

## SPECIFICATION FOR ALAM TANNERY (PVT) LTD DOMESTIC UPHOLSTERY LEATHER

### LEATHER FINGERPRINTING

Each leather type can be given its own unique **fingerprint**. By quantifying the characteristics given below it is possible to define what the leather looks and feels like. BLC routinely fingerprints leathers used in sealed samples, which can then be used as a benchmark for the bulk production. This ensures the deliverance of consistent quality thus minimising returns. Fingerprinting is also used when sourcing new leathers.

As well as ensuring leather and materials meet specifications, BLC can quickly identify causes of failure and offer clear practical advice to correct the problem.

| Property  | Method   | Minimum requirement                                   |              |           |
|---|--|---|--------------|-----------|
|   |  | Aniline   | Semi-aniline | Pigmented |
| Water vapour permeability (mg/cm <sup>2</sup> /h)   | EN ISO 14268 (no buffing or flexing)                         | Min 7   | Min 2        | N/A       |
| Colour contrast after scuffing (GSR)  | BLC Method M14. Assessment according to BS EN 20105:A02:1993 | Min 3-4   | Min 2-3      | Min 1-2   |
| Coloured leather dyed through (Dyed through in corresponding shade and through full thickness of the leather) | Microscopy   | Must be fully dyed through leather thickness          |              |           |
| Thickness of leather (mm)   | EN ISO 2589  | Variation from indicated value: +/- 0.1               |              |           |
| Thickness of finish (mm)  | EN ISO 17186   | Variation from indicated value: +/- 0.2<br>Max 0.15mm |              |           |
| Density (g/cm <sup>3</sup> )  | EN ISO 2420  | Variation from indicated value: +/- 0.05              |              |           |
| Weight (g/m <sup>2</sup> )  | EN ISO 2420  | Variation from indicated value: +/- 0.05              |              |           |
| Softness (mm)   | EN ISO 17235   | Variation from indicated value: +/- 0.5               |              |           |
| Grain evaluation / Material type  | Assessment of material type                                  | Full grain / corrected / nubuck / split               |              |           |
| Gloss   | 60° reflectance  | To be tested for information                          |              |           |
| Bagginess, creep & relaxation   | CEN/TS 14689   | To be tested for information                          |              |           |

GSR – Grey scale rating

Key to grey scale:

- GSR 5 - no change in appearance.
- GSR 4 - slight change in appearance
- GSR 3 - moderate change in appearance
- GSR 2 - marked change in appearance
- GSR 1 - very marked change in appearance

This specification has been compiled by BLC Leather Technology Centre Ltd  
The list above represents the recommended tests required for domestic upholstery leather

For more information please contact:

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## SPECIFICATION FOR ALAM TANNERY (PVT) LTD DOMESTIC UPHOLSTERY LEATHER

### RESTRICTED SUBSTANCES TESTING

These tests have been introduced to ensure leathers are safe and do not contain any banned or harmful substances.  
In certain cases these are driven by legislation.

As well as ensuring upholstery leather and materials meet specifications, BLC can quickly identify causes of failure and offer clear practical advice to correct the problem.

