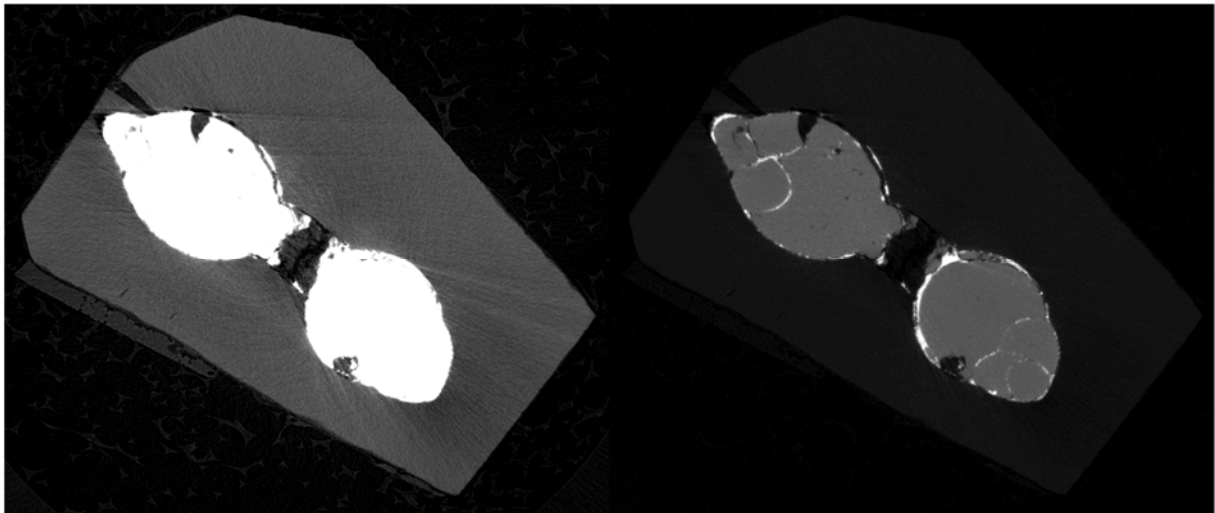


Changing the brightness scaling

When scanning high density materials the attenuation coefficients (the μ -values) are sometimes so high that the image gets partly saturated. This saturation can be seen as very bright regions in the image and is due to the conversion of the μ -values into integer numbers. This conversion is made by multiplying the μ -values with a brightness scaling factor (μ -scaling) and the problem occurs when the product is above the maximum allowed value. By choosing a lower μ -scaling, these very high μ -values stay below the saturation limit and can thus be differentiated.

An example of this effect can be seen in the images below of a filled root canal of a tooth. Both images originates from the same scan but have been reconstructed with different μ -scaling. The image on the left is reconstructed with the standard μ -scaling of 4096. The filling can be seen as a white uniform region. When selecting a lower scale factor (1024) as in the image on the right, different regions within the filling can be clearly distinguished.



The opposite effect can of course be used when scanning low contrast materials. By choosing a higher scale factor, the dynamic range (the difference between the smallest and highest gray level value) of such an image can be increased.

Instructions on how you can change the scale factor for image reconstruction can be found on our Customer FAQ section (search for "brightness scaling").