



# One-Component, Moisture Curing Silane Terminated Polyurethane Adhesive

## DESCRIPTION

The following formulation is for construction adhesive applications. This one-component, moisture curing silane terminated polyurethane formulation uses Desmoseal® S XP 2749, a product supplied by Covestro.

## FORMULATION AND RAW MATERIAL DETAIL

Material	Parts	Function	Supplier
<b>Components</b>			
Desmoseal® S XP 2749	30.43	Resin	Covestro
Irganox® 1135	0.46	Antioxidant	BASF Corporation
CAB-O-SIL® TS-720	0.94	Thixotrope	Cabot Corporation
Omyabond® HP-FL	63.65	Filler	Omya
Dynasylan® VTMO	2.60	Moisture scavenger	Evonik Industries
Dynasylan® 1146	1.77	Adhesion additive	Evonik Industries
DBU	0.14	Catalyst	Sigma-Aldrich
<b>Total Formulation</b>	100.00		

## MANUFACTURING INSTRUCTIONS AND COMMENTS

- The adhesive is prepared in a mixer equipped with a planetary blade, side scrapper, water cooled jacket, and a vacuum adapter.
- Dry the filler and the fumed silica in an oven overnight to remove moisture.
- Charge the vessel with the dried filler and Desmoseal® S XP 2749. Apply vacuum and stir with the planetary blade to move air and water. Keep the temperature below 40°C. Apply cooling water as required.
- Measure the water content by Karl Fisher titration until a water content of 500 ppm is achieved.
- Remove vacuum. Mechanically stir the mixture with the planetary blade while adding the VTMO.
- Add the adhesion promoter and the fumed silica. Stir under vacuum.
- Add the catalyst with the planetary blade and package. Replace the head space in packaging with dry nitrogen.

## APPLICATION GUIDELINES

- Ensure that the subfloor is clean and dry. If the substrate is concrete, check for moisture in the concrete and hydrostatic pressure. If the water content is excessive, apply a moisture mitigating primer.
- Apply the adhesive with notched trowel. Place wood onto adhesive and apply light pressure.

## TROUBLE SHOOTING

- Cure rate can be adjusted by increasing or decreasing the catalyst level.
- Alternatively, DBN can be used as a catalyst.

## APPLICATION AND CURED ADHESIVE PROPERTIES

Typical Application Properties	
Skin Time (23°C RT, 50% RH) Observation, internal test method	16 minutes
Vertical Sag Observation from application line	Non-sagging

Typical Cured Sealant Properties	
Shore A Hardness, 1 sec (5 sec) ASTM D 2240 Durometer Hardness	A 82 (A 82)
Tensile Strength at Break ASTM D 412	3.73 MPa (541 psi)
Elongation at Break ASTM D 412	52%
Tear Resistance, Die C ASTM D 624	35.2 lbf/in
Paintability	No – Water based latex No – Oil based enamel

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Reference: NB# 75916-A

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