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PUR Prepolymers (1)

A new generation of versatile adhesives

The PUR prepolymers as new generation of reactive adhesives can be roughly classified according to their reactive principle.

The term PUR prepolymers in general covers adhesives which are liquid to highly viscous at room temperature, which can be processed without additional heat; in contrast, PUR hot melts are those PUR adhesives which are solid at room temperature and processed when molten. The PUR hot melts are only used in one-component form, while for PUR prepolymers, one-component as well as two-component systems are known.

Crosslinking in the one-component products is triggered by reaction of free isocyanate groups with water molecules, after which a urea bridge forms over several intermediate steps.


For two-component systems, these two components have to be mixed before application, after which crosslinking takes place via the formation of urethane bridges. Due to the different bridge types, the crosslinked adhesives also differ in their physical properties.

The new generation of one-component PUR prepolymers offers many interesting application possibilities due to the variability, but apart from this the advantage also has to be



seen in the fact that in contrast to conventional 2-component systems, these one-component products are timesaving and less problematic.

The table below outlines typical areas of application, without, however, attempting to be complete.

 Area of applications for one-component PUR prepolymers	
Bonding of:	Used for:
Hard or soft wood species	Garden furniture, windows, staircases, chairs, glulam
Wood to: PU foam, EPS, aluminium, laminates, lacquered surfaces etc.	Doors, kitchen cabinets, building front elements, campers, trucks
Plasterboard, plasterboard to aluminium, concrete fibreboard	Doubling and lamination during production, assembly on site
Clinker or marble to EPS	Preassembled housing
Aluminium to EPS	RV's, trucks
Bituminous reels to EPS	Manufacture and assembly of roofing
Aluminium frames to nonwovens	Manufacture of air filters
Treated metals, GRP to concrete formwork panels	Assembly and sealing in construction

More than adhesive – First-class bonding