



Shirley  
Technologies  
Limited

Shirley Technologies Limited  
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30 July 2014

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Our Ref: 37181/STL/IGS  
Your Ref: P/Order No. M49574

Camira Fabrics Ltd  
Meltham Mills  
Meltham  
West Yorkshire  
HD9 4AY  
FAO David Brook

Dear David,

Please find enclosed our four Confidential Test Report No. 37181 on "Colour Fastness Testing of Fabrics".

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ian Strudwick'.

Ian Strudwick  
Technical Manager



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Wira House, West Park Ring Road, Leeds, LS16 6QL.  
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Our laboratories are accredited to EN ISO/IEC 17025



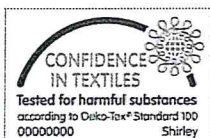
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## Confidential Report

**Our Ref: 37181/STL/IGS**



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**Our Ref:** 37181/STL/IGS  
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**Client:** Camira Fabrics Ltd

**Address:** Camira Fabrics Ltd  
Meltham Mills  
Meltham  
West Yorkshire  
HD9 4AY  
FAO David Brook

**Job Title:** Colour Fastness Testing of Fabric Samples

**Client's Order Ref:** P/Order No. M49574

**Date of Receipt:** 23 July 2014

**Description of Sample(s):** Sample of fabrics with references as follows:

"Vita" fabrics,  
• Avocado  
• Espresso  
• Rust

"Folio" fabrics,  
• Crown  
• Guineu  
• Farthing

**Work Requested:** Colour fastness to chlorinated water (50mg/l) and to sulphur staining



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**Client:** Camira Fabrics Ltd

### LABORATORY TESTING AND RESULTS

#### Coated Fabrics – Determination of Sulphur Staining (BS3424: Part 19: 1989: Method 22A)

A sample of the fabric is immersed in acidified sodium sulphide solution for 30 minutes, after which the colour change of both sides of the sample is assessed both immediately and after 24 hours reconditioning. After drying the level of colour change is assessed in accordance with BSEN20103 A02.

Assessments of colour change are made in accordance with the 9-step grey scales described in BSEN20105:A02, which range from a rating of 5 indicating no change to a rating of 1 indicating severe change. The fastness rating of the specimen is that number of the grey scale which has a perceived colour difference nearest in magnitude to the perceived colour difference between the original piece and the tested specimen, when viewed under specified assessment conditions.

	<u>Face side (fabric)</u>		<u>Reverse side</u>	
	<u>Immediately</u>	<u>After 24 hours</u>	<u>Immediately</u>	<u>After 24 hours</u>
"Vita" - Avocado	5	5	4-5 <sup>(1)</sup>	4-5
"Vita" – Espresso	5	5	4-5 <sup>(1)</sup>	4-5
"Vita" – Rust	5	5	4-5 <sup>(1)</sup>	4-5
"Folio" - Crown	5	5	4-5 <sup>(1)</sup>	4-5
"Folio" – Guineu	5	5	4-5 <sup>(1)</sup>	4-5
"Folio" - Farthing	5	5	4-5 <sup>(1)</sup>	4-5

<sup>(1)</sup> the perceived colour change was determined to be actually due to the fabric absorbing the test liquid



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**Client:** Camira Fabrics Ltd

**Colour Fastness to Chlorinated Water** (BSENISO105 E03:2010)

A sample of fabric is placed into a pot along with a solution containing 50mg/litre of active chlorine, at a liquor ratio of 40:1, and rotated on a standard washwheel at  $(27 \pm 2)^{\circ}\text{C}$  for 60 minutes. On completion the fabric is squeezed and allowed to dry away from direct light. After drying the level of colour change is assessed in accordance with BSEN20103 A02.

Assessments of colour change are made in accordance with the 9-step grey scales described in BSEN20105:A02, which range from a rating of 5 indicating no change to a rating of 1 indicating severe change. The fastness rating of the specimen is that number of the grey scale which has a perceived colour difference nearest in magnitude to the perceived colour difference between the original piece and the tested specimen, when viewed under specified assessment conditions.

	<u>Face side (fabric)</u>
"Vita" - Avocado	5
"Vita" - Espresso	5
"Vita" - Rust	5
"Folio" - Crown	5
"Folio" - Guineu	5
"Folio" - Farthing	5

STL would note that, whilst not required by the test method, all test pieces exhibited a notably lighter colour on their reverse, due to the action of the active chlorine on the fabric backing.

Reported by:

Ian Strudwick  
Technical Manager

Countersigned by:

John Buckley  
Principal Analyst

Enquiries concerning this report should be addressed to Customer Services.



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