INTERNATIONAL TESTING ASSOCIATION FOR APPLIED UV PROTECTION

UV STANDARD 801

General and Special Conditions

Content

1. Purpose

UV STANDARD 801 is a test procedure published by the International Testing Association for Applied UV Protection. This regulation stipulates general and specific requirements for the award of the UV STANDARD 801 labels (Appendix 2).

The Institutes of the International Testing Association for Applied UV Protection (Appendix 1) have set themselves the goal of determining the UV protection of a material by taking account of everyday loads applied to the material. With this goal in mind, the UV STANDARD 801 goes far beyond the requirements of the Australian/New Zealand Standard AS/NZS 4399 and rectifies the significant weak points.

Thus, it is expected that the factor determined by Standard 801 will be significantly lower but more realistic than according to the Australian/New Zealand standard which only takes into account the new, dry and unstretched condition of the textile which is to be tested.

2. Application

This standard applies to all flat materials, e. g. textiles, clothing, shoes, awnings, sunshades, leather, sheets, etc., which offer any kind of UV protection to human skin. This standard does not apply to chemicals, auxiliary agents or colorants in line with the scope of AS/NZS 4399, point 6.

Consumer products which offer UV protection but which do not cover human skin, e. g. sun hats, sunshades, awnings, etc., only protect against direct radiation and offer no protection against reflected UV radiation. The additional use of cosmetic sun-protection substances is therefore strongly recommended when using these products. Moreover, cosmetic or other sun protection should be used regularly in the edge region of clothing textiles to offer an adequate protection in the case of textile moving.

3. Definitions

3.1 UV Radiation

UV radiation on or near the earth's surface is an invisible component of sunlight, divided into UVA radiation (wavelength 315 - 400 nm) and UVB radiation (wavelength 280 - 315 nm). UV radiation penetrates the skin and may result in skin damage (ageing, sunburn, skin cancer, etc.).

3.2 UV Protection Factor (UPF)

The "UV protection factor" is a value for increasing the natural protection period of human skin imparted by a material which protects the area of skin from direct irradiation. The natural protection period for human skin (approximate safe period in the sun) depends on skin type (Appendix 4).

The UV protection factor is determined by measurement in accordance with the method of aging with Appendix A of the Australian/New Zealand Standard AS/NZS 4399 with regard to the erythemal-effectiveness table indicated in Appendix B (table B1 and B2) and the spectral irradiance indicated in Appendix B (table B3 and B4).

3.3 UV STANDARD 801 - Label

A product can be provided with the UV STANDARD 801 label when the general and special requirements have been fulfilled and when the right to label a product has been granted by an Institute of the International Testing Association for Applied UV Protection and has validity.

Labelling in accordance with UV STANDARD 801 testifies that the labelled product fulfils the conditions set out of the material in this standard and that the material and its conformity test, as also stipulated in this standard, are subject to monitoring by an Institute of the International Testing Association for Applied UV Protection.

Labelling makes no statement concerning other properties of the product, such as physiological behavior in respect of clothing, suitability for use, reaction to product care, properties relating to use in buildings, burning behavior, etc. Nor does it make any statement concerning possible alteration of the UV protection factor through improper or inappropriate use, transport, storage of the product.

Labelling differs between two kinds of article groups: "Clothing material" and "Shading material" (Appendix 2).

This labelling has to be regarded as an addition to the CE marking under the PPE regulation.

4. Certification

4.1 Application for Certification

The applicant submits a written application on the appropriate application form (www.uvstandard801.com/en/uv_standard_801/downloads/downloads_1.html) for the awarding of the UV STANDARD 801 label. The application is to be submitted to an Institute of the International Testing Association for Applied UV Protection. The applicant must describe the material to be tested and/or to be certified in full detail according to the best of his knowledge, corresponding to the table in the application. Where possible, evidence of this information (e. g. test certificates from the materials supplier) should be submitted.

The application contains - in addition to the declaration of conformity - a legally binding declaration of commitment through which the applicant undertakes himself and declares that

- the conditions valid at the time and set out in the "UV STANDARD 801: General & Special Conditions" are well known and are being adhered to
- the specified conditions for the UV STANDARD 801 label are known and are being adhered to
- the material to be certified has been described as accurately as possible with reference to composition, weight per square metre, colour, finish, coating and care labelling, insofar as these parameters cannot be verified by one or more test reports from accredited testing institutes
- an appropriate number of samples are made available to an Institute of the International Testing Association for Applied UV Protection if the testing has not yet taken place
- a declaration of conformity is provided with the application for certification
- before any change in the material or the production process takes place the Institute of the International Association which processed the application or issued the certificate will be informed the change will only be implemented following the written consent of the Institute
- all necessary measures and precautions will be taken to ensure that the products will be produced of the certified material and that an appropriate quality-management system will be set up, including, in particular, regular product/material inspections and their documentation
- Important information: The tested material may only be used and advertised in tailor made clothing when the essential requirements of sun protective objective are fulfilled concerning typically exposed body locations. This is in the responsibility of the client and is not subject of the present material certification.

