

# Technical Report



Paint Testing - Lucas Finish Ultimate - Gloss

For

Lucas UK Group Ltd

Work Carried Out By

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Group Leader

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PRA Ref: 09-186f

19 October 2017

Global Surface Coatings Covered

## Analysis Report

**PRA Ref. Number** 09-186f

**Date Received** 16 November 2009

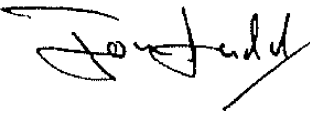
**Date Issued** 19 October 2017


**Client** Lucas UK Group Ltd  
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FAO: D.Lucas

**Work Requested** Paint Testing – Lucas Finish Ultimate -  
Gloss

**Samples Submitted** Coated Panels and Liquid Paint  
Sample

**Work Carried out by**   
.....  
J.Gadd

**Approved by**   
.....  
D.Corrigan  
Authorised Signatory

## 1 Materials Submitted For Testing

Galvanised steel panels coated with Lucas Finish Ultimate – Gloss as follows.

3 off 150 x 75mm  
2 off 150 x 100mm

Glasroc building board panels coated with Lucas Finish Ultimate – Gloss as follows

9 off 885 x 267 x 13mm thick  
5 off 225 x 225 x 13 mm thick

250 ml of Lucas Finish Ultimate – Gloss 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

Lucas Finish Ultimate – Gloss		
Weight Loss After 200 Scrub Cycles (g/m <sup>2</sup> )	Film Thickness Loss (µm)	EN 13300 Class
1.1	0.7	1

### 3.2 Pull Off Adhesion

Lucas Finish Ultimate – 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

Lucas Finish Ultimate – Gloss	
Test	Extent of Cracking
After QUV weathering	No cracking observed

### 3.4 QUV Weathering

Lucas Finish Ultimate – 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	

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

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

Test	BS 476 Part 7 Surface Spread of Flame	BS 476 Part Fire Propagation
Lucas Finish Ultimate – 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		

## 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.*