Properties at different stages during potlife for typical two-component adhesives

(To evaluate the potlife, a Brookfield viscosity meter, spindle 21 was used at 25ºC. End of potlife was determined at 10.000 mPa.s)

Tested isocyanates	SUPRASEC® 2214	SUPRASEC® 2642	SUPRASEC® 2643	SUPRASEC® 2651
Appearance	Clear brown liquid			
Viscosity 25° C (mPa.s)	30	20	20	30
NCO (%)	32	32.7	32.2	32.2
Functionality (av)	2.2	2.2	2.2	2.3

Tested polyols	ALBODUR® 912
Appearance	Clear light yellow pale liquid
Viscosity 20° C (mPa.s)	900
OH (%)	6.29

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Huntsman Polyurethanes is committed to your business and can offer fast and flexible response to your needs

Believing in confidential dialogue, we offer direct links into the laboratories with full technical backup. Commercial support and dedicated customer service is available throughout Europe, Asia and the US.

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The Huntsman story
Global resources for local needs

Huntsman Polyurethanes is a business division of Huntsman Corporation. Huntsman is a global manufacturer and marketer of differentiated chemicals. Its operating companies manufacture products for a variety of global industries including chemicals, plastics, automotive, aviation, textiles, footwear, paints and coatings, construction, technology, agriculture, health care, detergent, personal care, furniture, appliances and packaging. Originally known for pioneering innovations in packaging, and later rapid and integrated growth in petrochemicals, Huntsman today has 14,000 employees and 78 operations in 24 countries. The company had 2006 revenues of over $ 13 billion.

Products may be toxic and require special precautions in handling. The user should obtain Safety Data Sheets from Huntsman Polyurethanes and Huntsman Performance Products containing detailed information on toxicity, together with proper shipping, handling and storage procedures, and should comply with all applicable safety and environmental standards.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent on the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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ADHESIVES

Industrial adhesives

Two-component adhesives systems

SUPRASEC® MDI

Adhesives

Adhesives based on Huntsman Polyurethanes' technology bond an extensive range of materials and resist a wide variety of adverse physical conditions and chemical environments. Their versatility makes them a raw material of choice for the formulation of sealants, rubbercrumb, panel laminating, flexible packaging or reactive hot melt adhesives.

Two-component adhesives

Two-component adhesives consist of two relatively low-molecular weight components: a polyol and an isocyanate. When these components are mixed they form urethane groups in the adhesive films. The isocyanates and polyols have a functionality of two or higher.
Two-component polyurethanes are used in many adhesive applications in the construction and transportation industries, especially for lamination processes. In addition, because they cure by reaction of the two components, they can be used to bond moisture impermeable substrates such as plastic-to-plastic and plastic-to-metal.

Advantages

- *Fast cure speeds can be obtained, also on assembly lines which require quick fixing of parts, especially under conditions where no heat can be applied.*
- *Thick glue lines can be applied, providing gap filling as well as bonding and,unlike moisture-cured adhesives, there is no foaming to interfere with the adhesive properties.*
- *The mix ratio of the two components can be adjusted to vary the properties within an isocyanate index range of 90 to 150.*
- *Two-component polyurethane adhesives can be designed to meet Food and Drug Administration (FDA) requirements for food packaging use.*
- *When accurately mixed, two-component adhesives systems provide bonds with excellent physical and mechanical properties.*

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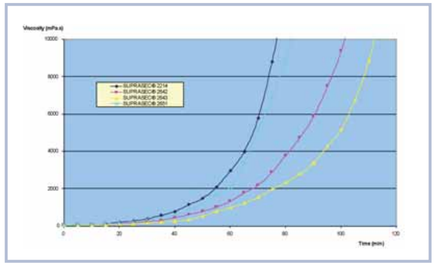
Potlife of different isocyanates with ALBODUR® 912 (2C=105)



Application methods

If the adhesive has a long potlife then it can be applied manually by using brushes, rollers, notched trowels, coating knifes, roll coaters or by casting or spraying. Fast-reacting systems, however, must be applied using meter-mix-dispense units and static mixers or adequate of low-volume application, but dynamic mixers are required for larger volumes.

Adhesion strength parquet to concrete in function of potlife (with ALBODUR® 912)