  The objective of textile UV protection is the greatest possible protection of consumers against the risk of natural UV radiation. This is achieved by a correspondingly good material as well as reasonable product design. Typically exposed parts of the body should be covered. Cloths, that protect only an extreme small part of the body from UV radiation should not be certified. Exceptions are made for products with an attached note, in which the UV protection is specified exclusively for a defined part of body.
- a representative of the International Testing Association for Applied UV Protection is allowed to take random samples for material testing from current production
- the costs for any further monitoring tests will be borne by the applicant.

4.2 Declaration of Conformity

The declaration of conformity is a constituent part of the certification application and must be made by the applicant and signed with legally binding effect. By making this declaration, the applicant confirms that the products manufactured or sold and to be labelled by him are produced of materials correspond to the currently valid UV STANDARD 801 and to the sample for which a certification application for the UV STANDARD 801 label was made at an Institute of the International Testing Association for Applied UV Protection.

The applicant's declaration of conformity is addressed to the International Testing Association for Applied UV Protection.

4.3 Sample Material

The applicant must submit sufficient and representative sample materials (for testing and reference) of the material which is to be labelled in the colour and designs requiring certification. This also applies in the case of an application for an extension of the certificate.

For made-up products a finished product must be submitted together with the raw material or rather an image or design drawing.

4.4 Testing

The sample submitted by the applicant, as well as specimens taken at the place of manufacture, are tested by an Institute of the International Testing Association for Applied UV Protection according to the conditions laid down in this UV STANDARD 801.

4.5 Quality Assurance

The applicant must establish an appropriate quality management system in order to guarantee that the product which is being produced or sold corresponds to the certified material and to the requirements of UV STANDARD 801 and, in addition, must maintain this quality management system throughout the validity period of entitlement to the UV STANDARD 801 label.

Assurance must be given and the Institute of the International Testing Association for Applied UV Protection must be provided with satisfactory information that the materials are regularly tested. This also applies in particular to the different finishing and dye lots, etc. Using appropriate means the applicant must document not only measures guaranteeing conformity, but also the implementation of tests and must make them available to the Institute for Applied UV Protection.

The applicant is responsible for the quality assurance of the labelled material. He can transfer parts of the quality assurance to the manufacturer, supplier or importer. The Institute of the International Testing Association for Applied UV Protection must be satisfactorily informed also of the effectiveness of the transferred quality assurance.

The statutory regulations concerning the manufacturer's responsibility for defective products are unaffected by the establishment of UV STANDARD 801.

For so long as the certificate is valid, the Institute is entitled at any time to carry out control tests on the certified product by random sampling. If a significant deterioration of UV protection is established, a further test is carried out on another sample. If the second test also results in discrepancies, the Institute of the International Testing Association for Applied UV Protection will immediately revoke the right to label the product with UV STANDARD 801. In this case labelling of the corresponding product as well as any other use (for example, in advertising material) of the UV STANDARD 801 label shall cease with immediate effect.

5. Label

The manufacturer or seller may only apply the UV STANDARD 801 label to the materials which are entitled to bear the UV STANDARD 801 label as specified by an Institute of the International Testing Association for Applied UV Protection.

Materials which carry a UV STANDARD 801 label must have a valid certificate in accordance with UV STANDARD 801.

In each case certification is based on the lowest UV protection factor of the processed individual items which cover the wearer's body.

Important information: UV protection clothing is classified as personal protective clothing according to Regulation (EU) 2016/425 on personal protective equipment. This makes it to be CE marked and so in addition to proof for UV protection it must be fulfill further special requirements. The compliance of these special requirements is not part of the present material testing according to UV STANDARD 801.

5.1 Authorisation

When all the requirements of this UV STANDARD 801 are fulfilled and the tests show no deviation from the details provided by the applicant, the applicant is issued with a certificate entitling him to mark the product with the UV STANDARD 801 label during the period of authorisation. It is the responsibility of the recipient of the label to mark a product with the UV STANDARD 801 label.

