

# Industry Insights

*The Australasian Institute of Surface Finishing*

## Secretariat's message

To All AISF Members and Industry Stakeholders,

A new year often brings new challenges, however if you were to ask anyone on the street, I do not think they would say they are sad to see the end of 2020. However in the surface finishing industry, all of the applicators and suppliers I have had the pleasure to talk with have seen an increase of work flow as a result to importing issues from Covid-19. So there can be benefits to adversity.

In addition to the growth of manufacturing in Australia, we continue to see a renewed interest in the benefits of joining an industry leading membership institute such as the AISF. During 2020 we witnessed prospective changes to safe work practices and environmental changes which have the potential to greatly impact the ways we operate our businesses on a daily basis. Along with the relevant Australian Government agencies reaching out to the AISF for our input into managing these decisions.

2021 is already beginning to demonstrate the importance of having a industry lead institute with 16 of our guiding Australian Standards being reconfirmed and requiring review and further development of locating and working with a suitable registered training organisation to secure the future of training for our industry. We are also looking at additional ways the AISF can help evolve our industry and maintain the professional workmanship standards which proudly reflect the Australian way of manufacturing. All we can say on this is to continue to "watch this space" as our ideas begin to bloom.

We are always welcoming of members enquiries and their input to how we can make our institute work for and with you, so please feel free to reach out to me if you have any questions.

Kind regards

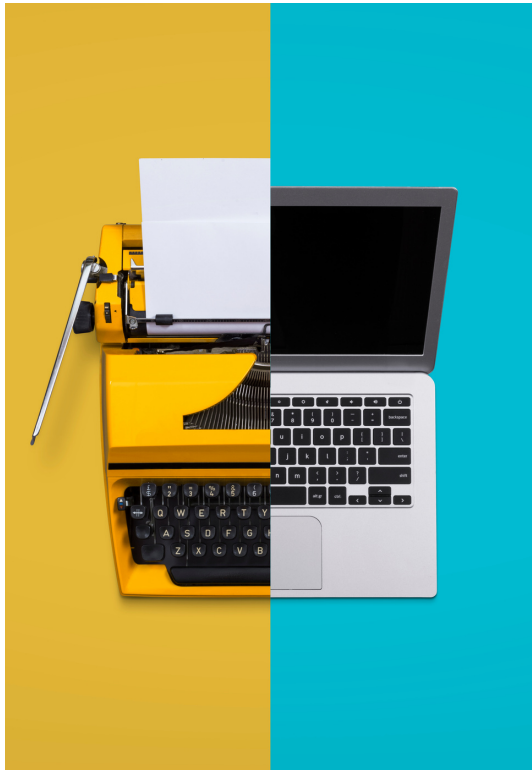
*N.Miles*

## AS4506 - METAL THERMOSET POWDER COATINGS

We would like to welcome the following members of the AISF for volunteering their time and expertise with helping us review and revitalise the AS4506 - Metal Thermoset Powder Coatings Australian Standard.

Our committee members are:

Mitch Connelly – Chair – Australian Chemicals & Coatings  
Blake Hayman – Precision Coating Services  
Robert Gianello – Planex  
Pankaj Varsani – Link Powder Coating  
Carl Williams – Dulux Powder Coatings  
Hooman Shokoohi – IMCD  
Paul Fallas – Vertikote  
Scott Barter – Oxytech  
Richard Hamber – Decorative Imaging  
Joe Doherty – Capital Precision Coating



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# 2021 TRAINING



## **VICTORIAN DATES**

Introduction to Powder Coating  
Wednesday 10th & Thursday 11th March 2021  
Wednesday 14th & Thursday 15th July 2021

## **NEW SOUTH WALES DATES**

Introduction to Powder Coating  
Wednesday 12th & Thursday 13th May 2021  
Wednesday 15th & Thursday 16th September 2021

## **QUEENSLAND DATES**

Introduction to Powder Coating  
We are looking at holding a course in Queensland.  
Please contact us today to register your interest.

## **ELECTROPLATING BASICS & CYANIDE TRAINING**

We are now able to offer individual training at your business  
for an hourly rate. Contact us today.

*Contact us today*

to register for training: [www.aisf.org.au](http://www.aisf.org.au)

## **NSW Golf day**

Friday 12th March 2021  
Georges River Golf Club

*Contact us today*

to register to attend: [www.aisf.org.au](http://www.aisf.org.au)



The AISF have been busy building a new website. Currently phase 1 has been released (our new basic website platform) and we will soon be launching phase 2 which will link our new website to a member centric CRM. The new CRM will also feed the member details into our new consumer website.

Have a look at our new website and let us know what you think.

[www.aisf.org.au](http://www.aisf.org.au)

## Collingwood property update

We are please to inform our members that we have now finalised settlement on the sale of our property in Collingwood, Victoria. During our last AGM the Directors of the AISF forwarded our members our Investment Policy which outlines our paramaters for the investment of these funds to enhance the education and continuance of our industry.



Please contact our Secretariat if you would like further information.

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## Worth doing, Worth Dulux.®

The Dulux Tech Advice Series provides information, hints, tips and links to further advice for key processes involved in the preparation, application and after care maintenance of powder coating projects.



This Tech Advice document describes and details the importance of measuring the dry film thickness of powder coatings whilst providing some basic advice and instruction for conducting the testing.

