



One-Component, Moisture Curing Wood Flooring Adhesive

DESCRIPTION

The following formulation is for wood flooring adhesive applications. The product provides a mid-elongation, high performance adhesive to adhere wood flooring to properly prepared concrete or subfloor. The adhesive formulation would typically be applied by notched trowel to the concrete or subfloor before placement for the wood flooring. This one-component adhesive uses Desmoseal® S 2876, a product supplied by Covestro.

KEY FEATURES

- **Mid-range elongation**
- **Mid-range tensile/modulus**
- High strength on oak
- High filler content

FORMULATION AND RAW MATERIAL DETAIL

Material	Parts	Parts	Function	Supplier
	76395-A	76395-B		
Components				
Desmoseal® S 2876	28.77	28.77	Resin	Covestro
Diocetyl Terephthalate (DOTP)	4.17	4.17	Plasticizer	Sigma-Aldrich
Irganox® 1135	0.43	0.43	Antioxidant	BASF Corporation
Omyabond® HP-FL	60.53	60.53	Filler	Omya
Dynasylan® VTMO	2.47	2.47	Moisture scavenger	Evonik Industries
Dynasylan® 1146	1.67	1.67	Adhesion promotor	Evonik Industries
K-KAT® 670	1.96		Catalyst	King Industries, Inc.
K-KAT® XK-651		1.96	Catalyst	King Industries, Inc.
Total Formulation	100.00	100.00		

Typical Results					
	A	B		A	B
Weight Solids (%)	100.00	100.00	Density (lb./gal)	13.53	13.61
Volume Solids (%)	100.00	100.00	P/B	1.84	1.81
VOC (lb./gal)	0	0	PVC (%)	40.77	40.77

MANUFACTURING INSTRUCTIONS AND COMMENTS

- A planetary mixer equipped with a dispersing blade, side scraper, cooling water jacket, and vacuum adapter should be used in preparation of the sealant.
- Pre-dry all fillers and pigments in an oven to eliminate moisture.
- Charge the vessel with the dried fillers, pigment, plasticizer, and UV stabilizers. Under vacuum, mix using the planetary blade to eliminate air. Add Desmoseal® S 2876, and then reapply vacuum with mixing with the planetary blade and the dispersing blade.
- Maintain batch temperature below 40°C using the mixer's cooling system.
- Release vacuum and verify water content via Karl Fisher titration. Once at an acceptable level, add VTMO under continuous planetary blade mixing.
- Add the catalyst, mix thoroughly, and pack. Purge headspace with dry nitrogen prior to sealing.

APPLICATION GUIDELINES

- Ensure the subfloor is clean and dry. For concrete substrates, assess the moisture content and hydrostatic pressure. If moisture levels are excessive, apply a moisture-mitigating primer prior to installation.
- Apply the adhesive using a notched trowel. Place the wood flooring onto the adhesive and apply light pressure to ensure proper contact.

TROUBLE SHOOTING

- The cure rate can be adjusted by increasing or decreasing the catalyst level.
- Alternatively, DBN can be used as a catalyst for amine, base catalyst options.
- CAB-O-SIL® can be added to improve thixotropic behavior

APPLICATION AND CURED ADHESIVE PROPERTIES

Typical Application Properties		
	76395-A	76395-B
Skin Time (23°C RT, 50% RH) Observation, internal test method	27 minutes	53 minutes
Vertical Sag Observation from application line	Non-sagging	Non-sagging

Typical Cured Adhesive Properties		
	76395-A	76395-B
Shore A Hardness, 1 sec (5 sec) ASTM D 2240 Durometer Hardness	A 83 (A 80)	A 81 (A 80)
Tensile Strength at Break ASTM D 412	2.62 MPa (280.0 psi)	3.09 MPa (448.2 psi)
Elongation at Break ASTM D 412	135.9%	125.7%
Tear Resistance, Die C ASTM D 624	51.4 lbf/in	56.3 lbf/in
Lap Shear Strength on Oak, No Gap ASTM D1002	3.04 MPa (440.9 psi)	2.98 MPa (432.2 psi)
Moisture Vapor Transmission ASTM E96	Internal testing in progress	Internal testing in progress

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Reference: NB# 61360-A

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