

Introduction

This application note is about the non-destructive thickness measurements of paint on non-ferrous materials utilising the Alphagage+.

With the latest version of the Alphagage+ series in precision mode, the operator now has specific default setups for the measurement of coating thickness on metallic and plastic/composite substrates. The setups are stored in the Alphagage+ setup library (as seen in Figure1) and can be easily recalled for use with the appropriate transducer.

When selecting the correct setup, it is critical that the substrate material is known as an phase reversal of return signals can occur at the interface of the coating and material. For instance a paint on plastic setup will produce a positive initial signal, where a paint on metal setup will produce a negative initial signal, getting this setting incorrect can result in inaccurate results.

In the example used in this application note, the target inspection is to gauge the thickness of a coating layer on a composite substrate, the transducer used was a DLK525 5MHz probe with a 0.15" long delay line attachment.

The expected thickness range of the coating is 25.4 – 254 microns. For the inspection it is important that the probe and test sample are in a stable temperature environment for an accurate inspection.

Industries

- Automotive Industry

Application

- Corrosion / Thickness measurement

Typical Parts

- Painted metallic panels

Inspection Techniques

- Manual UT

Features and Benefits

- Cannot make measurement with conventional coating gages
- Can measure paint on many substrates like plastic, steel, aluminium, composites, wood, and concrete
- Easy to use
- Accurate measurements

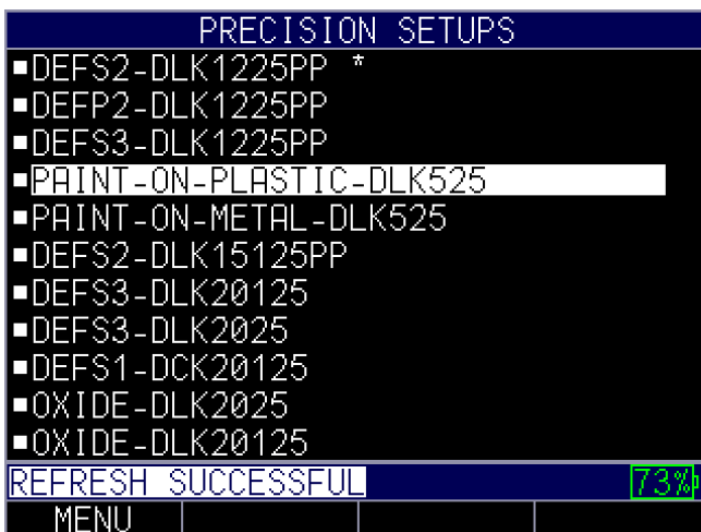


Figure 1 – Stored setup menu on the Alphagage+




Figure 2 – Paint inspection on metal



Figure 2 – coating thickness measurement on composite substrate

For further information or support, please contact the Sonatest Applications Team: applications@sonatest.com

Recommended Tool Package

Category	Part #	Description
Acquisition Unit	Alphagage+ Precision	

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