



Outdoor material testing

Weathering of materials is most often an irreversible process affecting the cosmetic properties or strength of materials. This aging process is mainly driven by UV radiation, Heat and reactive elements in the atmosphere, for example chemical contamination. The plastic fabric of the product can dry and therefore weakened. The solar load can overheat the products and change material properties irreversibly. A common method to test the deterioration of materials is to expose materials to sun light and environment. To be able to quantify the aging process, the parameters that affect the aging process must be measured.

With EKO sensors various solar radiation aspects can be measured in parallel. Those are the following : UVA and UVB, sunshine duration, Global irradiance, Global irradiance in plane, Spectral irradiance, Condensation, wind speed and direction, temperature, humidity and precipitation. EKO provides turn-key measurement solution for the most realistic exposure tests.

HOW-TO Application Guide

- 1** Ideally the measurement set-up and test conditions are equivalent to the samples under test. This will make it easier to correlate the data to the materials exposed. Solar radiation sensors should be set-up with similar orientation in plane with the samples.
- 2** A period of 1 year testing gives a good indication that can be extrapolated to know the pace of the product aging process. Solar radiation can be permanently measured in parallel.
- 3** We recommend to perform the outdoor test with the following products (Spectral UV / MS-701 or MS-711 and Global radiation / MS-80).