

## Paint Testing - Muralplast MSP Satin

For

S Lucas Ltd

### Final Report

Work Carried Out By

J. Gadd

T. Glazier

Group Leader

**Peter Collins**





### Final Report

PRA Ref. Number 09-186e  
Date Received 16 November 2009  
Date Issued 08 February 2010  
Client S Lucas Ltd  
Oak Court  
67 Bethel Road  
Sevenoaks  
Kent  
TN13 3UE  
FAO: D Lucas

Work Requested Paint Testing - Muralplast MSP Satin

Samples Submitted Coated Panels and Liquid Paint Sample

Work Carried out by  .....

J. Gadd, T. Glazier

Approved by  .....

J. Bourne, P. Collins, T. Glazier

Authorised Signatory

## **1 Materials Submitted For Testing**

Galvanised steel panels coated with Muralplast MSP Satin as follows.

3 off 150 x 75mm

2 off 150 x 100mm

Glasroc building board panels coated with Muralplast MSP Satin as follows

9 off 885 x 267 x 13mm thick

5 off 225 x 225 x 13 mm thick

250 ml of Muralplast MSP Satin liquid paint.

## **2 Test Procedure**

### **2.1 Scrub Resistance**

The liquid paint was applied to a black plastic panel and aged for 28 days at before testing the scrub resistance in accordance with BS EN ISO 11998. The weight loss in g/m<sup>2</sup> after 200 scrub cycles was determined and used to calculate the loss in film thickness. The loss in film thickness was then used to classify the coating in accordance with EN 13300

### **2.2 Pull Off Adhesion**

A pull off adhesion testing in accordance with BS EN ISO 4624 was carried out on the 150 x 100mm galvanised panels.

### **2.3 Bend Test**

A conical mandrel bend test for flexibility was carried out in accordance with BS EN ISO 6860 after the QUV weathering test.

### **2.4 QUV Weathering**

The samples were exposed to 1000 hours artificial weathering in accordance with BS EN ISO 11507 in a QUV weatherometer using UVA340 lamps and operating a continuously cycling test program of 4 hours UV at 60°C and 4 hours condensation at 50°C. Colour measurements in accordance with BS ISO 7724-2 and 60° gloss measurements in accordance with BS EN ISO 2813 were carried out before and after the test. The total colour change as a result of the weathering was expressed in delta E units.

### **2.5 Surface Spread of Flame and Fire Propagation Testing**

The coated Glasroc panels were sent to an associated laboratory (Exova Warringtonfire) for testing in accordance with BS 476 Part 7 - Surface Spread of Flame and BS 476 Part 6 - Fire Propagation Index to demonstrate compliance with Class 0.

### 3 Results and Observations

#### 3.1 Scrub Resistance

Muralplast MSP Satin		
Weight Loss After 200 Scrub Cycles (g/m <sup>2</sup> )	Film Thickness Loss (µm)	EN 13300 Class
2.0	1.2	1

#### 3.2 Pull Off Adhesion

Muralplast MSP Satin		
Test	Pull Off Strength (MPa)	Failure Mode
1	5.327	30% adhesive coating/substrate, 70% cohesive in coating layer.
2	5.149	50% adhesive coating/substrate, 50% cohesive in coating layer.
3	5.223	85% adhesive coating/substrate, 15% cohesive in coating layer.
4	4.927	50% adhesive coating/substrate, 50% cohesive in coating layer.
5	4.721	50% adhesive coating/substrate, 50% cohesive in coating layer.
6	4.339	60% adhesive coating/substrate, 40% cohesive in coating layer.

#### 3.3 Bend Test

Muralplast MSP Satin	
Test	Extent of Cracking
After QUV weathering	No cracking observed

### 3.4 QUV Weathering

Muralplast MSP Satin			
Sample	Exposure (hrs)	60° Gloss	Visual Assessment After Test
1	0	20.3	Slight loss of gloss
	1000	8.9	
2	0	21.4	Slight loss of gloss
	1000	9.1	
3	0	19.9	Slight loss of gloss
	1000	8.2	

Muralplast MSP Satin – Colour Change on Weathering					
Sample	Exposure (hrs)	L	a	b	Total Colour Change (Delta E)
1	0	95.226	-1.042	0.579	
	1000	94.922	-1.056	1.554	1.021
2	0	94.665	-1.085	0.249	
	1000	94.525	-1.043	0.255	0.146
3	0	94.931	-1.081	0.374	
	1000	94.218	-1.198	1.354	1.218

### 3.5 Surface Spread of Flame and Fire Propagation Tests

Test	BS 476 Part 7 Surface Spread of Flame	BS 476 Part Fire Propagation
Muralplast MSP Matt	Class 1	First Index - 3.0 Second Index – 0.6 Third Index – 0.2 Total Index Performance -3.8
Exova Warringtonfire Report Number*	189312	189308
The product complies with the requirements of Class 0		

\*The product is referred to in these documents as Bedec MSP Satin

## 4 Conclusions

The product has very good scrub resistance.

The colour and gloss changes are moderately low and the product remains flexible after 1000 hours QUV weathering.

The product has very good adhesion to galvanized surfaces

The product meets the requirements of Class 0 (limited combustibility) as defined by the Building Regulations Approved Document B:

*End of Report*

TJG.



[www.pra-world.com/technical](http://www.pra-world.com/technical)

PRA Coatings Technology Centre, 14 Castle Mews, High Street, Hampton, Middlesex, TW12 2NP, UK  
T: +44 (0)20 8487 0800 F: +44 (0)20 8487 0801 E: [coatings@pra-world.com](mailto:coatings@pra-world.com)