

# Testalks

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# Textile Testing International

Your partner in textile Testing

[www.ttilabs.net](http://www.ttilabs.net)

## COLORFASTNESS TIPS and TRICKS

By Ali Ashraf  
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Textile Testing International

A Fabric's ability to retain its original color is one of the most important properties of a textile product. The colorfastness or color retention is influenced by a number of variables that occur both pre-consumer and post-consumer. Fiber Quality, yarn formation, fabric construction, textile wet processing and consumer practices can all have an influence on the performance characteristics of a fabric. Of these variables, the choices made during textile we processing have the most significant effect on the colorfastness properties. Dye selection is also of the utmost importance. On the other hand consumer practices such as detergent selection and laundering techniques also play a major role in the color retention of a fabric.

The AATCC has over thirty test methods that evaluate colorfastness properties. These include , but are not limited to wash, light , crock, dry cleaning, perspiration, abrasion and heat. The type of product being manufactured determines which types of colorfastness are important and therefore which test methods are relevant. For example, upholstery fabrics must have excellent lightfastness and crock fastness properties, whereas washfastness is important for clothing fabrics.

Our experience at Textile Testing International suggests following as the textile manufacturing process affecting colorfastness;

### *Preparation*

Preparation is the first stage of textile wet processing. A thorough removal of impurities (waxes, sugars, metals, processing aids, grease, plastic and rubber) always help to achieve optimum dyeing and finishing conditions.

### *Dye Selection*

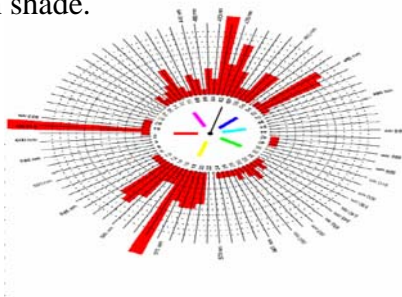
Dyeing is the crucial step in determining the colorfastness performance of a fabric. Every dye has a unique colorfastness property. The structure of the dye, the amount of dye, its method of bonding to the fabric and dyeing procedures all contribute to a dye's performance characteristics. Dye combination in a specific formulation must also be evaluated for their effect on colorfastness.

Dye Class	Wash	Light	Crock	Perspiration	Chlorine
<b>Pigment</b>	Poor -Good	Good-Excellent	Poor -Good	Good	Good-Excellent
<b>Direct</b>	Poor -Good	Moderate-Good	Poor-Good	Poor-Good	Poor-Moderate
<b>Vat</b>	Good-Excellent	Good-Excellent	Fair-Good	Good	Good-Excellent
<b>Sulfur</b>	Good	Poor-Good	Poor-Good	Good	Poor-Moderate
<b>Naphthol</b>	Good-Excellent	Moderate-Good	Fair-Good	Fair-Good	Moderate
<b>Reactive</b>	Good-Excellent	Moderate-Good	Fair-Good	Poor-Good	Poor-Good

Lets take Fastness characteristics for Cotton ( Table 1.0 )

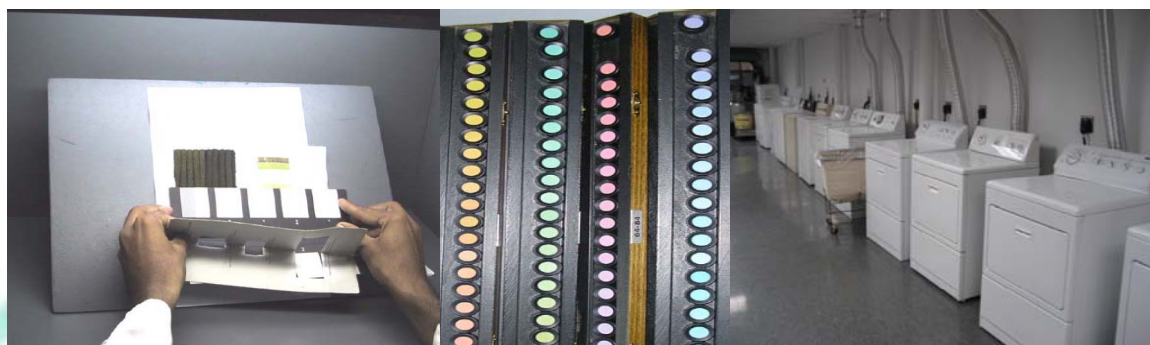
## *Finishing*

Generally, resin treated fabrics demonstrate improved color retention to laundering. However, this increase in color retention comes at the expense of reduced physical properties of the fabric. Silicone Softeners incorporated into resin finish bath further improve retention for some fabrics. Also, enzyme treated fabrics show improved ability to maintain their original color and appearance after multiple home launderings. The degree of improvement from any of these finishing techniques is highly dependent on the individual dyes used in a particular formulation to achieve a given shade.