### What is dry film thickness (DFT)?

Dry film thickness (DFT) is the thickness of a coating as measured above the substrate. This can consist of a single layer or multiple layers. DFT measures the total (not the individual layers). DFT is measured on cured powder coatings at ambient temperature.

### Why measure dry film thickness?

Powder coatings are designed to perform their intended function when applied within a specified thickness range.

Achieving film thickness levels within the specification will ensure the coating meets:

- ✓ **The desired look:** colour, gloss and surface profile.
- ✓ **The requirements for performance:** Adhesion, flexibility, impact resistance and hardness of the coating etc.
- ✓ **Industry standards:** International standards for quality e.g. AAMA and AS3715.
- ✓ **Warranty requirements:** DFT specification is integral to gain a Dulux Alumi Shield or Steel Shield warranty.
- ✓ **Process control and efficiency targets:** Avoiding reworking product and customer returns due to finishing defects.

### How do you measure dry film thickness?

The most common way to measure powder dry film thickness is with the use of electronic DFT gauges. They are hand-held, easy-to-operate, and relatively low-cost. They employ magnetic, eddy current, or ultrasonic principles depending upon the coating substrate (metal).

For reasons of simplicity, versatility, accuracy, and record keeping, electronic DFT instruments are a popular choice for both large and small powder coating operations. They use a magnetic principle when measuring on steel and an eddy-current principle on the other metals, sometimes combined into one instrument. Measurement results are displayed on an easy-to-read liquid crystal display (LCD). A wide selection of probes are available to access unusual part shapes or to accurately measure very thin or very thick coating systems.

Make sure you obtain a model that lets you measure on the metals that you are coating – be aware some are limited to steel whilst others will measure steel and non-ferrous metals like aluminium, zinc copper and brass.

The units of measure are predominantly micro-meters ( $\mu\text{m}$ ). This is very small:  $1\ \mu\text{m} = 1/1000$  of a mm. A common range of DFT is  $50 - 100\ \mu\text{m}$  for powder coatings.

### Industry standards information

This technical advice document was developed in accordance with AS 3894.3 and SSPC-PA2.

	AS 3894.3	SSPC-PA 2
Standard Reference	Site testing of protective coatings - Determination of dry film thickness	Procedure for Determining Conformance to Dry Coating Thickness Requirements

Copies of the standards referenced in this document are available via Australian or New Zealand Standards websites.

[standards.org.au](http://standards.org.au)

[standards.govt.nz](http://standards.govt.nz)

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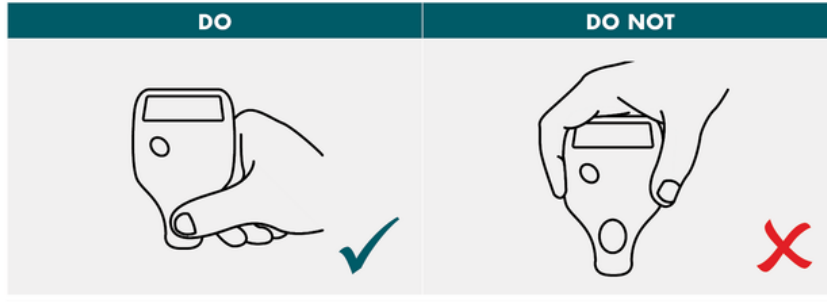


## Hints and tips for conducting dry film thickness testing

### How to hold the gauge for accurate readings

For best practice use the thumb and forefinger to hold the neck of the gauge. Apply the probe perpendicular to the coated surface and hold it in place while the measurement is taken. Lift away from the surface and repeat as per the required number of tests for the coated area (see below guidance).

If using a sliding probe, then ensure the probe settles perpendicular to the surface; and for best results, grip the sliding probe sleeve with your fingers low to the surface. Failure to do so may result in inaccurate readings.



### How many readings are required?

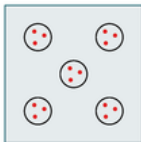
The number of readings is calculated by the total area of the powder coatings in accordance with AS 3894.3 & SSPC-PA2.

Total area of powder coating	Number of tests
<10m <sup>2</sup>	5 random spot measurements.
10–100m <sup>2</sup>	15 random spot measurements required.
>100m <sup>2</sup>	15 random spot checks plus 5 additional random spot checks per 100m <sup>2</sup> .

### Random spot measurement method

The example below illustrates an area of less than 10m<sup>2</sup> with a minimum of 3 DFT readings within 5 random spots.

The method involves spot measurements which are the average of three or at least three readings made within a 4cm diameter circle.



- Red dot = 1 individual reading.
- Each black circle = 1 spot measurement: The average of 3 individual readings within each 4cm diameter circle is calculated and recorded (SSPC-PA2).

## Application checklist

### Prior to conducting your testing, please ensure:

- ✓ You have the correct probes for measuring DFT on ferrous or non-ferrous substrates.
- ✓ The gauge has been calibrated and verified (with the supplier – typically annually).
- ✓ The probe tip is clean and in good condition.
- ✓ You have zero calibrated and calibrated using appropriate thickness shim?
- ✓ The coated surface to be measured is clean and free from debris.
- ✓ The temperature of the coated metal is ambient before taking measurement.
- ✓ The measurement is taken perpendicular to the surface.

Refer to the supplier manual of your DFT gauge for further information.

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