

## STEPS



1. PRODUCT APPLICATION



2. WATER RESISTANCE CHALLENGE



3. SOLAR SIMULATOR



4. READING OF RESULTS

## SPF Testing

A simplified explanation of the procedure for testing a Sunscreen product.

### Supportable Claims

- Sunscreen
- SPF Number
- Water Resistance
- Premature Aging and Skin Cancer protection - if combined with UVA testing to show broad spectrum protection

SPF measurement is performed on a panel of at least 10 human adult volunteer test subjects with selected skin types which show sun-burning skin reaction. Subjects who only tan, or who have dark skin are excluded, as a skin reaction will not be visible. The test panel is selected from volunteers who do not have any history of sensitivity to skin product ingredients and who have an appropriate health history. The requirements of the test vary for some markets.

### Product Application

A very accurately measured and controlled amount (2 mg/sq cm) of product is applied to a marked out area of skin. The product is evenly spread, using a standardised technique. The product is then allowed to dry for 15 to 30 minutes.

### Water Resistance

If Water Resistance is to be tested, then the test subject is exposed to warmed water in a spa pool or equivalent. The test subject's activity, movement of the water and spa pool aeration are controlled for the time claimed, which can be between 40 minutes and 4 hours. Temperature and water condition is tightly controlled.

### Solar Simulation

A Solar simulator, which has been designed and calibrated to imitate the spectrum of sunlight, is used to apply small incremental doses of light to the protected area. An unprotected area and an area with a Standard Sunscreen applied, are also exposed. Overnight, a mild erythema (slight sunburn) develops at test sites where the SPF has been exceeded.

### Reading of Results

The results are read around 24 hours after the exposures were made. The test value taken is the point where there is a slight but clearly visible reddening of the skin. As can be seen in figure 4, this is usually next to one spot with no colour change and one spot with slightly more colour change. The SPF is a simple ratio of the number of seconds of light exposure, divided by the value for the unprotected exposure seconds.

### References

[Monographed Methods]

AS/NZS 2604:2021

ISO 24444 : 2019

FDA Final Monograph 2011

China FDA 2008

