

UV STANDARD 801



- ✓ Tested clothing providing protection against UV radiation
- ✓ Reliable sun protection factor for consumers throughout the textile's lifetime
- ✓ World's strictest testing standard for sun-protective clothing

Sunlight is important for human health, but at the same time the ultraviolet radiation in sunlight is a big potential risk for the skin.

UV protection factor (UPF)

The UV protection factor (UPF) indicates how much longer the user of sun-protective textiles or the wearer of UV-protective clothing can be exposed to the sun without suffering skin damage. The UPF is comparable to the sun- or light-protection factor of sunscreens (SPF). The basis for calculation is the so-called intrinsic protection time of the skin. Protected by a textile material with a UPF of 20, the wearer can prolong the time spent in the sun twentyfold without provoking skin damage.

UV protection	UV- or light-protection factor
Sunscreen when applied correctly (SPF)	0-30
Shade under a sunshade (without special UV protection)	approx. 5
Shade under a tree	approx. 5-15
Lightly woven cotton clothing (as defined by UV STANDARD 801)	approx. 10
Tightly woven cotton clothing (as defined by UV STANDARD 801)	approx. 20
UV-protective clothing (as defined by UV STANDARD 801)	20-80

Textile UV protection

Textiles are intrinsically suited for use as UV protection, as they are able to offer particularly good protection against intense radiation from the sun if suitable materials and fabric structures are used. UV-protection factors (UPF) far above those of the strongest sunscreens (sunblocks) can be achieved. Standardised measuring methods and specialist testing are therefore required in order to establish the UV-protection factor.

UV Index

The intensity of the sun and the individual skin type are crucial for selecting suitable UV protection. The international UV Index (UVI) provides information on the intensity of UV radiation in a specific location.

FACTSHEET

Skin types

Dermatologists make a distinction between five skin types with different intrinsic protection times:

Skin type	Description	Sunburn	Tanning	Skin's intrinsic protection time	Textile protection (UPF 20)
I	Skin: extremely light, pale Freckles: profuse Hair: reddish Eyes: green, blue, rarely brown	always burns, painful	never tans, white after 1 – 2 days, skin peels	5-10 minutes	100-200 minutes
II	Skin: slightly darker than Type I Freckles: rare Hair: blonde to brown Eyes: blue, green, grey	generally burns, painful	rarely tans, skin peels	10-20 minutes	200-400 minutes
III	Skin: light brown Freckles: none Hair: dark blonde, brown Eyes: grey, brown	occasionally burns, moderate	tans well	20-30 minutes	400-600 minutes
IV	Skin: brown Freckles: none Hair: dark brown, black Eyes: brown	rarely burns	tans quickly and deeply	approx. 45 minutes	approx. 900 minutes
V	Skin: dark brown, black Freckles: none Hair: black Eyes: brown	rarely burns	tans quickly and deeply	60-90 minutes	approx. 1,200-1,800 minutes

Measuring methods to define the UPF

In order to establish a reliable UPF the specific demands to which a sun-protective textile is exposed in use must be taken into account. In clothing, the stretching of the fabric when worn, moisture and wear in use have an adverse effect on the sun-protection factor.

Measurement in accordance with UV STANDARD 801 is based on the most unfavourable wearing conditions (worst case scenario):

- Measurement on stretched, wet textile with mechanical wear and tear due to wearing and textile care
- Assumption of the maximum UV radiation and the most sensitive skin type (Australian summer)

Testing in accordance with UV STANDARD 801 is also designed to guarantee protection throughout the lifetime of the textile.

More information

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