

# Sprayglass SG31

## Inspection Guidance



### Inspection of new Coatings

For the successful application of Sprayglass International materials a comprehensive inspection regime should be initiated and maintained.

### Surface Preparation

1. Determine that all weld spatter is removed, sharp edges are ground to the correct profile and any other mechanical works or welding have been completed prior to full grit blasting. (see Doc.Ref: SG20)
2. Verify acceptable ambient conditions prior to and during grit blasting. (See Doc. Ref: SG20)
3. Inspect completed grit blasting with regard to surface cleanliness, profile, dust and grit removal. (see Doc. Ref: SG20)

### Coating

1. Record batch numbers of coating materials at each application stage.
2. Ensure primer is applied within the required time scale.
3. Visually inspect primer coat to ensure even application lack of sags, runs and misses.
4. During application of lining systems, the use of a wet film gauge is advised to ensure uniformity of application (see System Application Sheet).
5. After completion of the first and or intermediate coat of the lining material a DFT check should be made in conjunction with a visual inspection. Check for sags, runs, and misses (see System Application Sheet).
6. After completion of the lining, carry out a full and final inspection based on the DFT's surface finish, sags, runs, holiday detection and Barcol hardness.

**Any other inspection required by the specification should be carried out in conjunction with the foregoing.**

**Should the specification require destructive testing i.e. adhesive pull off test, a sample plate coated in tandem with the main lining is recommended.**

### Inspection of in-service coatings

Inspection of in-service coatings can be carried out as follows:

#### Visual

Inspect the coating checking for areas of damage caused by mechanical action, erosion, corrosion or abrasion. It is good practise to concentrate attention on areas subject to high flow rates, particularly if sand or abrasive matter is present, e.g. nozzles and weirs. To assist in the preliminary visual inspection, it is convenient to combine an elementary adhesion test by tapping the coating with a solid blunt implement. A sharp ringing tone indicates good adhesion, a dull hollow sound indicates an area of poor adhesion and merits further investigation.

#### DFT

Thickness checks should be made with an electronic meter. An average of 3 readings / M<sup>2</sup> is appropriate with increased frequency at areas subject to abrasion or erosion. A magnetic thickness gauge of the banana type Elcometer inspector or similar is acceptable, but much slower.

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### Hardness

Readings may be taken with a Barcol Colman Impressor. This is a semi destructive test and it is prudent to minimise the number of readings taken. Fully cured new Glass Flake coatings exhibit Barcol hardness values of 30-40, however, in service coatings may show a value as low as 15-20 but should provide satisfactory service for several more years.

### Spark Testing

Sprayglass International Ltd Glass Flake coating system when new and fully cured can be safely spark tested with a DC Holiday Elcometer model 105 or similar @ 1KV DC per 250 microns of coating thickness. However, spark testing on in-service coatings is not generally as reliable a method of inspection for the following reasons:

1. The micron surface of the coating is often contaminated with minerals salts or other conductive products.
2. The micro surface of the coating is often moist either from permeation by water during process use or during the pre-inspection cleaning.

Both factors allow tracking of sparks or electrical haze effects which can give spurious results. Great care should be taken to evaluate in combination with the findings of the other tests to avoid condemning a coating capable of giving further satisfactory service.

Spark test equipment



Barcol hardness tester



Wet Film Gauge

