

## TEST REPORT

|                      |                       |                    |            |
|----------------------|-----------------------|--------------------|------------|
| <b>Report Ref.</b>   | LEI19014658A Original |                    |            |
| <b>Date Received</b> | 25/01/2019            | <b>Date Issued</b> | 31/01/2019 |

|                                   |  |
|-----------------------------------|--|
| <b>Company Name &amp; Address</b> | Fashion Formula Ltd<br>Drakeglen House, 35-36 Disraeli Rd<br>London, NW10 7AX<br>GBR |
| <b>Contact Name</b>               | Alexander Wills  |

|                                 |                     |
|---------------------------------|---------------------|
| <b>Colour</b>                   | Printed             |
| <b>Quality</b>                  | Calico Cotton Plain |
| <b>Supplier</b>                 | Fashion Formula     |
| <b>Quoted Fibre Composition</b> | 100% Cotton         |
| <b>Retailer</b>                 | General             |

| Test                                    | Method  | Sample                          | Result      |
|---|---|---------------------------------|-------------|
| Colour Fastness to Machine Washing      | BS EN ISO 105 C06: 2010                           | All colours                     | See Results |
| Colour Fastness to Machine Washing      | BS EN ISO 105 C06: 2010                           | All colours                     | See Results |
| Colour Fastness to Dry Cleaning         | BS EN ISO 105 D01: 2010                           | All colours                     | See Results |
| Colour Fastness to Water                | BS EN ISO 105 E01: 2013                           | Black / Lilac / Purple          | See Results |
| Colour Fastness to Rubbing - Dry        | BS EN ISO 105 X12: 2016                           |                                 | See Results |
| Colour Fastness to Rubbing - Wet        | BS EN ISO 105 X12: 2016                           | All colours                     | See Results |
| Martindale Abrasion Resistance - 12 kPa | BS EN 14465: 2003 Annex A/BS EN ISO 12947-2: 1999 |                                 | See Results |
| Colour Fastness to Water                | BS EN ISO 105 E01: 2013                           | Light Green / Grey / Light Blue | See Results |
| Colour Fastness to Water                | BS EN ISO 105 E01: 2013                           | Red / Orange / Ivory            | See Results |
| Colour Fastness to Water                | BS EN ISO 105 E01: 2013                           | Pink / Cream / Green            | See Results |
| Colour Fastness to Rubbing - Dry        | BS EN ISO 105 X12: 2016                           |                                 | See Results |

Tests marked (^) in this report have been performed by an approved 3rd party laboratory.  
Tests marked (\*) in this report are not included in our UKAS scope of accreditation.

Please Note: The Colour Fastness to Washing test carried out at 30°C falls outside the scope of BS EN ISO 105 C06.  
Please Note: The Toxicity test will follow on report number LEI19014664A once completed.  
Please Note: The Formaldehyde will follow on report number LEI19014661A once completed.



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Jessica Richardson  
(Jobsheet Technician)

**Colour Fastness to Machine Washing BS EN ISO 105 C06: 2010**

**Conditioning Parameters: 20°C±2°C & 65% rH±4% rH**

**Sample: All colours**

|   | Result                        | Change Performance Level | Stain Performance Level |
|---|-------------------------------|--------------------------|-------------------------|
| A2S@40°C  |                               |                          |                         |
| Colour Change   | 4-5                           |                          |                         |
|   |                               |                          |                         |
|   |                               |                          |                         |
|   |                               |                          |                         |
| Colour Staining   |                               |                          |                         |
| Acetate   | 4 - 5                         |                          |                         |
| Cotton  | 5                             |                          |                         |
| Nylon   | 4 - 5                         |                          |                         |
| Polyester   | 5                             |                          |                         |
| Acrylic   | 5                             |                          |                         |
| Wool  | 4 - 5                         |                          |                         |
|   |                               |                          |                         |
| Performance level Change  | A                             |                          |                         |
| Performance level Stain   | A                             |                          |                         |
| Overall performance level   | A                             |                          |                         |
|   |                               |                          |                         |
| BS 2543: 2004 Classification<br>(Minimum levels for customer reference) |                               |                          |                         |
|   | Change                        | Stain                    |                         |
| Light Domestic  | N/A                           | N/A                      |                         |
| General Domestic  | N/A                           | N/A                      |                         |
| Heavy Domestic  | N/A                           | N/A                      |                         |
| General Contract  | N/A                           | N/A                      |                         |
| Severe Contract   | N/A                           | N/A                      |                         |
| Number of Steel Balls   | 10                            |                          |                         |
| Detergent Used  | ECE Detergent with Phosphates |                          |                         |
| Souring Treatment in Acetic Acid Reagent Performed                      | No                            |                          |                         |