| Property  | Method                               | Minimum requirement   |
|---|--------------------------------------|---|
| Azo dyestuffs (Arylamines)  | CEN ISO TS 17234                     | None detectable<br>(Detection limit: 30 mg/kg)  |
| Burning behaviour   | BS 5852:1979 match & cigarette       | UK Domestic Upholstery - Pass   |
|   | BS EN 1021:1994<br>Parts 1 and 2     | European Domestic Upholstery - Pass   |
|   | Refer to BS 7176:1995                | Contract Upholstery - Pass  |
| Chrome VI soluble <sup>1</sup>  | DIN 53314                            | None detectable<br>(Detection limit: 3 mg/kg)   |
| Formaldehyde <sup>2</sup>   | CEN ISO TS 17226<br>(HPLC analysis)  | < 200 mg/kg   |
| Pentachlorophenol (PCP) <sup>3</sup>  | CEN TS 14494                         | < 5 mg/kg   |
| pH  | EN ISO 4045                          | Min. 3.2. If the pH value is below 4 or above 10,<br>the difference figure shall be < 0.7                           |
| NPEO (nonylphenoethoxylates) /<br>OPEO (octylphenoethoxylates) <sup>4</sup> | BLC method<br>(HPLC analysis)        | Use of these substances is not allowed<br><250 mg/kg (sum of NPEO & OPEO)   |
| Cadmium & cadmium compounds <sup>5</sup>                                    | ICP analysis (total digestion)       | Use of these substances is not allowed<br><50 mg/kg   |
| Lead & lead compounds   | ICP analysis (total digestion)       | Use of these substances is not allowed<br><100 mg/kg  |
| PFOA (Perfluorooctanoic acid)<br>PFOS (Perfluorooctane sulphonate)          | Self certification                   | Use of these substances is not allowed  |
| Phalates  | EN14372                              | <0.1% (w/w)   |
| Emissions & odour properties of leather                                     | Screening test<br>Headspace analysis | To be carried out if leathers emit an odour that is<br>deemed to be discomfoting or have negative<br>health effects |

**Notes:**

- 1 This is a colorimetric test. Some dyes from leather can interfere with the test and produce false positive results. In this case an alternative method is reverted to. This method is CEN TS 14495:2003 the detection limit of which is 10 mg/kg (leather dyes are less likely to interfere with this method). It is envisaged that CEN TS 14495:2003 will become a full EN standard during 2006; this will then supersede DIN 53314.
- 2 If the product is intended for Japan the test method is listed in Japanese Law 112.
- 3 If the product is intended for California, this limit should be None Detectable, <0.1mg/kg.
- 4 As specified in EC Directive 2003/53/EC.
- 5 As specified in EC Directive 91/338/EEC and Environmental Protection Regulations (Controls of Injurious Substances) (No2) Regulations SI No. 1643.

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## SPECIFICATION FOR ALAM TANNERY (PVT) LTD DOMESTIC UPHOLSTERY LEATHER

### QUALITY PERFORMANCE TESTS - ANILINE LEATHER

These tests are carried out to ensure the leather is fit for purpose and will perform in the marketplace.

| Property  | Method                          | Minimum requirement                               |                    |
|---|---------------------------------|---|--------------------|
| Fastness to light   | EN ISO 105-B02                  | BWS 3   |                    |
| Fastness to rubbing - Veslic<br>(Change of leather colour & pad staining) | EN ISO 11640                    | Dry   | 50 cycles, GSR 3/4 |
|   |                                 | Wet   | 20 cycles, GSR 3/4 |
|   |                                 | Perspiration <sup>1</sup>                         | 20 cycles, GSR 3/4 |
| Tear strength   | BS EN ISO 3377-2: (Double edge) | 40N   |                    |
| Oil repellency  | AATCC method 118                | GSR 3   |                    |
| Water spotting  | EN ISO 15700                    | GSR 3<br>(no permanent swelling or residual halo) |                    |

Notes:

- 1 The perspiration solution used is defined in BS EN ISO 11641:2003  
BWS Blue Wool Standard  
GSR Grey scale rating

Key to grey scale:

- GSR 5 - no change in appearance.  
GSR 4 - slight change in appearance  
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## SPECIFICATION FOR ALAM TANNERY (PVT) LTD DOMESTIC UPHOLSTERY LEATHER

### QUALITY PERFORMANCE TESTS - SEMI ANILINE LEATHER

These tests are carried out to ensure the leather is fit for purpose and will perform in the marketplace.

