Albedo Neutron Dosimeter

**Albedo Neutron Dosimeter with TLD Cards**

Albedo neutron dosimeters measure indirect neutrons, scattered by the human body, creating a neutron flux of thermal and albedo neutrons at the surface of the body. They have been found to be the only dosimeters which can measure doses due to neutrons over the whole range of energies.

Further the boron-loaded plastic encapsulation allows the simultaneous measurement of beta dose, gamma dose and neutron dose.

Two types of Lithium Fluoride are used to separate doses contributed by gamma-rays and neutrons. MTS-6 (enriched in ^{6}Li and very sensitive to thermal neutrons) and MTS-7 (containing very little of ^{6}Li and has a negligible neutron response).

^{6}LiF has one of the highest thermal neutron sensitivity of any phosphors. Most of the neutrons will be absorbed inside the MTS-6 pellet within a few 0.1 mm of penetration.

However, because of their enhanced response to neutrons of lower energies, there may be a need for an additional field measurement which allows correction for this energy response.
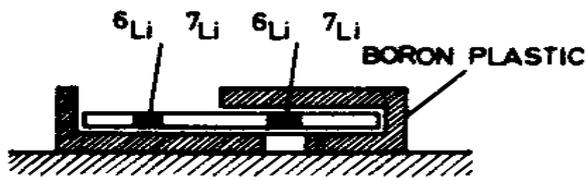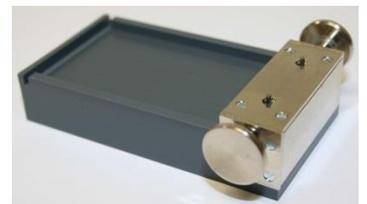
Above: Albedo Holder for Harshaw type TLD card

Right: Albedo Holder for Rados type TLD card
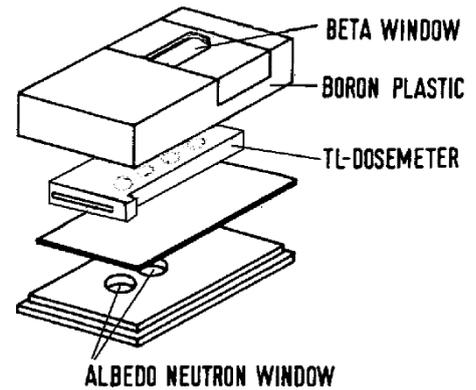
Technical Specifications

Material   Boron Loaded Plastics with beta window in the front and Albedo window in the back side

TLD Cards   4-element Harshaw TLD Card, LiF:MgTi, type 6776 (MTS-600 / MTS-700)

                      Rados TLD Card with 4 elements, LiF:Mg,Ti, type 7667 (MTS-6 / MTS-7)

Measured doses:

Position 1   gamma deep dose with ^{7}LiF

Position 2   Albedo neutrons with ^{6}LiF

Position 3   thermal neutrons with ^{6}LiF

Position 4   beta-gamma skin dose with ^{7}LiF

All information in this brochure is subject to technical changes without notice.

Accessories

Opening Tool

TLD Card, Type Rados

TLD Cards, Type Harshaw