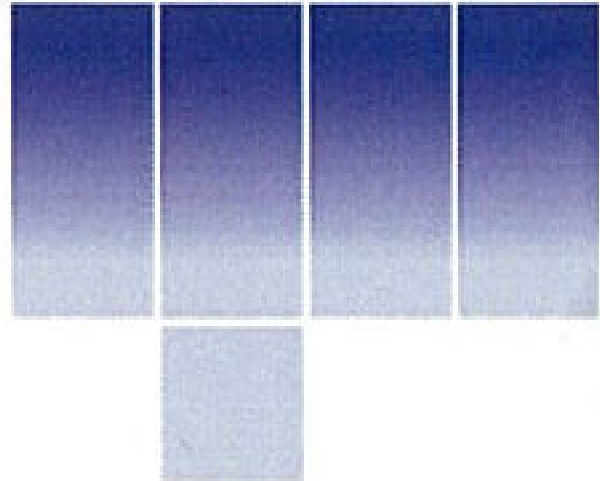
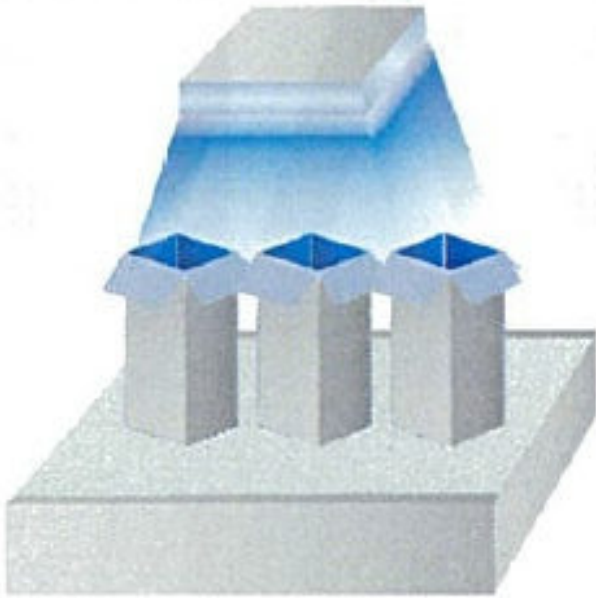


Ultraviolet Light Dosage Simply Measured



UVSCALE FILM

TIEDEMANN

UVSCALE

New Ultraviolet Light Dosage Distribution Measurement Film

With the new Fuji film UVSCALE Tiedemann expands his product range to another measuring film that can measure the dose of UV light in the range of 4 - 6000 mJ / cm² in a wavelength range from 200 to 420 nm.

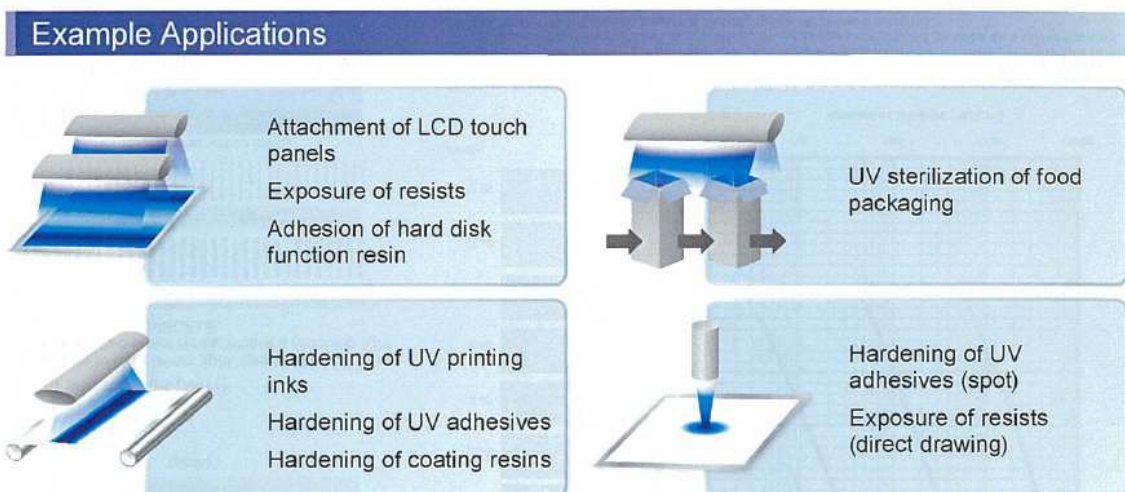
For 30 years, Tiedemann supplies Fujifilm Prescale, the pressure measuring film to determine the surface pressure. It is today used in all sectors of industry.



