

# Phantoms for therapeutic energy range

Comparison of Physical Properties

ICRU publication 23 (Reference man)

	human soft tissue	muscle	fat	cartilage	lung
electron density (x10 <sup>23</sup> e/g)	3.29	3.31	3.34	3.28	3.31
effective atomic number	7.03	7.45	6.33	7.89	7.49
specific gravity	1.00	1.05	0.95	1.10	0.26

  

	water	acryl	Tough Water Phantom WD	Tough Bone Phantom BE-T	Tough Bone Phantom BE-H	Tough Bone Phantom BE-N	Tough Lung Phantom LP
electron density (x10 <sup>23</sup> e/g)	3.343	3.248	3.265	3.108	3.154	3.213	3.211
effective atomic number	7.417	6.467	7.328	13.179	11.697	9.141	7.242
specific gravity	1.000	1.180	1.018	1.730	1.500	1.240	0.370

	Tough Water Phantom WD	Tough Bone Phantom BE-T	Tough Bone Phantom BE-H	Tough Bone Phantom BE-N	Tough Lung Phantom LP
H	8.63	3.69	5.11	6.97	7.00
C	68.89	29.22	42.45	60.03	50.20
N	2.18	1.19	1.73	2.45	—
O	17.88	32.66	28.13	21.79	35.10
P	—	10.24	7.00	2.30	0.10
Cl	0.15	0.06	0.09	0.13	1.00
Ca	2.27	22.92	15.49	6.33	—
Al	—	—	—	—	1.50
Si	—	—	—	—	5.00

PH-37 | 41480-000  
Therapy Body Phantom THRA-1



**THRA-1 is an anthropomorphic, cross sectional dosimetry for therapeutic energy range**



### FEATURES

- | This phantom is a therapy planning phantom made of Tough Phantom Series human tissue substitutes
- | Sizes and spacing of dosimeter cavities and slice thickness may be custom ordered

### DESCRIPTIONS

#### SET INCLUDES

- 1 phantom
- 1 supporting frame
- insert rods for dosimeter holes
- 1 storage case
- manual

#### MATERIALS

- Body: Tough Water WE-211 (epoxy resin)
- Bone: Tough Bone BE-303
- Lung: Tough Lung LP-430

#### SPECIFICATIONS

Phantom height: 80 cm / 31.6 in      Phantom weight: 33 kg / 72.7 lb      Slice thickness: 3 cm / 1.2 in      Dosimeter holes: in lattice-like pattern of 3 x 3 cm / 1.2 x 1.2 in

PH-38 | 41480-010  
Pediatric Therapy Body Phantom THRA-2



### FEATURES

- | Unlike conventional radiotherapy phantoms, synthetic bones with unified size are used so that there are no differences of size by using human bones
- | Easy to compare data between facilities
- | Tumor targets can be attached as options

### DESCRIPTIONS

#### SET INCLUDES

- 1 phantom
- 1 supporting frame
- insert rods for dosimeter holes
- 1 storage case
- manual

#### MATERIALS

- Body: Tough Water WE-211 (epoxy resin)
- Bone: Tough Bone BE-303
- Lung: Tough Lung LP-430

#### SPECIFICATIONS

Phantom height: 60 cm / 23.6 in