If this UV STANDARD 801 is modified, the corresponding certified products have a transition period up to the expiry of the certificate. When this period has expired, the valid conditions pertaining to an extension of the certificate must be fulfilled.

5.2 Period

The certificate and the entitlement to mark a material with UV STANDARD 801 labelling is valid for one year from the date of issue of the report. The applicant is entitled to mark a product with the UV STANDARD 801 label for a maximum of one year. During the period of authorisation the test criteria for UV STANDARD 801 apply from the time the certificate is issued. At the applicant's request the start of the authorisation can be postponed for a maximum of three months following the issuing of the report.

When the authorisation period of the UV STANDARD 801 label has expired, the recipient of the label can apply to extend the entitlement for a further year.

As soon as the conditions laid down in the application cease to apply, the right to mark the material with the UV STANDARD 801 label expires. The customer has the option to inform the Institute of the International Testing Association for Applied UV Protection of the changes and to proof by means of a subsequent test that the requirements of UV STANDARD 801 continue to be fulfilled.

5.3 Withdrawal

If it is established, through production controls, market controls or in any other manner, that the details provided are no longer correct, the labelling authorisation will be withdrawn.

Authorisation is also withdrawn when the registration ceases to fulfil the requirements of the UV STANDARD 801 or for any other compelling reason.

If a material continues to be labelled improperly after the withdrawal of authorisation, the International Testing Association for Applied UV Protection is entitled to publicize the withdrawal immediately. The recipient of the label is responsible for any damages which the International Testing Association incurs through improper use of the UV STANDARD 801 label.

5.4 Type

When the authorisation is issued, the applicant may mark the material with UV STANDARD 801 (Appendix 2).

Details concerning the certificate number and the testing institute which has issued the certificate are absolutely essential, must accord with the corresponding certificate and have to be legible in all media types.

There is the option of a complementary hangtag (Appendix 3), which informs the consumer about the context of the corresponding UPF.

The label can be complemented, e. g. for hang tags, with explanatory information. Completion of the label is the responsibility of the applicant. It must be submitted to the Institute of the International Testing Group for Applied UV Protection for release.

Whenever the UV STANDARD 801 label is used, the label must clearly indicate to which product of a certified material it applies. The label can be used, for example, in collections, brochures, etc.

6. Regulations of Testing

In the following sections the procedure is set out for the determining of the UV Protection Factor for the granting of entitlement to UV STANDARD 801registration.

6.1 Categorisation of Articles and Programme of Testing

The samples submitted by the applicant to an Institute of the International Testing Group for Applied UV Protection for the purpose of certification are ordered according to the table of article groups given below. This results in the corresponding range of the programme:

Article group	Measurement of UV protection factor for each imposed stress						
	New material	Stretched	Wetted	After abrasion	After washing	After dry cleaning	After weathering
Clothing material e. g. sportswear, leisure wear, etc.	+	+	+	+	+	+	-
Shading material (sun-protective textiles), e. g. awnings, blinds, sun-shades, etc.	+	+	+	-	+ / -	+ / -	+

6.2 Testing in New State – Screening

If several samples, e. g. a collection, are submitted for testing and certification, the parameters of construction, weight per metre square and fibre composition must be identical. Only differences in colour are permissible.

A screening measurement for the UV protection factor in new state is carried out on all samples submitted following proper acclimatization and preparation of the sample.

If the values for the UV protection factor determined during screening have a large range, then there is a consultation with the applicant prior to carrying out further tests or subjecting the samples to the stresses and strains of wear or use.

The number of random samples to be taken for further tests and certification is determined by the number of samples submitted in different colours. Thus, if a sample in three different colours is submitted for testing, each colour is to be screened. The complete testing programme is then carried out on the sample in the colour with the lowest UPF as random sample.

Number of samples (colours)	Number of random samples
1 – 3	1
4 – 10	2
11 – 20	3
21 – 30	4
31 – 40	5
etc.	etc.

6.3 Testing under Conditions of Use

The method in which the UV protection factor is determined under real conditions of use (e. g. stretching or stretching and wetting) is different for each article group.

6.3.1 Article Group „Clothing material“

In the article group “Clothing material”, the UV protection factor is determined for material when new, abraded, laundered or dry cleaned, both in a stretched and in a stretched and wet state.

For this, several test samples are taken from a control sample (colour). The UV protection factor is determined for two test samples when new, both when stretched and when stretched and wet. The UV protection factor is determined for the other test samples in the same manner after two test samples have been abraded, washed and/or dry-cleaned in each instance.

