

Phantoms for therapeutic energy range

Comparison of Physical Properties

	human soft tissue	muscle	fat	cartilage	lung
electron density ($\times 10^{21} \text{e/g}$)	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

ICRU publication 23 (Reference man)

	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 ($\times 10^{21} \text{e/g}$)	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

Dosimetry



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



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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 3×3 cm / 1.2×1.2 in

PUBLICATION REFERENCES

Yamauchi-Kawara C, Fujii K, Aoyama T, Yamauchi M, Koyama S. Radiation dose evaluation in multidetector-row CT imaging for acute stroke with an anthropomorphic phantom. Br J Radiol. 2010 Dec;83(996):1029-41. doi: 10.1259/bjrr/52267127.

Fujii K, Aoyama T, Yamauchi-Kawara C, Koyama S, Yamauchi M, Ko S, Akahane K, Nishizawa K. Radiation dose evaluation in 64-slice CT examinations with adult and paediatric anthropomorphic phantoms. Br J Radiol. 2009 Dec;82(984):1010-8. doi: 10.1259/bjrr/13320880.

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Pediatric Therapy Body Phantom THRA-2

Dosimetry



SHOW MORE!



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