RSD
RADIOLOGY SUPPORT DEVICES INC
ALDERSON PHANTOMS

THE STANDARD IN RADIOGRAPHY TRAINING PHANTOMS

ART

THE ALDERSON RADIATION THERAPY PHANTOM

The Alderson Radiation Therapy phantom (ART) and its earlier version, the Alderson RANDO phantom, have been in use for over 30 years. The ART has been refined and improved in both design and materials. These phantoms are indispensable quality-assurance tools; about 10,000 are in use all over the world. They provide integrated tests of the entire chain of treatment planning and delivery.

ART phantoms are molded of tissue-equivalent material; they are designed within highly sophisticated technological constraints and follow ICRU-44 standards.

They are designed for accuracy and ease of use.

Repeatable, Durable, Necessary

Radiological Support Devices, Inc. represents over 30 years of product innovation, development, and testing to deliver the finest human equivalent radiological subjects. As the original standard, our phantoms have proven to be consistent and reliable devices that endure the most rigorous use.

RSDPhantoms.com | 310.518.0527

MORE INFO

MADE IN USA

RSD RADIOLOGY SUPPORT DEVICES INC ALDERSON PHANTOMS

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ART

SIZE*	maleART	femaleART
HEIGHT	175 cm | 5 ft 9 in	155 cm | 5 ft 1 in
WEIGHT	73.5 kg | 162 lb	50 kg | 110 lbs

*Corresponding body size of an adult male or female

MATERIAL	DENSITY (g/cc)
RSD SOFT TISSUE	1.08
RSD CORTICAL BONE	1.18
RSD TRABECULAR BONE	1.17

RSD SOFT TISSUE

Energy (MeV)	mean HU	Calculated μ	μ (ICRU 44)	% difference	Ratio
00.08	60.30	0.1948	0.1932	0.0080	0.9921
00.10	52.88	0.1797	0.1795	0.0015	0.9985
00.12	57.10	0.1717	0.1709	0.0044	0.9956
00.14	52.95	0.1623	0.1624	0.0007	1.0007
00.20	--	0.1477	0.1439	0.0261	0.9746
00.30	--	0.1245	0.1246	0.0004	1.0004
00.60	--	0.0950	0.0941	0.0101	0.9900
00.80	--	0.0825	0.0826	0.0013	1.0013
01.00	--	0.0744	0.0743	0.0018	0.9982
02.00	--	0.0520	0.0519	0.0018	0.9982
03.00	--	0.0351	0.0357	0.0171	1.0174
06.00	--	0.0288	0.0291	0.0088	1.0088
08.00	--	0.0252	0.0255	0.0098	1.0099
10.00	--	0.0229	0.0232	0.0149	1.0151
15.00	--	0.0203	0.0203	0.0015	0.9985
20.00	--	0.0189	0.0189	0.0017	1.0017

RSD SPONGIOSA

Energy (MeV)	mean HU	Calculated μ	μ (ICRU 44)	% difference	Ratio
00.08	551	0.2849	--	--	--
00.10	515	0.2586	--	--	--
00.12	439	0.2337	--	--	--
00.14	318	0.1541	--	--	--

CORTICAL BONE

Energy (MeV)	mean HU	Calculated μ	μ (ICRU 44)	% difference	Ratio
00.08	1365	0.4345	0.4280	0.0151	0.9851
00.10	1048	0.3496	0.3562	0.0184	1.0188
00.12	0977	0.3211	0.3274	0.0191	1.0195
00.14	0902	0.2932	0.2986	0.0180	1.0184
00.20	--	0.2511	0.2513	0.0009	1.0009
00.30	--	0.2155	0.2137	0.0084	0.9916
00.60	--	0.1596	0.1598	0.0011	1.0011
00.80	--	0.1403	0.1402	0.0010	0.9990
01.00	--	0.1274	0.1261	0.0106	0.9895
02.00	--	0.0883	0.0885	0.0017	1.0017
03.00	--	0.0611	0.0625	0.0229	1.0235
06.00	--	0.0512	0.0525	0.0246	1.0253
08.00	--	0.0468	0.0474	0.0120	1.0121
10.00	--	0.0446	0.0444	0.0039	0.9962
15.00	--	0.0410	0.0409	0.0016	0.9984
20.00	--	0.0393	0.0397	0.0102	1.0103

Linear Attenuation Data:

Monte Carlo simulation was used to calculate linear attenuation coefficients as a function of beam.
Monte Carlo results were validated with linear attenuation coefficients derived from Hounsfield Unit measurements at discreet energy levels.
RSD Phantom material linear attenuation data was compared to NIST data using ICRU Report 44compositions of human tissues.
NIST data was interpolated when necessary.

MODEL	UNDRILLED	3 cm x 3 cm GRID HOLE SPACING	1.5 cm x 1.5 cm GRID HOLE SPACING	
MALE ART | FULL	ART- 200X	ART- 200	ART- 200A	SECTIONS 0-35
MALE ART | HEAD & NECK	ART-210X	ART-210	ART-210A	SECTIONS 0-9
MALE ART | CHEST	ART-211X	ART-211	ART-211A	SECTIONS 10-25
MALE ART | PELVIS	ART-212X	ART-212	ART-212A	SECTIONS 26-35
FEMALE ART | FULL	ART-300X	ART-300	ART-300A	SECTIONS 0-32
FEMALE ART | HEAD & NECK	ART-310X	ART-310	ART-310A	SECTIONS 0-9
FEMALE ART | CHEST	ART-311X	ART-311	ART-311A	SECTIONS 10-23
FEMALE ART | PELVIS	ART-312X	ART-312	ART-312A	SECTIONS 24-32

PLEASE CONTACT US FOR CUSTOM ORDERS AND REFURBISHMENT

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