

Lamination Process of Transparent Polycarbonate/Glass Sheet

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Dissimilar polycarbonate (PC) and glass sheet were joined using liquid optically clear adhesive (LOCA) and polyurethane (PU) film. The UV-curable coating materials composed of multi-functional urethane acrylates were introduced on the PC surface in order to improve the scratch resistance while maintaining transparency. Weight of the laminate was reduced from 94.9g to 67.6g by simply replacing the glass to polycarbonate sheet. Surface hardness measured by the pencil was varied from F to 2H depending on the layer thickness. Impact strength of the PC/glass sheet was about 50 times higher than that of the glass/glass sheet at the same thickness.