

Mammography Phototimer Consistency Testing Slabs

Better than PMMA for AEC calibration

CIRS Phototimer Consistency Testing Slabs are designed for precise assessment of AEC system performance in accordance with American College of Radiology and MQSA recommendations. BR-12 (47% glandular / 53% adipose) is most commonly used but other glandular equivalencies are available. Unlike acrylic, these testing slabs are manufactured with very tight thickness tolerances and more accurately simulate real breast tissue over the range of energies used in mammography.



Model 014A

Mammography Artifact Evaluation Phantom

The American College of Radiology and MQSA recommend a uniform 4 cm thick "high grade" cassette sized phantom for evaluation of mammography artifacts as it is often difficult to identify artifacts based on clinical or standard phantom images.

CIRS has designed two phantoms to meet these recommendations. The small phantom measures 18 x 24 x 4 cm thick and the large phantom measures 24 x 30 x 4 cm thick.

Both are made from tissue equivalent BR-12 with a thickness tolerance of .01 mm and all phantoms are image tested

and carefully screened for homogeneity and impurities. Other glandular equivalencies are available upon request.



Model 014E

Model 014 Specifications

Illustrative example

Elemental Composition of CIRS BR12¹ Formula

C: 0.704 O: 0.169 H: 0.096 N: 0.019 Ca: 0.009 Cl: 0.002

Density = 0.97

Calculated Attenuation Values²:

keV= 10	MU= 3.550
keV= 15	MU= 1.183
keV= 20	MU= 0.610
keV= 30	MU= 0.315
keV= 40	MU= 0.239
keV= 50	MU= 0.209
keV= 60	MU= 0.193
keV= 80	MU= 0.174
keV=100	MU= 0.163

Specify Glandular Equivalency when ordering other than standard

% Gland	% Adipose
	0/100
	30/70
(BR12)	47/53
	50/50
	70/30
	100/0

Standard Dimensions

Standard Glandularity	Model	Quantity	Length	Width	Thickness
BR12	014A	3	12.5 cm	10 cm	2 cm
		2	12.5 cm	10 cm	1 cm
		1	12.5 cm	10 cm	0.5 cm
BR50/50	014AD	2	12.5 cm	10 cm	2 cm
		1	12.5 cm	10 cm	2 cm (with embedded detail plate)
		2	12.5 cm	10 cm	1 cm
		1	12.5 cm	10 cm	0.5 cm
BR12	014B	4	12.5 cm	10 cm	2 cm
BR12	014C	2	18 cm	24 cm	2 cm
BR12	014E	2	30 cm	24 cm	2 cm
BR50/50	014F	1	12.5 cm	10 cm	2 cm (with embedded detail plate)

Optional glandularities - any combination ranging from pure glandular to pure adipose are available on request. Other thicknesses available 0.1, 0.2, 0.5, 1, 2, 3, 4, 5 and 6 cm can be manufactured upon customer's request.

1. White, D.R., R.J. Martin, and R. Darlison, Epoxy resin based tissue substitutes, British Journal of Radiology, 5, 814-821, 1977.

2. Materials are formulated to maximize simulation properties at 20 keV for the mammographic range, 80 keV for the diagnostic range and 0.5 MeV and above for the therapeutic range.