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RESEARCH LABORATORY REPORT

Report No RLR.372

Date 31 December 2007

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5 Drumhead Road
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Subject **TESTING OF ROAD MARKING PAINTS**
TO BS EN 1871:2000

Results reported herein relate solely to the sample examined and are not necessarily representative of a larger sample. The sample reported herein was not collected or identified by ourselves

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Expert Witness

*Failure
Investigation*

*Raw Material &
Finished Product
Evaluation*

*Specification
Testing*

Analysis

1. Introduction

1.1 An unopened sample of white paint was received on 23 August 2007 under your Purchase Order 001324 dated 21 August 2007 under our reference C.27609/1, described as follows:

C.27609/1 Ennis Paint WB1/WB2, batch N73W151, Mar 07, 25kg

1.2 Testing was required against the following clauses of BS EN 1871:2000 -

Clause 4.1.1	chromaticity and luminance
Clause 4.1.2	hiding power
Clause 4.1.4.3	UVB ageing
Clause 4.1.5	bleed resistance
Clause 4.1.6	alkali resistance

1.3 The results are given in Section 2 below.

2. Tests and results (25 November - 20 December 2007)

2.1 Application rates

The white paint was applied at 300 microns wet for Clauses 4.1.2 and 4.1.5, and 300 microns wet for Clauses 4.1.1, 4.1.4.3 and 4.1.6.

2.2 Clause 4.1.1 Chromaticity and luminance

	<u>Result</u>	<u>Specification requirement</u>				
Luminance factor, β						
White	0.87	LF5 \geq 0.75				
		LF6 \geq 0.80				
		LF7 \geq 0.85				
Chromaticity co-ordinates		<u>Corner point number</u>				
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
White	x	0.318	0.355	0.305	0.285	0.335
	y	0.336	0.355	0.305	0.325	0.375

2.3 Clause 4.1.2 Hiding power

	<u>Result</u>	<u>Specification requirement</u>
White	98%	not less than 95%

2.4 Clause 4.1.4.3 UVB ageing (168 hours)

	<u>Result</u>	<u>Specification requirement</u>
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Difference in luminance factor, β

White	0.02	UV0 no requirement UV1 \leq 0.05
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Chromaticity co-ordinates

			<u>Corner point number</u>			
			<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
White	x	0.322	0.355	0.305	0.285	0.335
	y	0.339	0.355	0.305	0.325	0.375

2.5 Clause 4.1.5 Bleed resistance

	<u>Result</u>	<u>Specification requirement</u>
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Difference in luminance factor, β

White	0.02	BR0 no requirement BR1 \leq 0.03 BR2 \leq 0.05
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Chromaticity co-ordinates

			<u>Corner point number</u>			
			<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
White	x	0.318	0.355	0.305	0.285	0.335
	y	0.336	0.355	0.305	0.325	0.375

2.6 Clause 4.1.6 Alkali resistance

	<u>Result</u>	<u>Specification requirement</u>
Colouration of test solution	none	no deterioration of the paint surface
Pigment disturbance after stirring	none	
Partial or complete film destruction	none	
Surface roughening	none	
Paint film discolouration	none	
Effect of brushing the test zone	none	

3. Conclusions

- 3.1 The sample of Ennis Paint WB1/WB2 white, that was submitted satisfied the requirements of clause 4.1.1 Chromaticity and luminance (LF7), clause 4.1.2 Hiding power, clause 4.1.4.3 UVB ageing (UV1), clause 4.1.5 Bleed resistance (BR1) and clause 4.1.6 alkali resistance.

Report prepared by Dr C J Chatfield, Managing Director
on behalf of Chatfield Applied Research Laboratories Ltd

Report authorised by



J C Meekins
Deputy Quality Manager
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