| Property   | Method                      |                           | Minimum requirement                               |
|--|-----------------------------|---------------------------|---|
| Cold crack <sup>1</sup>  | EN ISO 17233                |                           | No finish cracks -10°C                            |
| Fastness to light  | EN ISO 105-BO2              |                           | BWS 5   |
| Fastness to rubbing- Veslic<br>(change of leather colour & pad staining) | EN ISO 11640                | Dry                       | 500 cycles, GSR 4                                 |
|  |                             | Wet                       | 150 cycles, GSR 3                                 |
|  |                             | Perspiration <sup>2</sup> | 80 cycles, GSR 3                                  |
| Finish adhesion  | EN ISO 11644 (Dry adhesion) |                           | 2N/10mm   |
| Flex resistance  | EN ISO 5402                 |                           | No finish cracks after 20 000 cycles              |
| Tear strength  | EN ISO 3377-2 (Double edge) |                           | 40N   |
| Water spotting   | EN ISO 15700                |                           | GSR 3<br>(No permanent swelling or residual halo) |
| Maintainability<br>(including red wine stain)                            | BLC method M12              |                           | Colour change GSR 3/4                             |
| Resistance to denim staining<br>on medium to light coloured leathers     | BLC method                  |                           | Colour change GSR 3/4                             |

**Notes:**

<sup>2</sup> The perspiration solution used is defined in BS EN ISO 11641:2003

BWS Blue Wool Standard

GSR Grey scale rating

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**SPECIFICATION FOR ALAM TANNERY (PVT) LTD  
DOMESTIC UPHOLSTERY LEATHER**

**QUALITY PERFORMANCE TESTS -  
PIGMENTED LEATHER, BYCAST LEATHER  
FINISHED SPLIT - CONTACT AREA  
ANTIQUÉ LEATHER – RUBBED OFF AND SEALED SAMPLES**

These tests are carried out to ensure the leather is fit for purpose and will perform in the marketplace.

| Property  | Method                         |                           | Minimum requirement                               |
|---|--------------------------------|---------------------------|---|
| Cold crack  | EN ISO 17233                   |                           | No finish cracks -10°C                            |
| Fastness to light   | EN ISO 105-BO2:1999            |                           | BWS 5   |
| Fastness to rubbing- Veslic<br>(change of leather<br>colour & pad staining) | EN ISO 11640                   | Dry                       | 500 cycles, *GSR 4                                |
|   |                                | Wet                       | 250 cycles, *GSR 3                                |
|   |                                | Perspiration <sup>1</sup> | 80 cycles, *GSR 3                                 |
| Finish adhesion   | EN ISO 11644 (Dry adhesion)    |                           | 2N/10mm   |
| Flex resistance   | BS EN ISO 5402                 |                           | No finish cracks after 20 000 cycles              |
| Tear strength   | BS EN ISO 3377-2 (Double edge) |                           | 40N   |
| Water spotting  | ISO 15700                      |                           | GSR 3<br>(no permanent swelling or residual halo) |
| Maintainability<br>(including red wine stain)                               | BLC method M12                 |                           | Colour change GSR 3/4                             |
| Resistance to denim staining<br>on medium to light coloured leathers        | BLC method                     |                           | Colour change GSR 3/4                             |

Notes:

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## SPECIFICATION FOR ALAM TANNERY (PVT) LTD DOMESTIC UPHOLSTERY LEATHER

### QUALITY PERFORMANCE TESTS - NUBUCK AND SUEDE

These tests are carried out to ensure the leather is fit for purpose and will perform in the marketplace.

| Property                    | Method                          |     | Minimum requirement                               |
|-----------------------------|---------------------------------|-----|---|
| Fastness to light           | EN ISO 105-B02                  |     | BWS 3   |
| Fastness to rubbing - Crock | ISO 20433                       | Dry | GSR 3/4   |
|                             |                                 | Wet | GSR 3   |
| Tear strength               | BS EN ISO 3377-2: (Double edge) |     | 40N   |
| Oil repellency              | AATCC method 118                |     | GSR 3   |
| Water spotting              | EN ISO 15700                    |     | GSR 3<br>(no permanent swelling or residual halo) |

**Notes:**

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- BWS Blue Wool Standard
- GSR Grey scale rating

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