturer.

ISSUING AGENCY:

Texas Department of Health Resources