

中国国家强制性标准GB 18401 《国家纺织产品基本安全技术规范》简介

挑战



崇尚绿色、无毒、环保已经成为一种世界性的消费潮流，不会对人类自身及环保造成危害的产品已经得到广泛的认同，而且这种绿色革命已经伸入到纺织品领域。

纺织产品在生产加工过程中，不可避免地会接触到各种各样的化学品，特别是印染和后整理加工作为一个典型的化学处理过程会用到种类繁多的染料、助剂等，而这些化学材料很有可能或多或少地含有或产生部分对人体有害的物质。当人们在使用或穿着这些纺织品或服装时，这些残留在纺织产品上的有害物质就可能对人体健康造成危害。

我们的解决方案

Intertek天祥集团为您提供中国国家强制性标准GB 18401测试

中国作为世界上最大的纺织品生产和出口大国，如何在纺织品服装国际贸易中保持良好的发展态势，大力发展生态纺织产品必将成为一种必然的选择。2003年11月27日，中国国家质量监督检验检疫总局正式发布国家强制标准GB18401-2003《国家纺织产品基本安全技术规范》。该标准已于2005年1月1日起正式实施。该技术规范规定了纺织产品的基本安全技术要求、试验方法、检验规则及实施与监督。该技术规范适用于在中国境内生产、销售和使用的服装和装饰用纺织产品、很显然，这里面包括了内销产品和进口产品。至于外销的出口产品，这规范规定可依据合同的约定执行，而不强调必需强制执行该标准。

该规范将所有列入控制范围的产品分成三个大类：

- A类：婴幼儿用品；
- B类：直接接触皮肤的产品；
- C类：非直接接触皮肤的产品。

由于不同产品的最终用途各不相同，对人体的危害程度也会有很大的差异，因而，根据用途对产品进行分类并规定不同的要求是必须的。

为便于对产品分类的准确把握，该规范以资料性附录的方式，给出了纺织产品的分类示例（见表1），并提示，对表中没有列出的产品应按照产品的最终用途确定类型。



表1：纺织产品分类示例

类型	典型示例
A类（婴幼儿用品）	尿布、尿裤、内衣、围嘴、睡衣、手套、袜子、外衣、帽子、床上用品
B类（直接接触皮肤的产品）	文胸、腹带、背心、短裤、棉毛衣裤、衬衣、（夏天）裙子、（夏天）裤子、袜子、床单
C类（非直接接触皮肤的产品）	毛衣、外衣、裙子、裤子、窗帘、床罩、墙布、填充物、衬布

该规范对纺织产品提出的基本安全技术要求见表2。

中国国家强制性标准GB 18401

《国家纺织产品基本安全技术规范》简介



表2：纺织产品基本安全技术要求

项目		A类	B类	C类
甲醛含量 (mg/kg) ≤		20	75	300
pH值		4.0-7.5	4.0-7.5	4.0-9.0
色牢度 (级) ≥	耐水 (变色、沾色)	3-4	3	3
	耐酸性汗渍 (变色、沾色)	3-4	3	3
	耐碱性汗渍 (变色、沾色)	3-4	3	3
	耐干摩擦	4	3	3
	耐唾液 (变色、沾色)	4	-	-
异味		无		
可分解出致癌芳香的偶氮染料		禁用		



考虑到部分产品还须进行湿处理加工，该规范规定其pH值可放宽到4.0-10.5之间；同时，对洗涤褪色类产品，该规范规定对色牢度不作考核。

另外该规范还规定，婴幼儿用品必须在使用说明上标明“婴幼儿用品”字样；其他产品则须在使用说明上标明符合的安全技术要求类别。

该规范采用的合格评定方式有三种，一是供货方（第一方）声明，二是使用方（第二方）认定，三是第三方认证。

而文本中列出的检验规则则主要适用于使用方的验收或监督抽验的第三方检验，至于第一方的检验规则可由企业根据自己的产品品种的管理水平加以制订。

由于GB18401为国家强制性标准，因此从事纺织产品科研、生产、经营的单位和个人，必须严格执行此技术规范。不符合此规范的产品禁止于中国生产、销售和进口。

由于该规范所涉及的产品门类相当广泛，不同企业之间的产品质量的管理水平也各不相同，所以该规范对抽样时具体产品如何组批及批量确定未作具体规定，而是由供应商确定。

关于样本量的大小，根据抽样方案，从监督总体中抽取1件单位产品进行检测，即供应商提供的同一批产品中，不同品种、不同颜色的产品各抽取1个样品。所谓同一品种可以是面料相同，但用途或产品不同。但若面料相同，而辅料不同，则不能作为同一品种。至于面料不同，则很显然不能视作同一品种。