The UV-light measuring film can be equally prepared as the heat flux film Thermoscale or pressure measuring film Prescale. Cut with scissors it is placed on the body to be tested. Within the film are microcapsules and color developer which react to exposure to and stain the slide. The intensity of the color is proportional to the amount of UV light dosage.

Applications

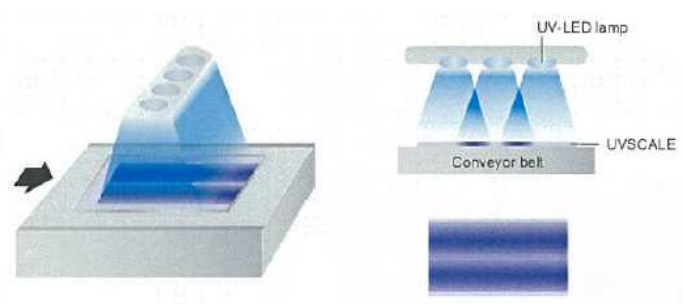
The use of UVSCALE varies similar as in case of the other measurement films. Applications during curing of bonding processes, disinfection of food packaging, hardening of UV printing processes are just a few examples



Varies Applications for UVSCALE

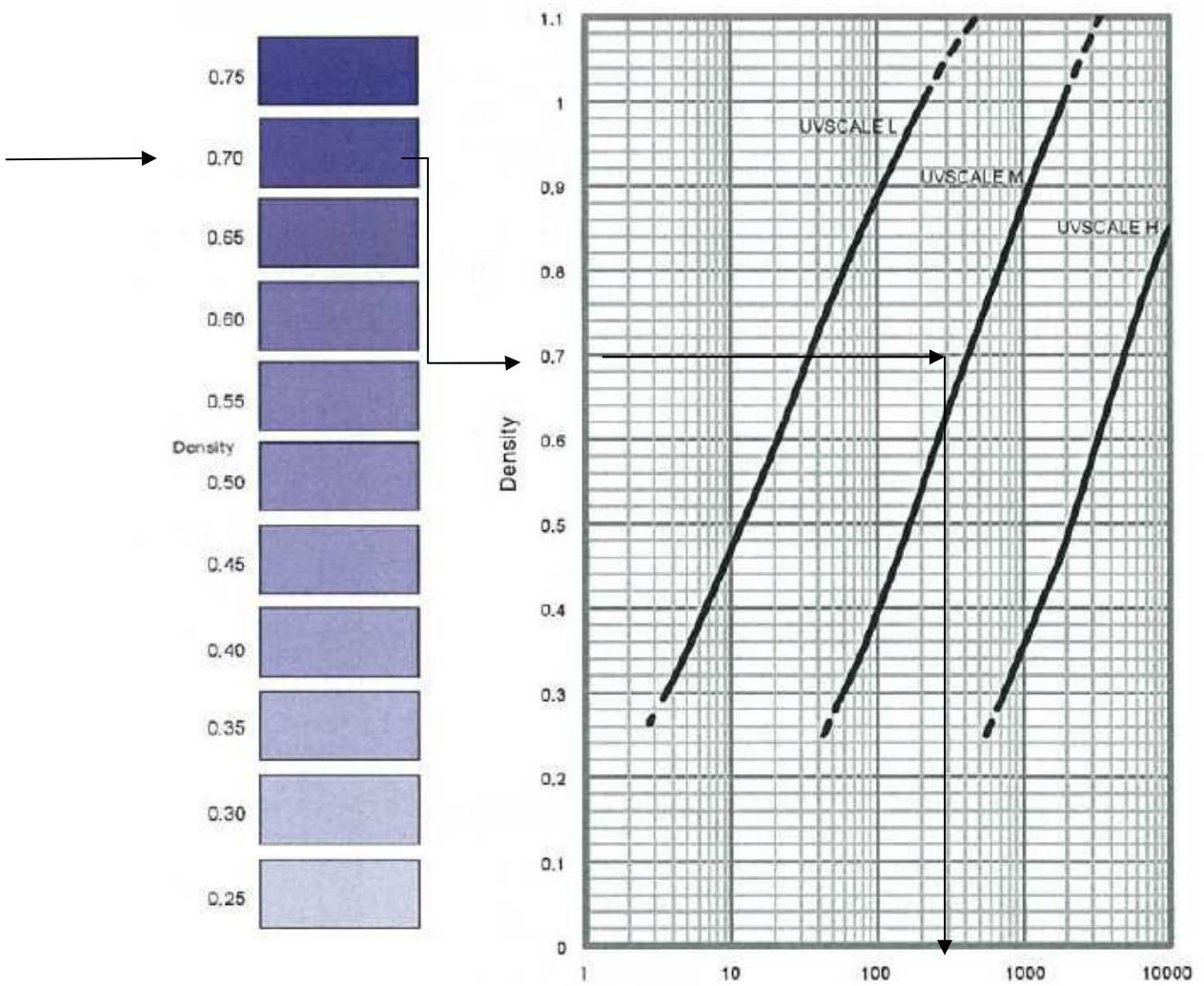
Compared to conventional technologies, where numerous measurement sensors try to detect the UV light dose, easily-coverage measurements with very high spatial resolution of about 10 microns are now possible.

