QRM A PTW COMPANY

QRM-Cranial-CT-Phantom

Cranial CT Phantom

The cranial phantom mimics the human brain anatomy for CT imaging.

Based on a soft tissue equivalent plastic with a constant CT-number for the different kV settings and a surrounding bone structure with an X-ray absorption similar to the human skull, two different section of the human brain are realized.

One section describes the base of the skull with uniform soft tissue and bony structures equivalent to the temporal bones. This section is suitable to demonstrate and evaluate the image quality in the base of the skull, especially affected by beam hardening effects, partial volume effects and artifacts caused by scanner instabilities, e.g. anode wobble.

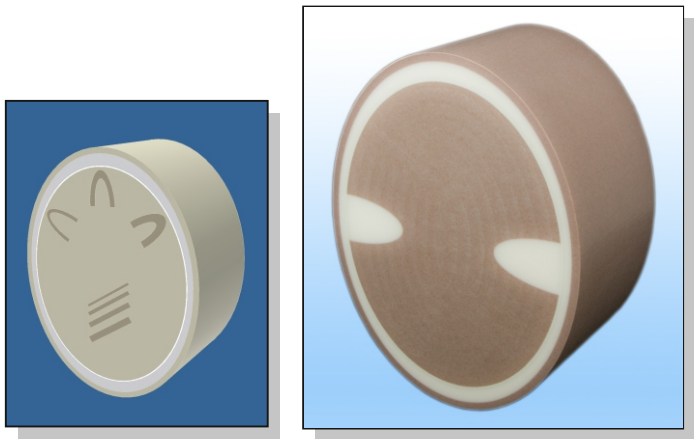
The second section was designed to test the low contrast capabilities of the imaging system. Within the uniform soft tissue several low contrast structure simulating typical cortex structures and central low contrast structures of the brain.

Specifications

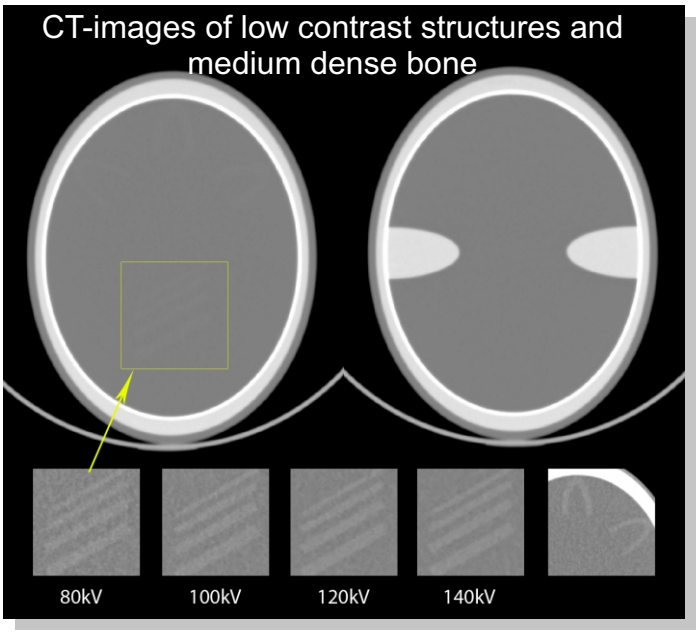
Soft tissue: ..... nominal 35 HU
(80 to 140 kV, ± 5 HU)
Low contrast structures: ..... + 7HU (± 2HU)
above surrounding tissue

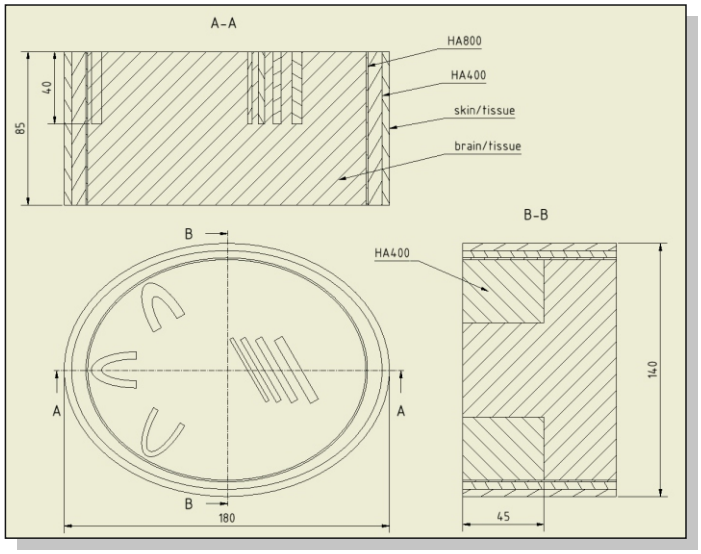
Medium dense bone: ..... 400 mg HA / ccm
Dense bone: ..... 1000 mg HA / ccm

Dimensions see drawing on the right!



The Cranial CT Phantom





Measures of the phantom (in mm)

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