Overall Test Result: See Results

Uncertainty: 1/2 grade

**Colour Fastness to Machine Washing BS EN ISO 105 C06: 2010**

**Conditioning Parameters: 20°C±2°C & 65% rH±4% rH**

**Sample: All colours**

|   | Result                        | Change Performance Level | Stain Performance Level |
|---|-------------------------------|--------------------------|-------------------------|
| 30°C (Modified)   |                               |                          |                         |
| Colour Change   | 4-5                           |                          |                         |
|   |                               |                          |                         |
|   |                               |                          |                         |
|   |                               |                          |                         |
| Colour Staining   |                               |                          |                         |
| Acetate   | 4 - 5                         |                          |                         |
| Cotton  | 5                             |                          |                         |
| Nylon   | 4 - 5                         |                          |                         |
| Polyester   | 5                             |                          |                         |
| Acrylic   | 5                             |                          |                         |
| Wool  | 4 - 5                         |                          |                         |
|   |                               |                          |                         |
| Performance level Change  | A                             |                          |                         |
| Performance level Stain   | A                             |                          |                         |
| Overall performance level   | A                             |                          |                         |
|   |                               |                          |                         |
| BS 2543: 2004 Classification<br>(Minimum levels for customer reference) |                               |                          |                         |
|   | Change                        | Stain                    |                         |
| Light Domestic  | N/A                           | N/A                      |                         |
| General Domestic  | N/A                           | N/A                      |                         |
| Heavy Domestic  | N/A                           | N/A                      |                         |
| General Contract  | N/A                           | N/A                      |                         |
| Severe Contract   | N/A                           | N/A                      |                         |
| Number of Steel Balls   | 0                             |                          |                         |
| Detergent Used  | ECE Detergent with Phosphates |                          |                         |
| Souring Treatment in Acetic Acid Reagent Performed                      | No                            |                          |                         |

Overall Test Result: See Results

Uncertainty: 1/2 grade

**Colour Fastness to Dry Cleaning BS EN ISO 105 D01: 2010**

**Conditioning Parameters: 20°C±2°C & 65% rH±4% rH**

**Sample: All colours**

|  | <b>Result</b> | <b>Performance Level</b> |
|--|---------------|--------------------------|
| Colour Change  | 4-5           | A = 4-5                  |
|  |               | B = 4                    |
|  |               |                          |
| Colour Staining (Information only)                                   |               |                          |
| Acetate  | 4 - 5         |                          |
| Cotton   | 5             |                          |
| Nylon  | 4 - 5         |                          |
| Polyester  | 5             |                          |
| Acrylic  | 5             |                          |
| Wool   | 4 - 5         |                          |
|  |               |                          |
| Overall performance level  | A             |                          |
|  |               |                          |
| BS 2543: 2004 Classification (Minimum levels for customer reference) |               |                          |
|  | Change        | Stain                    |
| Light Domestic   | N/A           | N/A                      |
| General Domestic   | N/A           | N/A                      |
| Heavy Domestic   | N/A           | N/A                      |
| General Contract   | N/A           | N/A                      |
| Severe Contract  | N/A           | N/A                      |