布匹至少距布端2m取样，样品尺寸为长度不少于0.5m的整幅宽，服装或制品的取样数量应满足试验需要。样品抽取后需要密封放置，不应进行任何处理。

该规范对接收准则（结果判定）的表述为：如果所抽取样品全部合格，则判定该批产品的基本安全性能合格。如果有不合格样品，则判定该样品所代表的品种或颜色的产品不合格。

GB 18401: Chinese National General Safety Technical Code for Textile Products Challenge



Consumers are becoming more conscious about green activities, non-toxic and environmentally friendly consumer goods. They prefer products which do not pose a threat to either themselves or the environment. This trend for green consumerism has been extended to textile and apparel products.

The use of certain chemicals is unavoidable during the manufacturing processes for textile and apparel products especially in the dyeing and finishing stages. These chemicals may contain or release hazardous substances which are or may become harmful to human health and the environment. These products will often have potential direct and prolonged skin or oral contact. This potential contact makes an eco-requirement very important.

Our Solutions

Intertek provides GB 18401 testing services

Being the world's largest manufacturing and export country for textile products, China's development of eco-textiles legislation can strengthen its position in the global market. With the aim of regulating quality in textile products, a new Chinese National General Safety Technical Code for Textile Products GB 18401 was issued on 27 November 2003 and has been effective from 1 January 2005 according to the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China.

This safety technical code specifies the basic safety practical requirement, test methods, test rule as well as execution and supervision to textile products. The other requirements on textile products are according to the relevant standards. It applies to the textile products which is produced, distributed and used for garment decoration in country. The products for export may be executed in accordance with contract agreement.

The textile products are classified into three categories:

- Category A: Products for babies;
- Category B: Products with direct contact to skin;
- Category C: Products without direct contact to skin.

Typical examples for each category of products are given below.

For other unlisted products, the categorization will depend upon their end use.



Product Categories

Category	Examples of typical applications
A: Products for babies	Cloth diaper, pull-on nappy, underwear, bib, nightgown, gloves, socks, covering, coat, bonnet, bedding
B: Products with direct contact skin	Bra, bellyband, vest, track suit, shirt, shorts, skirt or trousers (summer), pyjamas, socks, bed, sheet, bed cover
C: Products without direct contact to skin	Sweater, overcoat, skirt, trousers, curtain, bedspread, textile wall paper, filling material, padding cloth

Technical requirements

Requirements		Category A	Category B	Category C
Formaldehyde content / (mg/kg) =		20	75	300
pH value (a)		4.0 to 7.5	4.0 to 7.5	4.0 to 9.0
Colorefastness / class (b)	to water (change or staining in colour)	3 to 4	3	3
	to acid perspiration (change or staining in colour)	3 to 4	3	3
	to basic perspiration (change or staining in colour)	3 to 4	3	3
	to dry rubbing	4	3	3
	to saliva (change or staining in colour)	4	—	—
Determination of odour		None		
Azo dyestuff-produced banned aromatic amiines		Not used		

GB 18401: Chinese National General Safety Technical Code for Textile Products



- (a) pH value can be only extended to the range of 4.5 to 10.5 when the products should be again treated in wet during the subsequent handling.
- (b) Not applicable to the discoloured products in washing. List of banned carcinogenic aromatic amine released under reducing condition is given in Annex C in Technical code-GB 18401-2003.
- © For the products used for babies a statement for babies shall be marked in instruction. For the other category of products the corresponding category shall be marked.

According to the specification in this Technical Code, the textile products are determined to be compliant with the Safety Requirements under the following three conditions:

- 1) Declaration of conformity by producers / suppliers
- 2) Acceptance by buyers
- 3) Certification by an independent third party company

The safety requirements in the technical code are compatible with third party verification. For self declaration, a company may perform the inspection per their own quality assurance system.

As GB 18401 is the national safety standard for textile products, if products fail to meet the safety requirements, they are not allowed to be manufactured, sold or imported into China. Therefore, the importance of safety testing according to GB 18401 cannot be overlooked.

Since the Technical Code applied to a variety of textile products, different types of manufacturers will have their own quality management systems; therefore, the specified requirements for sampling has not yet been finalized. The following is the test rule for random inspection.

Representative samples shall be randomly taken from every batch based on types and colors. One sample is individually taken in each type and each color.

Fabric samples shall be taken at a distance of 2m to the edge. The sample size shall not be less than whole width of 0.5m. The sample number of garments shall meet the test requirements.

The selected samples shall be kept sealed without being handling.

Samples shall be evaluated per the technical requirements in the product category. For the product batch / colour to be acceptable, every components shall meet all of the relevant legal requirements.