## *End User Detergent Selection and Wash Procedures.*

The evaluation of the colorfastness properties of a product should reflect the consumer laundry practices. Some fabrics may fade a little when home laundered with standard detergent, but fabrics laundered with detergents containing activated bleach can show significant losses in color strength as determined by the sensitivity of the dye to those detergents. Detergents containing enzymes generally reduce the color change associated with home laundering by decreasing the fuzziness of a fabric's surface. Consumer practices such as washing cloths inverted, reducing the wash load size, adding softener to the final rinse and reducing the tumble dry time minimize the color loss.





**JAMES H. HEAL**   
& CO. LTD. HALIFAX ENGLAND



## Textile Testing International (Tti), forms a new relationship with James Heal for Laboratory expansion

During the recent IGATEX exhibition in Lahore, Pakistan, Mr Hamed Lateef, CEO of Tti, finalised a deal with James Heal, for the supply of their Elmatear<sup>2</sup> tear strength tester, which helps to finalise and fulfil Tti's ambitious laboratory expansion plans.

The Elmatear<sup>2</sup> is a robust and durable digital tear testing instrument, boasting a wide range of innovative features, including: a higher capacity of 128 newtons, automatic pendulum weight detection and automatic zeroing, plus sophisticated controls to help simplify and accelerate routine tear testing.

The relationship between Tti and James Heal initially began in 2004 with an enquiry for HEAL'S Wascator, ICI Pilling Box and the Crockmeter. However, this relationship was further developed at the ITMA ASIA exhibition in Shanghai during June 2010. Mr Lateef while expressing his satisfaction with James Heal said:

***"Since our inception, Textile Testing International (Tti) has been continuously adding and upgrading its equipment to meet the ever demanding needs of the market. James Heal has always played a major role in providing world class instruments, consumables and service to Tti. Consequently, our latest laboratory expansion and technology upgrade is attributed to our close liaison***

***with James Heal; with the help of a Technology Partner like them, we are always 'one step ahead' in adding value to our customer's products".***

This is an excellent example of how trade shows can be a successful tool for meeting with key industry decision makers. Simon Dakin, International Sales Manager at James Heal commented:

***"We are delighted to have strengthened our relationship with Tti, and are equally pleased with the successful outcome of the IGATEX exhibition in Lahore. Together with our exclusive distributors in Pakistan, Al Ameen Trading Corp., based in Karachi, we felt the exhibition was a great platform for building new leads, showcasing our products and meeting with a wide variety of customers."***

## *Journey of Tti : Compliance to Performance*

*By Tariq Maqsood  
(Manager QA & Continuous Quality Improvement)  
Textile Testing International*

Textile Testing International (Tti) is a third party testing laboratory accredited against ISO/IEC 17025 by Pakistan National Accreditation Council (PNAC), offering the largest accredited testing scope in Pakistan.

