

Title: “Let’s Stick Together”: Hybrid Polyurethane Systems with Superior Adhesion to Polyolefins

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Traditionally PU field joints have demonstrated inherently poor adhesion to polyolefin substrates largely due to the difference in surface free energy of the two systems. This has been a challenge facing the industry as the consequences can be catastrophic. Rosehill Polymers Ltd have developed a solution specifically for this longstanding issue.

This has been achieved by modifying the hydrophobicity of a polyurethane system which has the effect of significantly enhancing affinity for polyolefins. Hybridisation with an olefin-modified hydrophobic polymer (OMHP) has been successfully utilised to decrease the surface free energy of the end product ultimately resulting in cohesive failure within the polyolefin when the two are adhered. This considerable effect was demonstrated using contact angle measurement and tensile adhesion pull-off testing techniques.