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Use of Recycled PVB as a Protection against Carbonation

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Abstract : The paper is focused on testing of the poly(vinyl butyral) (PVB) layer which had the function of a CO2 insulating protection against concrete and mortar carbonation. The barrier efficiency of PVB was verified by the measurement of diffusion characteristics. Two different types of PVB were tested; original extruded PVB sheet and PVB sheet made from PVB dispersion which was obtained from recycled windshields. The work deals with the testing CO2 diffusion when polymer sheets were exposed to a CO2 atmosphere (10% v/v CO2) with 0% RH. The excellent barrier capability against CO2 permeability of original and also recycled types of PVB layers was observed. This application of PVB waste can bring advantageous use in civil engineering and significant environmental contribution.

Keywords : windshield, poly(vinyl butyral), mortar, diffusion, carbonatation, polymer waste
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