

### Development of scratch resistant and weatherable polycarbonate sheet

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UV-curable coating solution has been prepared to modify scratch resistance and surface properties of polycarbonate (PC) sheet. Hardness and flexibility of crosslinked networks has been adjusted by changing the functionalities of acrylic monomers and molecular weight of polymeric units. Small amount of UV absorbers were added to polycarbonate to prevent color change occurred by external light. The pencil hardness of PC was improved up to 6H and 4H at a coating thickness of 50  $\mu\text{m}$  and 40  $\mu\text{m}$ , respectively. The transparency of PC sheets containing UV absorber showed about 90% even after weathering test. The hydrophobicity and hydrophilicity of PC surface will be varied by adding additives or changing components of coating solution for practical applications.