Overall Test Result: See Results

Uncertainty: 1/2 grade

**Colour Fastness to Water BS EN ISO 105 E01: 2013**

**Sample: Black / Lilac / Purple**

|   | Result | Change Performance Level | Stain Performance Level |
|---|--------|--------------------------|-------------------------|
| Colour Change   | 4-5    |                          | A = 4 Change/3-4 Stain  |
|   |        |                          | B = 3-4 Change/3 Stain  |
|   |        |                          |                         |
|   |        |                          |                         |
| Colour Staining   |        |                          |                         |
| Acetate   | 4 - 5  |                          |                         |
| Cotton  | 5      |                          |                         |
| Nylon   | 4 - 5  |                          |                         |
| Polyester   | 5      |                          |                         |
| Acrylic   | 5      |                          |                         |
| Wool  | 4 - 5  |                          |                         |
|   |        |                          |                         |
| Performance level Change  | A      |                          |                         |
| Performance level Stain   | A      |                          |                         |
| Overall performance level   | A      |                          |                         |
|   |        |                          |                         |
| BS 2543: 2004 Classification<br>(Minimum levels for customer reference) |        |                          |                         |
|   | Change | Stain                    |                         |
| Light Domestic  | A = 4  | A = 3-4                  |                         |
| General Domestic  | A = 4  | A = 3-4                  |                         |
| Heavy Domestic  | A = 4  | A = 3-4                  |                         |
| General Contract  | A = 4  | A = 3-4                  |                         |
| Severe Contract   | A = 4  | A = 3-4                  |                         |

Overall Test Result: See Results

Uncertainty: 1/2 grade

**Colour Fastness to Rubbing - Dry BS EN ISO 105 X12: 2016**  
**Conditioning Parameters: 20°C±2°C & 65% rH±4% rH**

|  | <b>Warp staining</b>   | <b>Weft staining</b>                                | <b>Performance Level</b> |
|--|--|---|--------------------------|
|  | Red / Pink / Crem / Black / Orange / Green / Lilac / Purple / Lt.Green | Red / Pink / Cream / Black / Green / Ivory / Orange | A - 4-5                  |
|  | Grade 4  | Grade 4   | B - 4                    |
|  |  |   | C - 3-4                  |
|  |  |   |                          |
| Performance level  | B  | B   |                          |
|  |  |   |                          |
| Overall performance level  | B  |   |                          |
|  |  |   |                          |
| BS 2543: 2004 Classification (Minimum levels for customer reference) |  |   |                          |
| Light Domestic   | B = 4  |   |                          |
| General Domestic   | B = 4  |   |                          |
| Heavy Domestic   | B = 4  |   |                          |
| General Contract   | B = 4  |   |                          |
| Severe Contract  | B = 4  |   |                          |
| Force  | 9N +/- 0.2N  |   |                          |
| Rubbing Finger   | Circular   |   |                          |
| Conditioning Time  | 4 Hours  |   |                          |

Overall Test Result: See Results  
Uncertainty: 1/2 grade

**Colour Fastness to Rubbing - Wet BS EN ISO 105 X12: 2016**

**Conditioning Parameters: 20°C±2°C & 65% rH±4% rH**

**Sample: All colours**

|  | <b>Warp staining</b> | <b>Weft staining</b> | <b>Performance Level</b> |
|--|----------------------|----------------------|--------------------------|
|  | 3-4                  | 3-4                  | A = 3-4                  |
|  |                      |                      | B = 3                    |
|  |                      |                      | C = 2-3                  |
|  |                      |                      |                          |
|  |                      |                      |                          |
| Performance level  | A                    | A                    |                          |
|  |                      |                      |                          |
| Overall performance level  | A                    |                      |                          |
|  |                      |                      |                          |
| BS 2543: 2004 Classification (Minimum levels for customer reference) |                      |                      |                          |
| Light Domestic   | B = 3                |                      |                          |
| General Domestic   | B = 3                |                      |                          |
| Heavy Domestic   | B = 3                |                      |                          |
| General Contract   | B = 3                |                      |                          |
| Severe Contract  | B = 3                |                      |                          |
| Force  | 9N +/- 0.2N          |                      |                          |
| Rubbing Finger   | Circular             |                      |                          |
| Conditioning Time  | 4 Hours              |                      |                          |
| Percentage Soak  | 95% - 100%           |                      |                          |

