

Plastic Water®

*Calibrate photon and electron beams
within 0.5% of true water dose*

Unlike other water equivalent plastics on the market, Plastic Water® is flexible and will not break under impact. Plastic Water® is the only calibration material available in 1 mm thicknesses. Plastic Water® is the only material which agrees with true water within 0.5% above 7 MeV.

Custom cavities are available to accommodate any ion chamber on the market (simply provide detailed drawings when ordering).*

CIRS can simulate any tissue found in the human body and many phantoms contain multiple tissue substitutes. Water, however, is the most important reference material in Medical Physics. To accurately simulate water over all energy from 10 keV to 100 MeV with a singular solid materials is one of the more challenging tasks in the field of Tissue Simulation. CIRS water equivalent materials are formulated to mimic within 1% or better for specific energy ranges.

References:

1. Wallace, R.E., Evaluated phantom material for ¹²⁵I and ¹⁰⁵Pd dosimetry poster: SU-DD-EXH-12, AAPM Annual Meeting, Montreal, CANADA July, 2002.
2. Heaton, R., et. al, Dosimetric Evaluation of Plastic Water-Diagnostic Therapy (PWDT) Phantom Material poster: PO-T-97, AAPM Annual Meeting, 2003.
3. Tello, V.M., Taylor, R.C., and Hanson, W.F. How water equivalent are water equivalent solid materials for output calibration of photon and electron beams? Medical Physics 22 (7), July 1995 pgs. 1177-1189.



Plastic Water® LR - 15 keV - 8 MeV

Use for such things as dose evaluation for low energy brachytherapy sources or CT dose verification. ⁽¹⁾

*Plastic Water® DT - 50 keV - 25 MeV**

Use for special applications requiring exposures to both diagnostic and therapeutic energies such as radiation therapy planning and dose verification in IMRT. ⁽²⁾

Plastic Water® - The Original - 150 keV - 100 MeV

Permits calibration of photon and electron beams within 0.5% of true water dose. Ideal for routine beam constancy checks. ⁽³⁾

Features

- Available in 1 mm thickness
- Easy to machine
- Un-breakable
- Five year written warranty
- Film Dosimetry Cassettes are available

Plastic Water[®] Specifications:

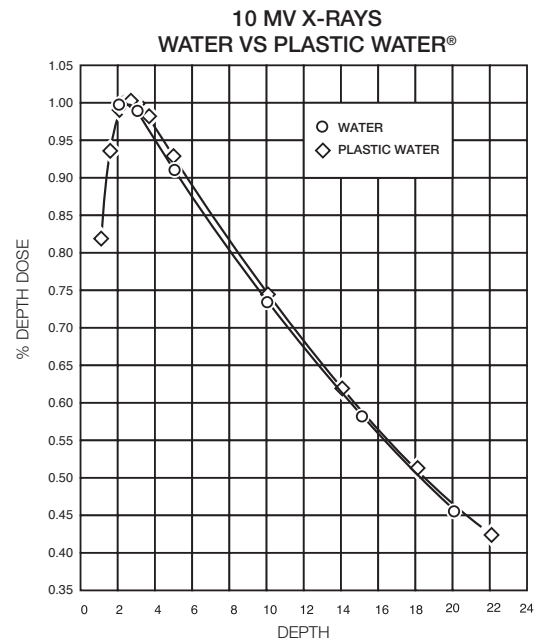
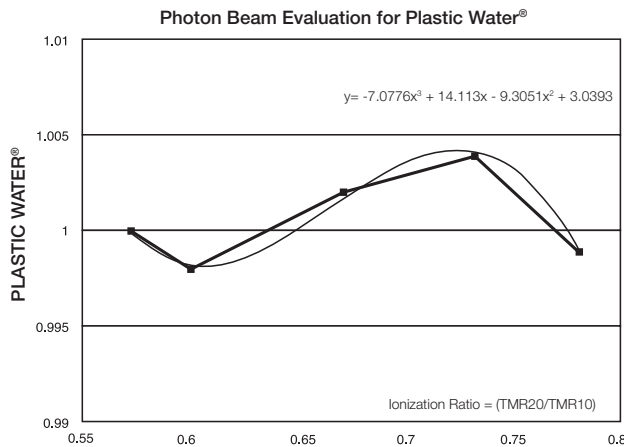
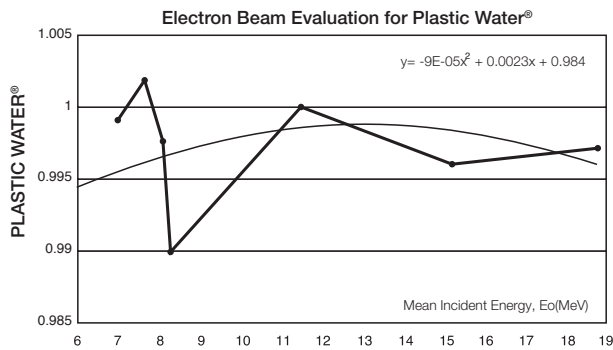
Chamber Cavities and Plugs

Plastic Water[®] can be manufactured to accommodate most chambers on the market today.
 *Refer to separate CIRS cavity and plug code list for available chamber cavities.

PCW500 Plastic Water Set - 30x30 cm Slab Phantoms Includes:
 (Available only in original Plastic Water)

Thickness (cm)	Quantity
0.1	1
0.2	2
0.5	1
1	1
2	2
4	1
5	2
2 cm with cavity for ion chamber	1

Check CIRS price list for available sizes and thicknesses



*Plastic Water DT material in 0.1 & 0.2 cm slabs mimicks water within 1% up to 15 MeV.