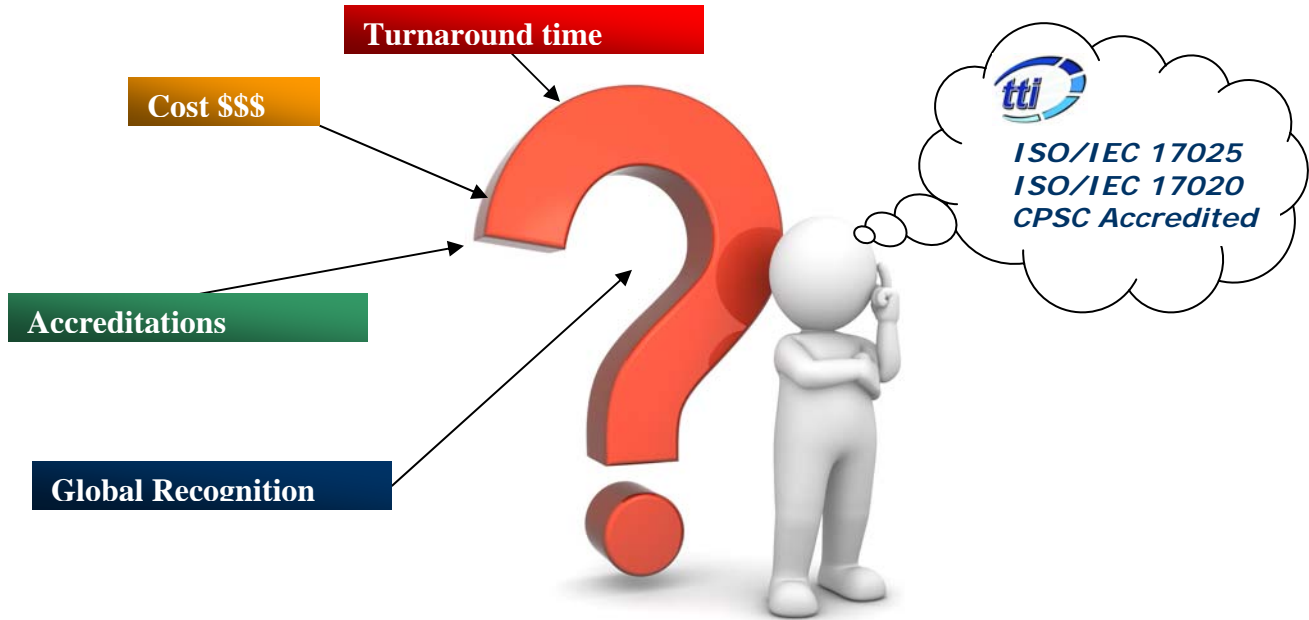
With the completion of the 2<sup>nd</sup> cycle of accreditation, we believe our systems and controls have become mature enough to facilitate consistent delivery of quality services to our valued customers. Within these two accreditation cycles, we strived for an uncompromising compliance to the requirements of ISO/IEC 17025 and international test methods, which helped us, go through last two assessments with distinctions (Zero Nonconformity).

In order to strengthen our technical competence, we have been regularly participating in proficiency schemes offered by AATCC & ASTM and our performance was first-rate, which further helped, motivated and encouraged our technical

Team to deliver accurate and reliable test results.

The best Part is that we are now not just stopping there. Our recent adaptation of quality tools & techniques like 5 S, Kaizen, productivity enhancement, Six Sigma is moving us one step ahead in compliance.

We hope and are sure that our philosophy of avoiding stagnation by training our team on these quality tools rather than just entertaining documentary compliance would pave a path towards making our services better and more comfortable for our valued customers.



Third-party quality testing is important to the entire textile supply chain. Testing helps ensure textile products of consistent quality that meet brand/buyer specifications. The effective usage of test results acts as a tool to reduce wastages, provide corrective techniques, optimize production, and improve turnout time.

Above all is the customer's confidence, which can be enhanced along with a better market access for your products.

But how do brands/buyers know which testing labs to trust, to show an accurate portrait of the quality of their products? Are they just supposed to go for a big name/multinational or there are other parameters which help you select you partner in testing?

Following are a few pointers:

- Laboratory Accreditations
  - ISO 17025
  - ISO 17020
  - CPSC
- Rapid Turnaround time
- Affordable rates
- NO compromise on Quality
- Participation in proficiency testing
- Interlaboratory comparisons
- State of the art testing equipments
- Consistent services
- Traceability / Reliability
- Prompt customer services
- Sample pickup service( No courier chargers )
- Training of the technicians



## The benefits of using a Local, but an Internationally Accredited laboratory

Every business service provider in the world has a vision to develop a competitive edge or in other words a competitive advantage for its sustainability.

But what is Tti's success story even when the big cats are around? You can get this answer from any customer of ours. It is plain and simple. Every commercial accredited laboratory claims to be accurate and possess state of the art technology, every company claims to be the biggest in the business. But our story is different.

A company which was made keeping in mind what was needed, Textile Testing International provides the fastest turnaround time possible at the most affordable cost.

Because we believe cost does matter especially when its comes to companies who completely rely on testing without which their exports can't get market access.

The fact that Tti has been rapidly growing in terms of its clientele, Our Accuracy and reliability speaks for itself. We would like to thank our valued customers for making us their partner in testing services.





# Textile Testing International

a division of Total Testing Solutions Inc.

Your partner in textile Testing

**ISO/IEC 17025**

**ISO/IEC 17020**

**CPSC Accredited**

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**Reliability**

**Traceability**

**Rapid Turnaround time**

**No compromise on Quality**



ADD VALUE  
TO YOUR  
PRODUCTS