6.3.2 Article Group „Shading material“

In the article group “Shading textiles”, the UV protection factor of new, weathered material and, if necessary, of washed material is determined both in a stretched, and in a stretched and wet state.

For this, several test samples are taken from a control sample. The UV protection factor is determined for two test samples when new, both when stretched and when stretched and wet. The UV protection factor is determined for two other test samples in the same manner after weathering and, if necessary, after washing treatment.

6.4 Evaluation and Certification

The UV protection factor is determined using measurements in line with the Australian/ New Zealand Standard AS/NZS 4399. The erythemal effectiveness and the spectral irradiation of the sun are also taken into consideration. The applicant receives a test report detailing the values determined.

In accordance with the objective of the UV STANDARD 801, the samples submitted are certified on the basis of the lowest UV protection factor determined.

Certification is allocated using the following UPF factors: 10; 15; 20; 30; 40; 60; 80, with the value determined being rounded down to the next lowest level.

The certificate authorises materials that conform to the sample submitted to be labelled with the UV STANDARD 801 (Appendix 2).

Appendix 1: Institutes of the International Testing Association

Currently the following institutes are members of the International Testing Association for Applied UV Protection:

AITEX – Instituto Tecnológico Textil
Consuelo Carbonell
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Continuation

Appendix 1: Institutes of the International Testing Association

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Appendix 2: UV STANDARD 801- Label

Labelling may only be attached to products with valid material certification.

Labelling is in responsibility of the applicant.

Labels must be written at least in the appropriate national language and include the certificate number and the testing institute which issued the certificate.

The font „Swiss 921 BT“ must be used consistently for labelling.

The label can be complemented, e. g. for hangtags, with explanatory information, which the applicant attaches self-responsibly as well (see Appendix 3) and submits to the Institute of the International Testing Association for approval.

UV protection clothing is classified as personal protective clothing according to Regulation (EU) 2016/425 on personal protective equipment. Therefore, CE marking is necessary. In addition to the evidence of UV protection, which can be provided by the label for example, the ready-made clothes must meet further special requirements. The compliance of these special requirements is not subject of the present material testing according to UV STANDARD 801.

For permanent labelling of the material (e.g. sew-in material) the following label may be used. The label differentiates between two kinds of article groups.

Article group „Clothing material“	Article group „Shading material“

(Abbreviated form, e. g. for factor 80)

In order to apply for the print templates of labels, a copy of the certificate has to be submitted to the secretary with costs.

Appendix 3: UV STANDARD 801 Hangtag

Labelling may only be attached to products with valid material certification.

Labelling is in responsibility of the applicant.

Hangtags must be written at least in the appropriate national language and include the certificate number and the testing institute which issued the certificate.

For permanent labelling of the material the below hangtag can be used as hanging label. The hangtag differentiates between two kinds of article groups.

Article group „Clothing material“	Article group „Shading material“
	

(Abbreviated form, e. g. for factor 80)

In order to apply for the print templates of hangtags, a copy of the certificate has to be submitted to the secretary with costs.

Appendix 4: Skin types

Inside cover hangtag: Skin types

Human skin is divided into 6 skin types, of which Type 1 has the shortest natural protection period and Type 6 the longest. If a UPF is given for a material, the natural protection period can be multiplied by this value. The additional use of cosmetic sun-protection substances is strongly recommended for areas of skin which are temporarily or permanently exposed.

CHARACTERISTICS	SKIN TYPE 1	SKIN TYPE 2	SKIN TYPE 3	SKIN TYPE 4
SKIN	very fair-skinned	fair-skinned	light/dark brown	light brown, olive
HAIR	red or blond	blond, brown	light brown, brown	dark brown/black
EYES	blue, rarely brown	blue, green, grey	grey, brown	brown/dark
SUNBURNS	always heavy, aching	mostly heavy, aching	less frequently, moderate	hardly ever
SELF-PROTECTION TIME OF SKIN	5 - 10 minutes	10 - 20 minutes	20 - 30 minutes	40 minutes
PROTECTION BY A TEXTILE WITH A UPF OF 20	100 – 200 minutes	200 – 400 minutes	400 – 600 minutes	800 minutes

REMARK: Skin Type 5 & 6 are not listed here as they show no risk of erythema.

Source: Arbeitsgemeinschaft Dermatologische Prävention (ADP) e.V., Hamburg and Schweizer Krebsliga, Berne

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