



Report No. 4RS-NK-150594-R499701

**SLIP RESISTANCE ASSESSMENT OF ONE FLOOR SAMPLE
“HEAVY DUTY ELASTOMERIC FLOOR COATING”,
SUPPLIED BY FLAG PAINTS LIMITED.**

Prepared for: *Martin Noon
Flag Paints Limited,
8 Springfield Road,
Springfield Industrial Estate,
Burnham-on-Crouch,
Essex,
CMO 8UA*

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Prepared by: *N. Kwarteng-Ababio
Material Technologist*

Signature: 

Certified by: *S. Finch
Senior Consultant*

Signature: 

THE OPINIONS AND INTERPRETATIONS EXPRESSED HEREIN ARE OUTSIDE THE
SCOPE OF THE UKAS ACCREDITATION

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REQUESTS FOR ADDITIONAL INFORMATION ON THE SUBJECT OF THIS REPORT OR OTHER QUERIES SHOULD BE ADDRESSED TO THE AUTHOR.

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1. Introduction

4-RAIL Services Limited was requested by Mr. Martin Noon of Flag Paints Limited to carry out a slip resistance assessment of one floor paint sample.

A brief description of the sample received on 25th August 2015 is given below:

SAMPLE REF	DESCRIPTION	APPROX SIZE / mm
150594/250815/1	Paint applied to wooden substrate; client reference: 'Heavy Duty Elastomeric Floor Coating' Grey	300 x 300

2. Test Methods

Slip resistance and surface roughness (Rz) was measured in accordance with 4-RAIL Services Limited Test Procedure 4R-M125, which is based on the guidelines recommended by the UK Slip Resistance Group in the booklet 'The Measurement of Floor Slip Resistance' and BS-7976.

Slip resistance was measured with a portable slip tester designed by the Transport Research Laboratory (TRL). Testing was carried out under both dry and wet conditions, using the standard slider 96 (previously known as 4S) contact rubber as specified by the Rubber and Plastics Research Association.

The sample was slip tested in three directions; along a defined principal axis and at 90° and 45° to the principal axis. Each individual test comprised testing of the flooring material eight times under both dry and wet conditions, with the first three readings being discarded and an average calculated from the last five.

Surface Roughness Measurements were taken using a Surtronic 10. Ten readings were taken in random locations on the surface of the test piece and the average calculated.

3. Results

3.1 Slip Resistance

Slip Resistance measurements were made on the samples on 14th September 2015

The sample was tested under the following environmental conditions:

Air Temperature: 19.8 °C
Floor Temperature: 20.9 °C
Humidity: 51 %RH

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SAMPLE NUMBER	TEST DIRECTION	TEST CONDITION	SLIP RESISTANCE VALUES	AVERAGE VALUE	OVERALL AVERAGE
150594/ 250815/1	Principal Axis	Dry	70 70 70 70 69	70	Dry: 69 Wet: 63
		Wet	65 64 64 64 64	64	
	90° to Principal Axis	Dry	69 69 69 69 69	69	
		Wet	64 63 63 63 63	63	
	45° to Principal Axis	Dry	70 70 69 69 69	69	
		Wet	63 63 63 63 63	63	

The average Rz value of the sample (150594/250815/1) was determined to be 26,0µm

4. Comments

The criteria generally accepted in the U.K. are given in the ‘Guidelines Recommended by the UK Slip Resistance Group’. However, it should be noted that no single piece of information can be used to assess a floor’s potential for slip. A brief summary is given below:

<u>4S Pendulum Value</u>	<u>Potential for Slip</u>
24 and below	High
25 to 35	Moderate
36 and above	Low

The criteria applies under both **dry** and **wet** conditions. Only flooring in the “Low” categories are deemed acceptable for general pedestrian use.

<u>Rz Surface Roughness</u>	<u>Potential for Slip</u>
Below 10	High
Between 10 and 20	Moderate
Above 20	Low

The surface roughness values are applicable for water wet low activity pedestrian areas. Generally surfaces contaminated with pure water require a surface roughness of at least 10µm Rz to provide a reasonable level of slip resistance.

Based on these guidelines the average slip resistance values achieved by the floor sample with “Heavy Duty Elastomeric Floor Coating” under dry and wet test conditions fell within the low potential for slip classification.

Results are presented for final comments from Flag Paints Limited and the ultimate client.