Overall Test Result: See Results

Uncertainty: 1/2 grade



**Martindale Abrasion Resistance - 12 kPa BS EN 14465: 2003 Annex A/BS EN ISO 12947-2: 1999**  
**Conditioning Parameters: 20°C±2°C & 65% rH±4% rH**

|  | Results                | Requirements        |                                      |         |
|--|------------------------|---------------------|--------------------------------------|---------|
| Shade Change @ 3000 revs   | 4                      |                     |                                      |         |
|  | Abrasion resistance*   | Performance level   |                                      |         |
| Specimen 1   | 35,000 Revs            | A = 35,000          |                                      |         |
| Specimen 2   | 35,000 Revs            | B = 12,000 - 30,000 |                                      |         |
| Specimen 3   | 35,000 Revs            | C = 4,000 - 10,000  |                                      |         |
|  |                        |                     |                                      |         |
|  |                        |                     |                                      |         |
| Overall result**   | 35,000 Revs            |                     |                                      |         |
| Overall performance level  | A                      |                     |                                      |         |
| Appearance change  | Cross stained          |                     |                                      |         |
|  |                        |                     |                                      |         |
| Test information   |                        |                     |                                      |         |
| Test load: 12 kPa  |                        |                     |                                      |         |
| Fabric Type  | Flat woven             |                     |                                      |         |
| Breakdown criteria   | Three thread breakdown |                     |                                      |         |
| Inspection interval  | Every 5000             |                     |                                      |         |
| Foam used  | Yes                    |                     |                                      |         |
| *The abrasion resistance result is the last inspection point at which no breakdown was observed, |                        |                     |                                      |         |
| **The overall result is the lowest individual test result of all the test specimens tested.      |                        |                     |                                      |         |
| BS 2543: 2004 Classification (Minimum levels for customer reference)                             |                        |                     |                                      |         |
|  | Flat woven             | Figured weave       | Woven/Flocked/Non-Woven Pile Fabrics | Knitted |
| Light Domestic   | 15,000                 | 12,000              | 15,000                               | 15,000  |
| General Domestic   | 20,000                 | 15,000              | 20,000                               | 20,000  |
| Heavy Domestic   | 25,000                 | 20,000              | 25,000                               | 25,000  |
| General Contract   | 30,000                 | 30,000              | 25,000                               | 25,000  |
| Severe Contract  | 40,000                 | 40,000              | 30,000                               | 30,000  |

Overall Test Result: See Results  
Uncertainty: ±17%

**Colour Fastness to Water BS EN ISO 105 E01: 2013**

**Sample: Light Green / Grey / Light Blue**

|   | Result | Change Performance Level | Stain Performance Level |
|---|--------|--------------------------|-------------------------|
| Colour Change   | 4-5    |                          | A = 4 Change/3-4 Stain  |
|   |        |                          | B = 3-4 Change/3 Stain  |
|   |        |                          |                         |
|   |        |                          |                         |
| Colour Staining   |        |                          |                         |
| Acetate   | 4 - 5  |                          |                         |
| Cotton  | 5      |                          |                         |
| Nylon   | 4 - 5  |                          |                         |
| Polyester   | 5      |                          |                         |
| Acrylic   | 5      |                          |                         |
| Wool  | 4 - 5  |                          |                         |
|   |        |                          |                         |
| Performance level Change  | A      |                          |                         |
| Performance level Stain   | A      |                          |                         |
| Overall performance level   | A      |                          |                         |
|   |        |                          |                         |
| BS 2543: 2004 Classification<br>(Minimum levels for customer reference) |        |                          |                         |
|   | Change | Stain                    |                         |
| Light Domestic  | A = 4  | A = 3-4                  |                         |
| General Domestic  | A = 4  | A = 3-4                  |                         |
| Heavy Domestic  | A = 4  | A = 3-4                  |                         |
| General Contract  | A = 4  | A = 3-4                  |                         |
| Severe Contract   | A = 4  | A = 3-4                  |                         |

