

# SAFEGUARDS

SGS CONSUMER TESTING SERVICES

SOFTLINES

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## COLOUR FASTNESS TO PERSPIRATION AND LIGHT IN TEXTILES

BS EN ISO 105-B07 Colour fastness to Light of textiles wetted with artificial perspiration was issued in May 2009. AATCC Test Method 125: Colourfastness to Perspiration and Light is a similar test method and is partially equivalent to BS EN ISO 105-B07.

Colour fastness to perspiration and light is a major concern in textile products. Apparel items worn outdoors, especially those items that are worn during exercise and sports activities such as hiking and golf, need to be resistant to fading from both light and perspiration. When tested together in one test, the results of the light and perspiration test may be more predictive of potential issues than when each test is done separately. Colour fastness to perspiration and light testing measures the resistance to change in colour as a result of exposure to light of dyed textiles which have been pre-treated with an artificial perspiration solution.



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The following table shows a comparison of these two test methods.

COLOURFASTNESS TO PERSPIRATION AND LIGHT		
Test method	AATCC 125: 2009 (in accordance with AATCC 16–Option 3)	ISO 105-B07: 2009 (in accordance with ISO 105-B02)
Referred market	US	EU
Testing light source	Xenon-arc Lamp	Xenon-arc Lamp
Machine conditions	Black-panel temperature 63+/-1 °C	Black-panel temperature 60-65 °C
	Relative Humidity 30 +/- 5%	Relative Humidity 50 +/-5%
pH of the solution	4.3	5.5 & 8.0
Test duration	20 AFUs	until the desired blue scale has faded to either grey scale 4 or to grey scale 3 as agreed.
Assessment	Use the AATCC Grey Scale for colour change from grade 5 to grade 1 (the worst result)	Use the ISO Grey Scale for colour change from grade 5 to grade 1 (the worst result)

The perspiration and light fastness is the resistance of dyestuffs to the influence of constituents of the perspiration and light energy. Colour fading is generally affected by a photo-reduction reaction. Therefore, dyestuffs selected for products that need colourfastness to light and perspiration should have a certain degree of resistance to reduction. Checking the technical data provided by dyestuff suppliers about perspiration and light fastness properties of dyes is one solution. For example, azo-based reactive dyestuffs tend to have a good fastness to the combination of perspiration and light and anthraquinone-based reactive dyestuffs generally have a good resistance to both oxidation and reduction.

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