



Adoration

2024

Technical parameter

Adoration Polyurethane Systems TDS

Chongqing Adoration Technology Co., Ltd.
high-quality polyurethane systems

(Polyol + MDI) designed for various construction applications such as crack repair, concrete restore, insulation, slab lifting, and now, a single-component hydrophobic polyurethane system.

Our formulations offer customizable expansion rates and foam properties, depending on the specific project requirements. Below is a summary of the typical applications and their technical properties.

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Application Guidelines:

*CRACK REPAIR (15X - 40X EXPANSION RATE):

- **Usage:** Polyurethane foam designed for sealing cracks, filling voids, and water stop applications. It quickly reacts to form a semi-flexible, high-expansion foam.
- **Mix Ratio (Polyol):** Typically 1:1 by weight.
- **Handling:** Designed for fast application using injection pumps.

*INSULATION (20X EXPANSION RATE):

- **Usage:** oHigh-expansion foam with excellent insulation properties. Commonly used in walls, ceilings, and roofing.
- **Mix Ratio (Polyol):** 1:1 by weight.
- **Handling:** oSprayed directly onto surfaces using specialized spraying equipment.

*SINGLE-COMPONENT HYDROPHOBIC POLYURETHANE (15X - 30X EXPANSION RATE):

- **Usage:** Designed for moisture-activated crack repair and waterproofing, this single-component system cures upon exposure to moisture. Used to seal cracks in tunnels, basements, and foundations, forming a hydrophobic, water-resistant barrier.
- **Handling:** oReady-to-use system; no mixing required. Apply directly by Adoration injection pump to the crack or void.

*CONCRETE RESTORE (1X EXPANSION RATE):

- **Usage:** Rigid polyurethane system ideal for restoring and reinforcing damaged concrete surfaces.
- **Mix Ratio (Polyol):** 1:1 by weight.
- **Handling:** oApplied with mechanical packers or direct pour into prepared molds.

*SLAB LIFTING (7X EXPANSION RATE):

- **Usage:** oMedium-expansion foam designed to stabilize and lift concrete slabs. Ideal for foundations and driveway repairs.
- **Mix Ratio (Polyol):** 1:1 by weight.
- **Handling:** oInjected beneath slabs using Adoration injection machine for precision lifting.



Technical Data:

PROPERTY	CRACK REPAIR (15X - 40X)	CONCRETE RESTORE (1X)	INSULATION (20X)	SLAB LIFTING (5X/7X/20X)	SINGLE-COMPONENT HYDROPHOBIC (15X - 30X)
OPEN CELL DENSITY (KG/M ³)	25-75*	800~1300	45-55*	100-200*	42-80
VISCOSITY(MPA·S)	170~350*(FOR EXAMPLE BASF LUPRANATE M 20S)				
CLOSED CELL CONTENT(%)	>90	>90	>95*	>90	≥90
INITIAL THERMAL CONDUCTIVITY (W/MK)	≤0.024	≤0.03	≤0.024	<0.03	N/A
10% COMPRESSION STRESS (KPA)	100~250	>20000	>200	>1000	150-250
TENSILE STRENGTH (KPA)	>100	>5000	>200	>1000	>100
WATER ABSORPTION RATE (%)	0.1 - 0.5	N/A	0.1-0.3	0.2-1.0	0.1-0.4
INITIAL REACTION TIME#	20 SECONDS *	20 SECONDS*	8 SECONDS*	8 SECONDS*	30 SECONDS*
TACK FREE	30 SECONDS *	300 SECONDS*	30 SECONDS*	50-160 SECONDS*	300 SECONDS
90% FULL STRENGTH	15 MINUTES	180 MINUTES	15 MINUTES	15 MINUTES	15 MINUTES

*Adjustable as per customer requirements.

Safety and Handling:

*PERSONAL PROTECTIVE EQUIPMENT (PPE):

Always wear gloves, goggles, and protective clothing when handling Polyol and MDI components.

*STORAGE

Store in a cool, dry place away from direct sunlight. Keep sealed to avoid moisture contamination.

*DISPOSAL

Follow local regulations for the disposal of chemical products.

For further details on specific products and technical support, please contact Chongqing Adoration Technology Co., Ltd. at www.adoration-tech.com.
