

BR3D Breast Imaging Phantom

Model 020



FOR TOMOSYNTHESIS AND BREAST CT

The CIRS Model 020 BR3D Breast Imaging Phantom assesses detectability of lesions of various sizes within a tissue-equivalent, heterogeneous background.

In traditional 2D mammography, cancerous masses may be camouflaged by superposition of dense breast tissue. Tomosynthesis can help to eliminate this overlap by capturing multiple image “slices” of the breast that can be combined to create 3D reconstruction. As this new technology gains momentum in breast imaging, CIRS identified a need for a more realistic phantom to allow complex system checks.

Model 020 contains six heterogeneous, breast-equivalent slabs, which accurately demonstrate how underlying targets can be obscured by varying glandularity. Each slab consists of two tissue-equivalent materials mimicking 100% adipose and 100% gland tissues “swirled” together in an approximate 50/50 ratio by weight. Because each slab has a unique swirl pattern, the phantom can be arranged to create multiple backgrounds. One slab contains an assortment of micro-

calcifications, fibrils and masses and can be positioned at varying depths. All semicircular-shaped slabs measure 100 x 180 x 10 mm.

Slabs with different gland-to-adipose ratios by weight are available by request.

Benefits

- Tests Tomosynthesis and Breast Computed Tomography
- Complex background provides greater challenge for target detection
- Slab configurations provide range of thicknesses with or without targets
- Tissue equivalent adipose and gland tissues “swirled” in approximate 50/50 ratio by weight

CIRS

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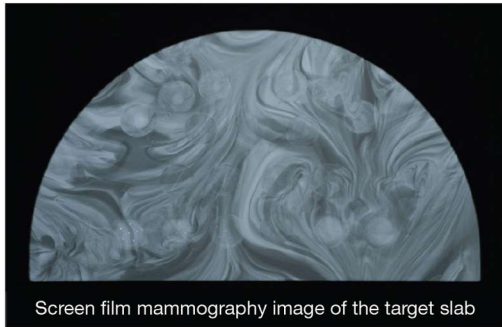
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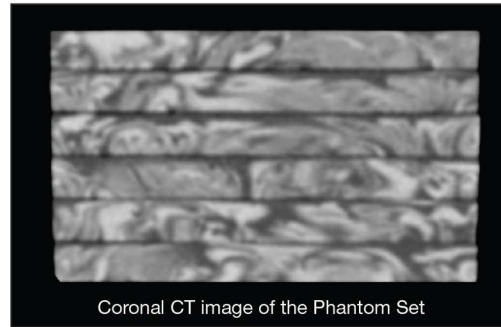


BR3D BREAST IMAGING PHANTOM

Model 020



Screen film mammography image of the target slab



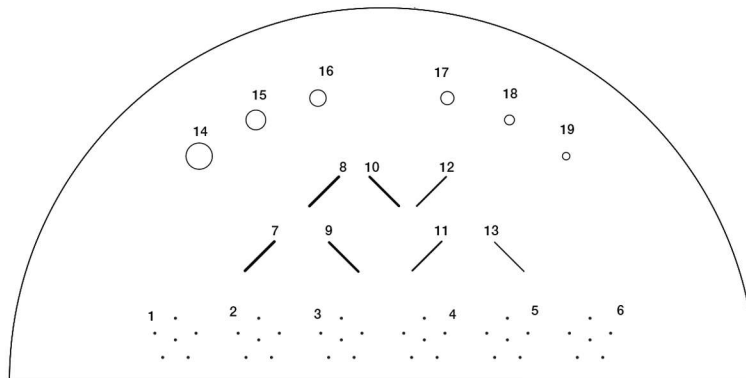
Coronal CT image of the Phantom Set

SPECIFICATIONS

OVERALL DIMENSIONS	100 mm x 180 mm x 60 mm (3.9" x 7.1" x 2.4")
INDIVIDUAL SLAB DIMENSIONS	100 mm x 180 mm x 10 mm, semicircular shape
PHANTOM WEIGHT	0.88 kg (1.94 lb)
MATERIALS	Slabs: epoxy resin Specks: CaCO ₃ Spheroidal Masses: epoxy resin (breast carcinoma formulation)

MODEL 020 SET INCLUDES

QTY	ITEM NO.	COMPONENT DESCRIPTION
1	020-1	BR3D Breast Imaging Target Slab
5	020-2	BR3D Breast Imaging Background Slabs
1	-	User Guide
-	-	48-Month Warranty


TARGET SLAB
SPECKS (CaCO₃)

1. 0.400 mm
2. 0.290 mm
3. 0.230 mm
4. 0.196 mm
5. 0.165 mm
6. 0.130 mm

FIBERS (10 MM LENGTH)

7. Ø 0.60 mm
8. Ø 0.41 mm
9. Ø 0.38 mm
10. Ø 0.28 mm
11. Ø 0.23 mm
12. Ø 0.18 mm
13. Ø 0.15 mm

**SPHEROIDAL MASSES
(BREAST CARCINOMA)**

14. Ø 6.3 mm
15. Ø 4.7 mm
16. Ø 3.9 mm
17. Ø 3.1 mm
18. Ø 2.3 mm
19. Ø 1.8 mm