

Lightfastness

according to DIN EN ISO 105-B02



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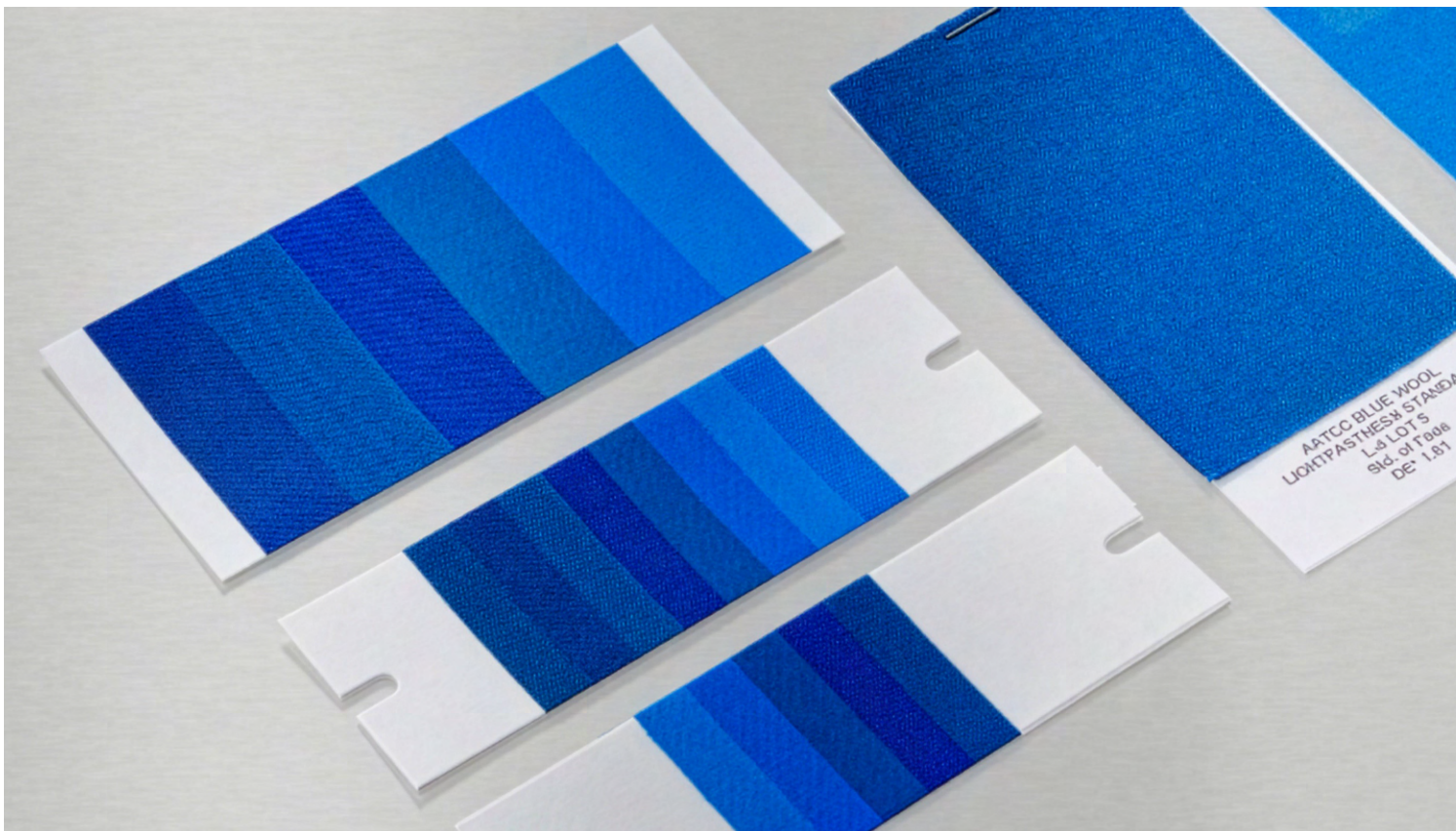


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The lightfastness of a fabric is a very important criterion. A standardized test – DIN EN ISO 105-B02 – provides information on how the color changes after a certain period of time when exposed to sunlight (here, specifically UV light). The classification or evaluation is done in 8 stages: Stage 1 – strong change, Stage 5 – visible change, and Stage 8 – no change.

Right away – Stage 8 is not and cannot be reached with fabrics; this classification can only be reached or prescribed by, for example, paints in the automotive industry or in the building materials segment (RAL colors for windows/exterior doors/...).



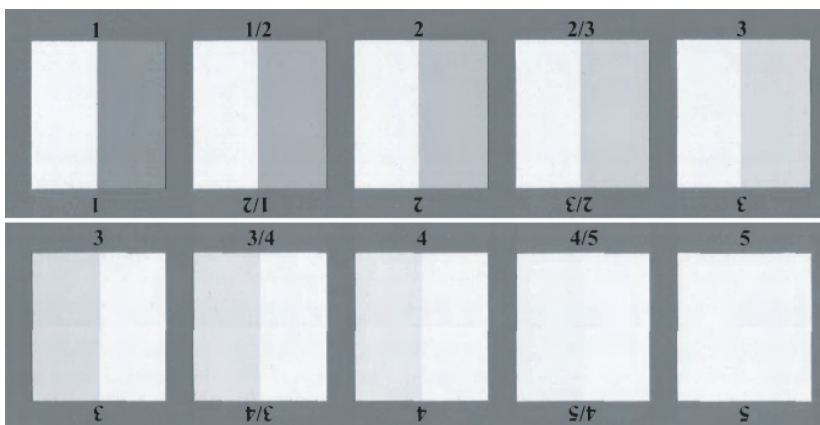
The test is based on permanent irradiation with artificial xenon light and is carried out over precisely defined periods of time to assess the color change of the materials using the "blue scale comparison". The color difference between the covered and the exposed part of the sample is then evaluated according to the blue scale (pictured left).

The classification from 1 to 8 looks like this and corresponds to an average daily light exposure (guideline summer 10 hours and winter 6 hours):

These values serve as a basis and indicate after what time period an optical change in color becomes visible and can be perceived with the naked eye! The test duration here is between 5 hours (LEH 3) and 2 weeks (LEH 7/8).

Wool Scale	Summer	Winter
1		
2		
3	4-8 days	2-4 weeks
4	2-3 weeks	2-3 months
5	3-5 weeks	4-5 months
6	6-8 weeks	5-6 months
7	3-4 months	7-9 months
8	Over 1.5 years	

In the test procedure according to EN ISO 105-X12, the "staining" or "bleeding" of a fabric is assessed. This test procedure includes a "dry" and a "wet" test variant, which are used to test the suitability of a fabric for everyday use with regard to color intensity. The test is carried out with a device called a "Crockmeter". Here, the fabric sample is rubbed against a white cotton cloth – a precise number of cycles (simple back and forth movement) and precisely defined weight (9 kilograms or exactly 9 Newtons); the discoloration is then assessed. Here too, there are 5 classes – Stage 1 to 5 is assessed using the "gray scale". Stage 1 means clearly visible staining, Stage 5 means no staining is visible.



Here too, natural fiber fabrics tend to release color more readily than synthetic fibers. The darker the shade, the higher the probability that fabrics will "bleed" – thus, natural materials are max in the range of 3 to 4. In the upholstery fabric sector, the processing industry generally requires the following values – dry 4 and wet 3.

The tests for lightfastness and rub fastness are summarized under the term COLORFASTNESS and assess the optical color change – with and without mechanical influence.