

update

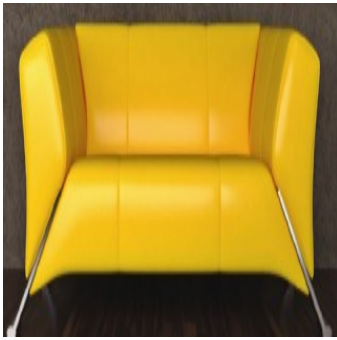
keeping you informed



Welcome to Update.....

Mar 2008

Its March and spring is in the air. In this edition of Update we bring you an article on light fastness, the latest ban on cat and dog fur trade and introduce you to BLCs all new heat and humidity testing facility. You can also register for the April training dates including new courses on leather and hardware and garment construction, cleaning and aftercare. It is also your last chance to join us in Hong Kong for our annual conference. . . . Hurry, places going fast.



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For more details contact Adam Hughes on adam@blcleathertech.com

Don't fade away ...

Summary

Many leathers change colour when exposed to light. Leathers most susceptible to the problem are aniline, semi-aniline, suedes and nubucks. Most commonly poor light fastness results in a fading of the colour intensity from dark to pale. However, sometimes it can also result in distinct changes from one colour to another. This change in colour can be caused by just one problem dye in a mix creating a change in the overall shade. Colour changes can also be due to a range of other chemicals used in the process such as tanning/retannage and fatliquors.

Measurement/evaluation

Interpretation and measurement of light fastness is confusing to many people, as the evaluation includes Blue Wool Standards (BWS) and Grey Scale (GS). The colour change seen on the BWS is measured to a standard amount of change as defined by the Grey Scale contrast to ensure consistency.

Blue Wool Standards are reference fabrics which have known light fading resistance, and are used to determine and control the correct assessment point in the test. In total there are 8 Blue Wool Standards and varying amounts are used in light fastness testing depending on the type of leather (or requirement).

BLC uses the following:

- Aniline leather BWS 3
- Semi/aniline leather BWS 4
- Pigmented leather BWS 5

The blue wools are placed in sequence of BWS 1-5, with BWS 1 having the poorest light fastness and BWS 5 having the best. Each BWS fades at approximately twice the rate of the previous fabric, so if you fade blue wool 1 for 5 hrs it will take blue wool 2 double this time (10 hrs) to reach the same contrast. BLC uses a Xenon arc lamp and standard filters to reproduce high intensity natural daylight.

Why do leathers fade?

For the colour of an object to be perceived by the eye, it has to be illuminated by visible light (400 to 700 nm wavelength). Assuming the object is illuminated with white light, a homogenous mixture of all wavelengths between 400 and 700 nm, if it reflects all of the light then the object will appear white. If it absorbs all of the light and reflects none then it will appear black. If the object absorbs some wavelengths of light and reflects others it will appear coloured depending on which wavelengths are reflected. For example, if an object reflects only light with a wavelength of 650 nm it will appear red.

When a dyestuff absorbs light energy it raises the dye molecule to an electronically excited state. This excited state is very short-lived and the dye molecule rapidly returns to its original state. The excess absorbed energy can be lost in several ways:

- The evolution of heat
- The emission of radiation (fluorescence or phosphorescence)
- Photochemical reactions which can cause degradation of the dye molecule resulting in fading of the colour.

Factors affecting light fastness

Not many problems are experienced using pigmented leathers as pigment is an insoluble material with good light fastness properties which prevents light reaching the dyed leather surface. The main problems occur without this "protection" in aniline, semi-aniline, nubuck and suede leathers.

Many of the chemicals used in leather manufacture can influence light fastness so care has to be taken in the selection of chemicals used in tannage, retannage, fatliquors and, most importantly, dyestuffs.

The main points to consider are:

- Colour - reds, blues, green are particularly difficult.
- Dye selection is extremely important - metal complex dyes are an improvement on general acid or basic dyes.
- The amount of dyestuff used - paler/lighter shades of the same hue are worse than darker shades.
- The use of dyestuffs in spray finishing should also be monitored - protecting leather with pigment and then applying a light contrast colour coat with dye can create a problem.
- The choice of the base tannage is relevant - aldehyde and vegetable leathers have lower light fastness than chrome tanned leather.
- Choice of retannages affects the end result and should be investigated before selection - vegetable and some syntans tend to have lower light fastness.
- Choice of fatliquor is also important - many change colour on exposure to light.