Overall Test Result: See Results

Uncertainty: 1/2 grade

**Colour Fastness to Water BS EN ISO 105 E01: 2013**

**Sample: Red / Orange / Ivory**

|   | Result | Change Performance Level | Stain Performance Level |
|---|--------|--------------------------|-------------------------|
| Colour Change   | 4-5    |                          | A = 4 Change/3-4 Stain  |
|   |        |                          | B = 3-4 Change/3 Stain  |
|   |        |                          |                         |
|   |        |                          |                         |
| Colour Staining   |        |                          |                         |
| Acetate   | 4 - 5  |                          |                         |
| Cotton  | 5      |                          |                         |
| Nylon   | 4 - 5  |                          |                         |
| Polyester   | 5      |                          |                         |
| Acrylic   | 5      |                          |                         |
| Wool  | 4 - 5  |                          |                         |
|   |        |                          |                         |
| Performance level Change  | A      |                          |                         |
| Performance level Stain   | A      |                          |                         |
| Overall performance level   | A      |                          |                         |
|   |        |                          |                         |
| BS 2543: 2004 Classification<br>(Minimum levels for customer reference) |        |                          |                         |
|   | Change | Stain                    |                         |
| Light Domestic  | A = 4  | A = 3-4                  |                         |
| General Domestic  | A = 4  | A = 3-4                  |                         |
| Heavy Domestic  | A = 4  | A = 3-4                  |                         |
| General Contract  | A = 4  | A = 3-4                  |                         |
| Severe Contract   | A = 4  | A = 3-4                  |                         |

Overall Test Result: See Results

Uncertainty: 1/2 grade

**Colour Fastness to Water BS EN ISO 105 E01: 2013**

**Sample: Pink / Cream / Green**

|   | Result | Change Performance Level | Stain Performance Level |
|---|--------|--------------------------|-------------------------|
| Colour Change   | 4-5    |                          | A = 4 Change/3-4 Stain  |
|   |        |                          | B = 3-4 Change/3 Stain  |
|   |        |                          |                         |
|   |        |                          |                         |
| Colour Staining   |        |                          |                         |
| Acetate   | 4 - 5  |                          |                         |
| Cotton  | 5      |                          |                         |
| Nylon   | 4 - 5  |                          |                         |
| Polyester   | 5      |                          |                         |
| Acrylic   | 5      |                          |                         |
| Wool  | 4 - 5  |                          |                         |
|   |        |                          |                         |
| Performance level Change  | A      |                          |                         |
| Performance level Stain   | A      |                          |                         |
| Overall performance level   | A      |                          |                         |
|   |        |                          |                         |
| BS 2543: 2004 Classification<br>(Minimum levels for customer reference) |        |                          |                         |
|   | Change | Stain                    |                         |
| Light Domestic  | A = 4  | A = 3-4                  |                         |
| General Domestic  | A = 4  | A = 3-4                  |                         |
| Heavy Domestic  | A = 4  | A = 3-4                  |                         |
| General Contract  | A = 4  | A = 3-4                  |                         |
| Severe Contract   | A = 4  | A = 3-4                  |                         |

Overall Test Result: See Results

Uncertainty: 1/2 grade

**Colour Fastness to Rubbing - Dry BS EN ISO 105 X12: 2016**  
**Conditioning Parameters: 20°C±2°C & 65% rH±4% rH**

|  | <b>Warp staining</b>      | <b>Weft staining</b>                             | <b>Performance Level</b> |
|--|---------------------------|--|--------------------------|
|  | Grey / Light Blue / Ivory | Light Blue / Grey / Purple / Lilac / Light Green | A - 4-5                  |
|  | Grade 4-5                 | Grade 4  | B - 4                    |
|  |                           |  | C - 3-4                  |
|  |                           |  |                          |
| Performance level  | A                         | B  |                          |
|  |                           |  |                          |
| Overall performance level  | A                         |  |                          |
|  |                           |  |                          |
| BS 2543: 2004 Classification (Minimum levels for customer reference) |                           |  |                          |
| Light Domestic   | B = 4                     |  |                          |
| General Domestic   | B = 4                     |  |                          |
| Heavy Domestic   | B = 4                     |  |                          |
| General Contract   | B = 4                     |  |                          |
| Severe Contract  | B = 4                     |  |                          |
| Force  | 9N +/- 0.2N               |  |                          |
| Rubbing Finger   | Circular                  |  |                          |
| Conditioning Time  | 4 Hours                   |  |                          |

Overall Test Result: See Results  
Uncertainty: 1/2 grade

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*The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k = 2, providing a level of confidence of approximately 95 %. Any Pass/Fail statements do not take into account the Measurement of Uncertainty. The Uncertainty budgets are stated for each Test method, these are for reference, and should be considered when results are close to Specification Limits / Requirements.*