Often it's not just about knowing the absolute dose but to ensure the uniformity especially in the area. In case the UV radiation is applied by numerous lamps the uniformity is particularly of interest
 Vulnerabilities are now instantly recognizable.



Qualitative and quantitative Results

The evaluation can be done purely visual in the latter case. Is it, however necessary, to determine the absolute doses a visual comparison between the film and the sample boards in conjunction with the calibration curves shown below will be helpful*.



Compare the obtained measurement film with the colour samples on the left. Then the respective calibration curve/film type can be found and its ultraviolet light dose can be read on the abscissa.

*To generate the calibration curves shown above Fuji used the light of a high pressure mercury vapor lamp with a wavelength of 365 nm, however, it can result in deviations from it using other lamps and other wavelengths. Fujifilm therefore gives no warranty to the UV light dosage measurement.

Calibration

An increase in accuracy is achieved when the UV-light measuring film gets calibrated under real experimental conditions before using. If for a particular lamp, a UV light dose-measuring sensor is present, the films can be illuminated under defined radiation doses to build up an own calibration curve.

Together with our calibration and analysis program CALTEST the calibration curve can be created and used for later measurements again.

Measurement Ranges and Choice of Film Size

The new measurement film UVSCALE is covers doses of UV light from 4 - 6000 mJ/cm² in a wavelength range of 200 to 420 nm. For the different doses of UV light, three different UV light measurement films are available

Filmtyp		Film Thickness	UV-Doses, mJ/cm ²	Film Size
UVSCALE L	Low	1-layer, 100 µm	4 - 60	270 mm x 5 m
UVSCALE M	Medium	2-layer, 200 µm	60 - 700	270 mm x 5 m
UVSCALE H	High	2-layer, 200 µm	700 - 6000	270 mm x 5 m

All UV light measurement films are supplied in reels of a width of 270 mm. For initial testing purposes, we also offer small quantities of 1 m length. Alternatively, you can obtain a free test pattern of 80 x 80 mm with us.



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