NEW APPLICATIONS FOR POLYASPARTICS BASED ON PRODUCT INNOVATION

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ABSTRACT

The polyaspartic coatings were introduced in the early 1990s, and today this is a well-established state-of-the-art technology in a large variety of applications, e.g. protective coatings for steel structures and rotor blades of wind energy turbines and a variety of concrete coatings. The chemistry of polyaspartic coatings is based on the reaction of an aliphatic polyisocyanates and polyaspartic esters, which are sterically hindered, secondary aliphatic diamines. The overall reactivity of the polyaspartics can be influenced by changing the degree of steric hindrance, enabling the design of polyaspartic coatings tailored to the needs of the application. The fast curing feature in combination with a high film build can provide significant productivity improvement and cost savings. In addition polyaspartic coatings technology meet existing VOC regulations, as low viscous polyaspartic esters allows formulations with very low solvent content or almost solvent-free coatings.

Such unique property profile of polyaspartic coatings makes them attractive for many different applications. This paper describes Covestro's most recent developments of new low viscous polyaspartic binder and low viscous aliphatic polyisocyanates, as well as new application in car refinishing and solvent-free, VOC-compliant floor coatings.