

Paint Testing - Muralplast MSP Gloss

For

S Lucas Ltd

Final Report

Work Carried Out By

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PRA Ref: 09-186d

08 February 2010

Global Surface Coatings Covered

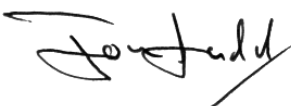


Final Report


PRA Ref. Number 09-186d
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Client S Lucas Ltd
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Work Requested Paint Testing - Muralplast MSP Gloss

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

I Materials Submitted For Testing

Galvanised steel panels coated with Muralplast MSP Gloss as follows.

3 off 150 x 75mm

2 off 150 x 100mm

Glasroc building board panels coated with Muralplast MSP Gloss as follows

9 off 885 x 267 x 13mm thick

5 off 225 x 225 x 13 mm thick

250 ml of Muralplast MSP Gloss liquid paint.

Note that the product is also known as Bedec MSP Gloss.

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/m² 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 Gloss		
Weight Loss After 200 Scrub Cycles (g/m ²)	Film Thickness Loss (µm)	EN 13300 Class
1.1	0.7	1

3.2 Pull Off Adhesion

Muralplast MSP Gloss		
Test	Pull Off Strength (MPa)	Failure Mode
1	2.879	100% adhesive coating/substrate.
2	6.058	50% adhesive coating/substrate, 50% cohesive in coating layer.
3	2.480	95% adhesive coating/substrate, 5% cohesive in coating layer.
4	5.520	50% adhesive coating/substrate, 50% cohesive in coating layer.
5	6.457	70% adhesive coating/substrate, 30% cohesive in coating layer.
6	5.386	80% adhesive coating/substrate, 20% cohesive in coating layer.

3.3 Bend Test

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

3.4 QUV Weathering

Muralplast MSP Gloss			
Sample	Exposure (hrs)	60° Gloss	Visual Assessment After Test
1	0	58.6	Loss of gloss
	1000	18.5	
2	0	50.0	Loss of gloss
	1000	19.4	
3	0	64.8	Loss of gloss
	1000	25.6	

Muralplast MSP Gloss – Colour Change on Weathering					
Sample	Exposure (hrs)	L	a	b	Total Colour Change (Delta E)
1	0	95.460	-1.030	0.343	
	1000	95.046	-1.007	0.243	0.426
2	0	94.311	-1.164	-0.308	
	1000	94.058	-1.141	-0.420	0.278
3	0	95.282	-1.058	0.248	
	1000	95.008	-1.040	0.315	0.283

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 Gloss	Class 1	First Index - 2.3 Second Index – 0.7 Third Index – 0.1 Total Index Performance -3.1
Exova Warringtonfire Report Number*	189310	189309
The product complies with the requirements of Class 0		

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

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 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



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