DIPARTIMENTO DI CHIMICA INDUSTRIALE "TOSO MONTANARI"
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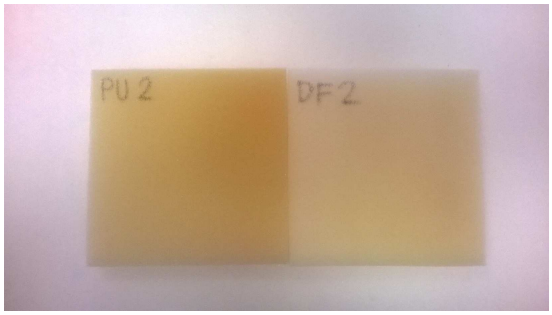
UV resistance test

UV resistance is defined as the ability of a material to resist ultra violet (UV) light or sunlight. UV light, or sunlight, will cause non-resistant materials and surfaces to fade or discolor. The UV accelerated weathering tester reproduces the damage caused by sunlight: in a few days or weeks, the UV tester can reproduce the damage that occurs over months or years outdoors. This test has been performed on Conventional Polyurethanes and on DryFlex Polyurethanes provided by Pelma.

The samples, placed at a distance of 20 cm from a standard UV-lamp (OSRAM Ultra-Vitalux, high pressure ultraviolet lamp, 300 W, 220 V) which reproduces the solar spectrum, are exposed to light in a conditioned cabinet (55 ° C, 85% RH) for 24 h. We have then determined the color change of the samples in terms of deltaE. In practice, 1 deltaE is defined as the minimum color difference perceivable by human eye and, in general, a material that after aging presents a value of this parameter less than or equal to 2, is considered UV-resistant. The samples of Conventional polyurethane PU1 and PU2, after exposure, showed a deltaE of 7 and 8 while the Polyurethanes DryFlex DF1 and DF2 of 1.5 and 2, respectively. The following pictures show the samples after the accelerated aging procedure.



We can then conclude that the Polyurethanes DryFlex DF1 and DF2, unlike the conventional polyurethanes PU1 and PU2, are particularly resistant to UV radiation.

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