

SPECIMEN MOUNTING

We recommend the following packing and mounting practices to maximize imaging:

Adhesion: We have several beds, platforms, and mounting pins of various sizes. We typically adhere specimen containers to the CT scanner for the duration of the scan using soft wax or hot melt adhesive.

Specimen container: Specimen containers should be low density to minimize X-ray attenuation. Polyethylene bags (e.g., for wet specimens) and plastic bottles or boxes (with labelling removed) work well. (Wet specimens should be double-bagged to prevent dehydration during scanning and/or transport.) Specimen containers should be only slightly larger than the specimen itself, in order to allow for best placement of the container within the scan volume.

Packing materials: Specimens should be packed within containers to prevent movement during scanning. Packing materials should be low density and deformable, such as cotton, bubble wrap, or foam.

Positioning: The scan volume is a 2000 x 2000 x 2000 voxel cube. Positioning your specimen within its container optimally may differ depending on how your scan will be performed. Thus, considering the type of scan should inform how specimens are packaged:

Single-volume scans: If your specimen is to be scanned as a single volume, then orienting it so that the long axis passes diagonally through the middle of the volume (i.e., 45° from horizontal) will facilitate higher-magnification scans

Multi-volume scans: Specimens that are too tall for a single volume at the preferred resolution can be imaged as “tall scans” wherein multiple volumes are imaged sequentially and digitally fused as a post-processing step. For these scans, specimens should be oriented with the long axis perpendicular to the ground.