

How to order

Minimum order is 100 pieces.

Dispatched after confirmation of transferring funds to our bank. The rate depends on the date transferred. In case of divided dispatch, the rate depends on the first date.

References

- 1) Takehisa, M., Sato, Y., Sasuga, T., Haneda, N., Haruyama, Y., Sunaga, H., 2007. Gamma-ray response of a clear, crosslinked PMMA dosimeter, Radix W, *Radiat. Phys. Chem.* 76, 1619-1623.
- 2) Seito, H., Ichikawa, T., Kaneko, H., Sato, Y., Watanabe, H., Kojima, T., 2009. Characteristics study of clear polymethylmethacrylate dosimeter, Radix W, in several kGy range, *Radiat. Phys. Chem.* 78, 356-359.
- 3) Seito, H., Ichikawa, T., Hanaya, H., Sato, Y., Kaneko, H., Haruyama, Y., Watanabe, H., Kojima, T., 2009. Application of clear polymethylmethacrylate dosimeter Radix W to a few MeV electron in radiation processing, *Radiat. Phys. Chem.* 78, 961-965.

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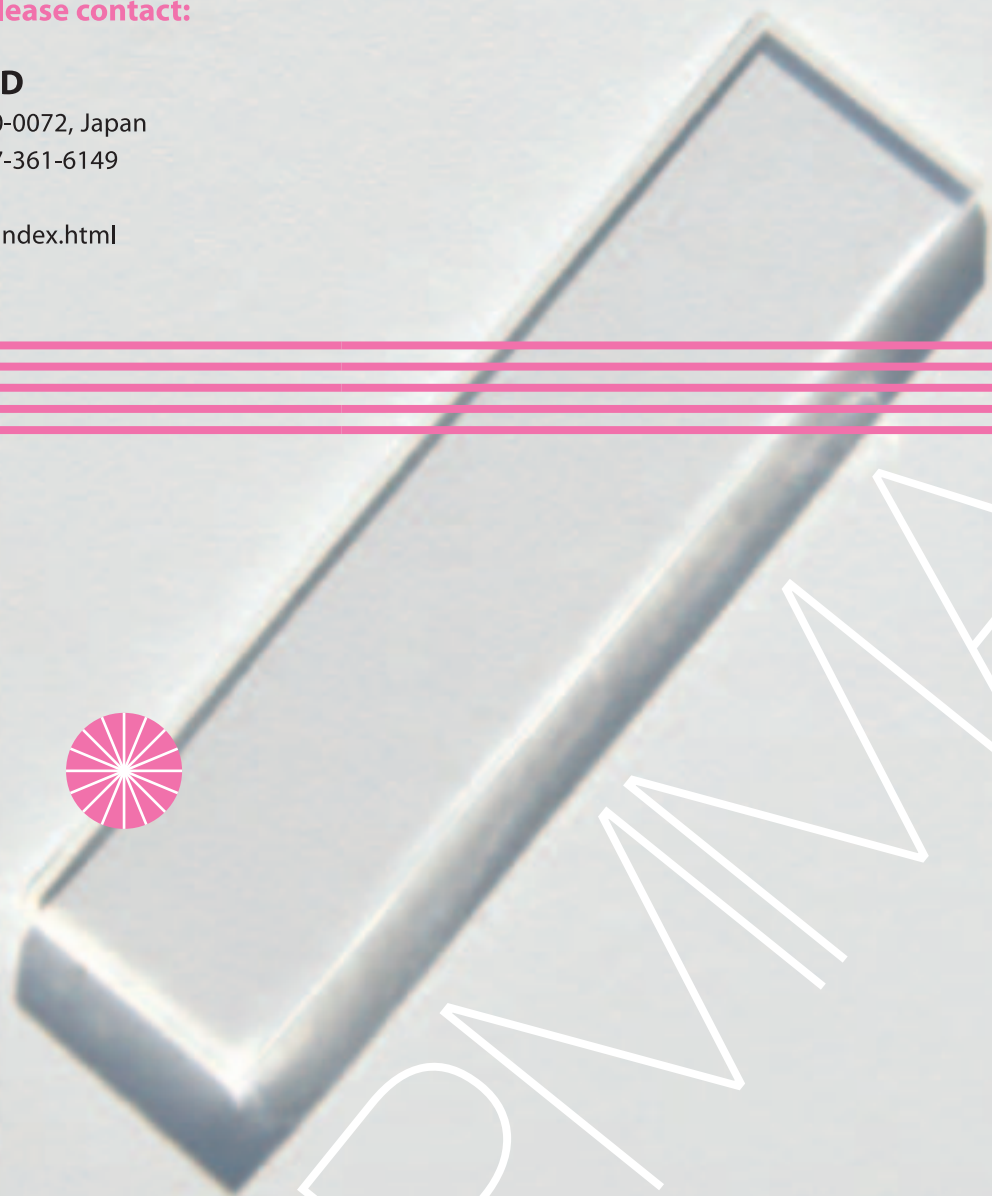
URL : <http://www.radia-ind.co.jp/index.html>



RadixW

Radia Industry Co.Ltd

Innovation of PMMA dosimeters



Made in Japan

Radix W, innovation of PMMA dosimeters

More precise! More stable!

More convenient!

More cheaply!