The important thing is to be aware and monitor all chemicals used in the process.

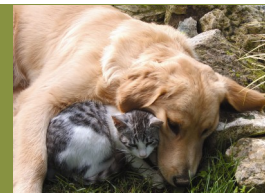
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Legislation

Ban on cat and dog fur trade



Further to the article 'Origin of the species' in the September/October issue of BLC Journal, a ban on cat and dog fur trade was approved on 27th November 2007 and introduced into EU law by the European Council of Ministers and will apply from 31 December 2008.

The final EU proposals allow for two very limited exceptions for taxidermy and specific educational purposes. These exemptions still mean that all commercial trade will be illegal. The UK argued for a full ban but accepted these minor amendments in order to allow a full commercial ban to be put in place.

The ban will come into force from 31 December 2008. The delay in implementation is to allow member states sufficient time to introduce sanctions for breaching this legislation which are a national rather than EU competence.

There has been considerable concern about the trade in cat and dog fur across the EU although, to date, there has been little evidence of imports into the UK.

For further information contact

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BLC training dates.....

an opportunity not to be missed

4 day leather and footwear construction – April 15-18

Ideal for anyone involved in the footwear supply chain to learn all about how leather is made, classified and selected in terms of fitness for purpose for footwear end use. Also included will be footwear construction and product finishing including quality control and common footwear problems.

1 day understanding leather – April 22

Perfect for those new to the leather industry and also for designers, buyers and retailers of leather products, this course offers the perfect grounding of information and knowledge on leather as a material.

1 day leather finishing course – April 23

Aimed at quality assurance, buyers and designers this practical course will explain leather finishing to give both performance and fashion effects and answer questions such as why does my leather change colour?, why does my leather fade? and why does the surface crack or peel during use?

1 day understanding leather and hardware workshop – April 24

With the rise in popularity of the bag as the must have accessory and the drive to source cheaper materials from Asia and Latin America there is a growing need for information on the interaction of leather and hardware components.

1 day garment construction, cleaning & aftercare – April 29

This course gives an in depth explanation of different hides and skins and their suitability for purpose for garments. Aimed at people who would like a further insight to standard leather types and how they perform in the fashion market. It will allow you reduce problems or customer complaints through clear supplier specifications.



Book now at www.blcleathertech.com

New Resources.....

New heat and humidity testing facility

BLC is pleased to announce the arrival of a new 9m³ climatic chamber for whole product compatibility testing. This can be used for the testing of products such as garments and bags and even furniture.

Understanding how leather and components will perform as whole products in differing climates is important for manufacturers and suppliers. This increasing need to predict the ageing characteristics and compatibility of materials within products has led to the design of a range of specific tests aimed at determining how leather products will perform and age in different global geographical zones.

This chamber will be used predominately for heat and humidity testing of whole products under the standard BLC conditions of 60°C, 85% r.h. and is useful for determining the effect of shipping product from warm to temperate/colder climates and also the general performance of products in warmer, humid climates such as Asia.

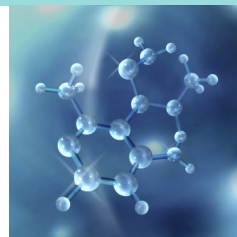
Leather performance after ageing is of concern to the suppliers of products, eg handbags, furniture, shoes, that are expected to be durable and have a long product life. In addition, ageing cycle tests are a critical part of automotive testing specifications. Ageing tests can be used to determine any likely performance issues at specified climatic conditions. The tests can also predict any possible failures with components, especially metal items that may tarnish/flake during wear. It is also possible to carry out metal specific tests, for example atmospheric sulphide tarnishing (BSENISO 22775:2004 Method 1) and saltwater corrosion testing *BSENISO 22775:2004 Method 2) before and after ageing.



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Coming up next time.

All you need to know about Chrome VI and leather...



Disclaimer BLC Leather Technology Centre Ltd has made all reasonable efforts to ensure the accuracy of the information provided. However, the information should not be relied upon as legal advice or regarded as a substitute for legal advice. Due care and attention should be exercised when using this information.

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