

CT Scanner Facility

MicroCT analysis applications series

Tech note **5** Layer/coating thickness analysis

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Introduction

Layers and coatings can be analyzed by 3D “wall thickness analysis”. In this example we demonstrate a 50 μm coating on a carbon fibre mat. Any coating can be analyzed – the only limit is the sample must be cut to 2 x 2 mm for good scanning. Thinnest coating approx. 6 μm .

Results

An example of wall thickness analysis of a coating is shown in Figure 1. Average coating thickness and standard deviation is available, as well as visual thickness colour map to highlight possible problems in the coating distribution.

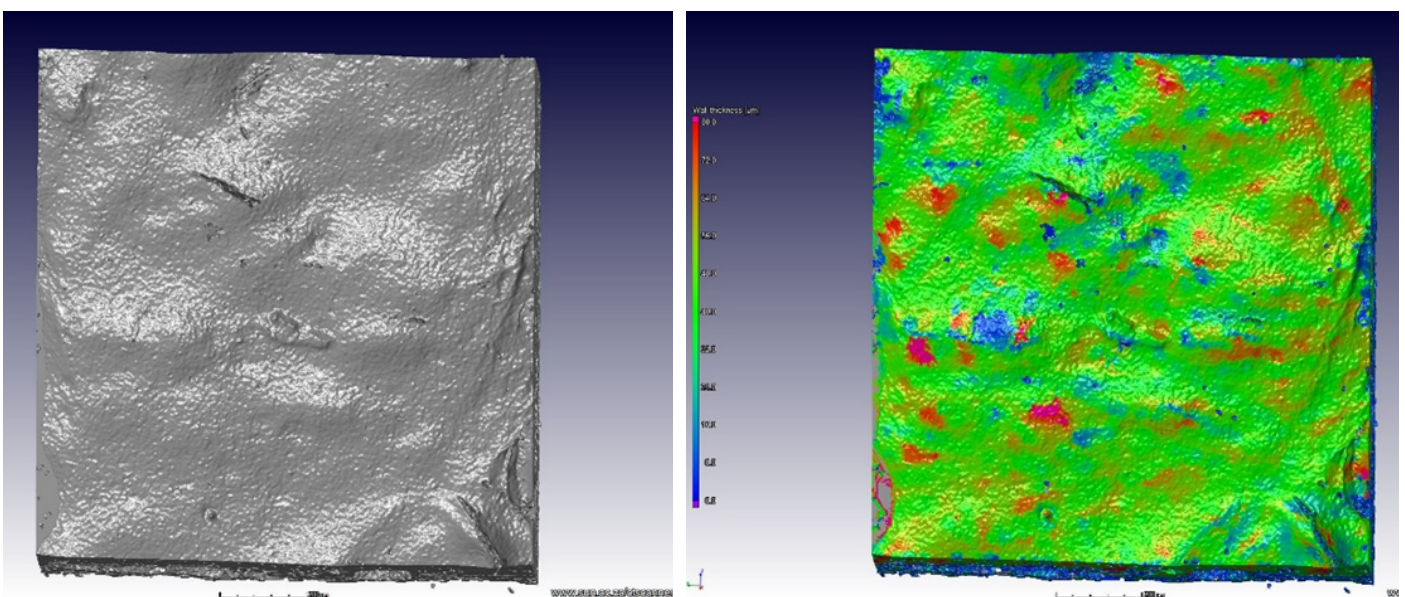


Figure 1: microCT view of a paint coating on carbon fibre mesh, sample here is 1 x 1 mm (cropped from 2 mm scan width)

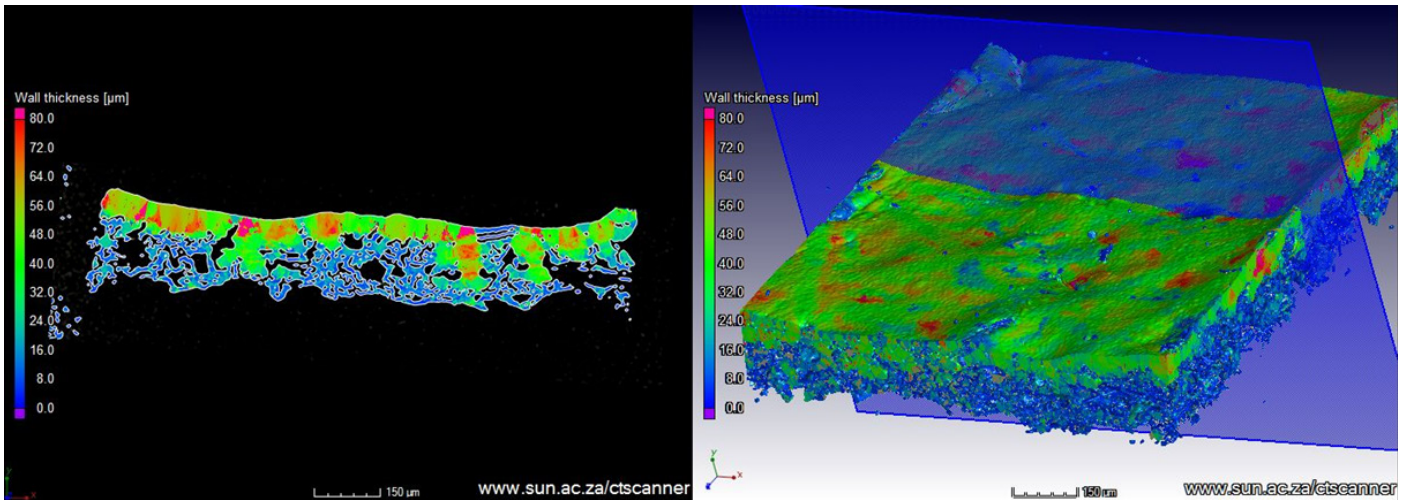


Figure 2: Side slice view of paint coating, with thickness colour map.

Limitations?

For this type of analysis, sample size for scanning must be <10 mm, ideally approx. 2mm.

How to go about it

Send your samples or bring it in. For a routine scan and basic analysis as above, we now (2017) charge R6100 per sample incl VAT. For >10 samples, 7% discount.

This includes images and a video of every sample, plus automated analysis report and STL file. Reduced rates for student research projects at South African universities. International rates US\$ 600 per sample.

Full data can also be provided at additional cost with free viewer software. We use Volume Graphics VGStudioMax 3.0, and myVGL viewer. For full processed data add R1500 per sample.

SAMPLE SHIPPING AND FORMAL QUOTES

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