For supporting radiation processing

Radia Industry Co. Ltd (RIC) was founded at Takasaki in 1971 for the practical use of radiation, which is the longeststanding company for irradiation services in Japan. Since 1971, RIC has offered a comprehensive irradiation service, using the installed three gamma facilities and one EB facility. Furthermore, in cooperation with the Japan Atomic Energy Agency, Takasaki Advanced Radiation Research Institute (former: Japan Atomic Energy Research Institute, Takasaki Radiation Chemistry Research Establishment), RIC has developed PMMA dosimeters, Radix RN-15 which has been on sale for more than ten years. Now, as a result of further R & D aiming at innovation and advance, RIC has successfully developed Radix W; highly efficient PMMA dosimeters. Customers will greatly appreciate that they can use it as a more precise, more stable and more convenient routine dosimeter.

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Radix W, innovation of PMMA dosimeters

PMMA



RadixW

Radia Industry Co.Ltd

Reliability!

PMMA dosimeters are reliable routine dosimeter, which has been used for radiation processing worldwide over fifty years.

Easy handling of measurement!

Radix W is a sheet of clear, undyed, chemically crosslinked PMMA. When the sheet absorbs radiation energy, the absorbance of ultraviolet light changes quantitatively. Therefore, we are able to obtain precise radiation doses by measuring the change of UV absorbance by using a spectrophotometer.

Possible to measure a wide range of dose by only one piece of dosimeter!

Radix W includes crosslinkage structure in the molecule to make the molecule temperature stable so as to measure a wide range of dose.

Conventional PMMA dosimeters cover the dose range of 1 to 50 kGy by using two types of dosimeters. With Radix W, you can measure precisely the dose range of 1 to 150 kGy using only one piece of Radix W due to exchange the readout wavelength between 280 nm and 320 nm. (Fig.1)

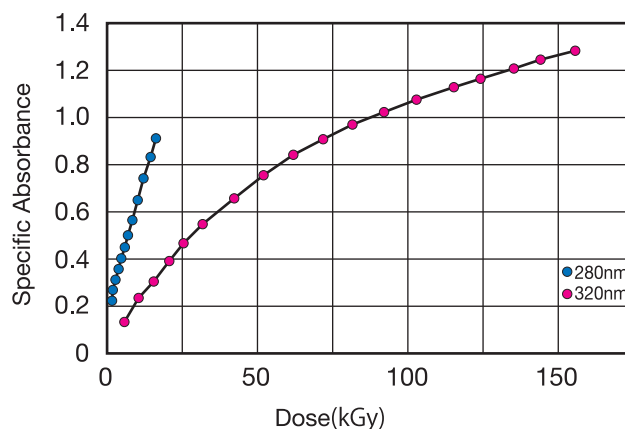


Fig.1 Response Curves for Gamma Irradiation

From gamma-rays to electron beams!

It is possible to measure the dose of high energy electron beams, making the most of property such as 1.5 mm thickness. Revised the thickness of dosimeter, a calibration curve obtained is independent on energies of electrons. (Fig.2)

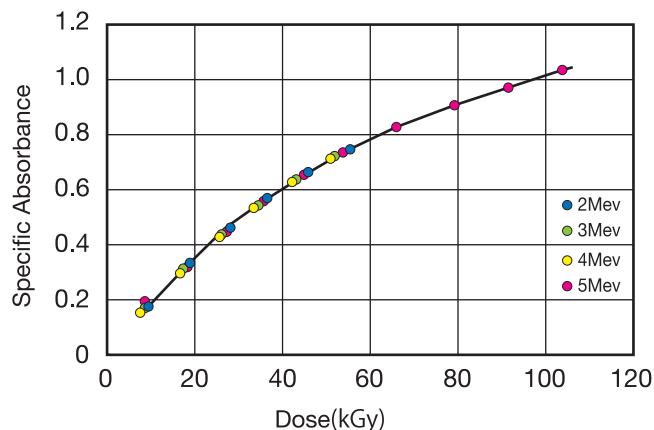


Fig.2 Response Curves for EB Irradiation

革新



Relieved quality management!

Radix W is sealed in a labeled sachet made of plastic/aluminum laminate with high anti-humidity and high shading from light. So the property is kept for a long time. The best quality management system in Japan gives confidence to our customers.

Characteristics

1. Material

Chemically crosslinked polymethylmethacrylate sheets.
Glass transition temperature is 128 °C.

2. Dimensions

40 mm x 10 mm. Thickness 1.50 ±0.07 mm

3. Measurement reproducibility

Coefficient of variation of specific absorbance measurements on sets of dosimeters, simultaneously irradiated together in a uniform gamma radiation field, is <1% over the ranges of 1 to 10 kGy at 280 nm wavelength and <2% over the ranges of 5 to 150 kGy at 320 nm.



4. Calibration quality

All mean specific absorbance data measured are $\leq 5\%$ of linear least-squares fit to the data of 1 to 10 kGy at 280 nm and $\leq 7\%$ of a fourth-order polynomial least-squares fit to the data of 5 to 150 kGy at 320 nm.

5. Traceability

Radix W calibration is traceable to the absorbed dose of alanine dosimeter measured at the National Physical Laboratory (UK).

6. Shelf life

Five years from date of release.

7. Packaging and Labeling

Sealed in labeled sachets made of plastic/aluminum laminate.