Helix
Low-Rise Adhesive

PRODUCT DATA SHEET

DESCRIPTION

Helix Low-Rise Adhesive is a two-component, low-rise, construction grade, polyurethane foam adhesive designed to adhere roof insulations, cover boards and fleece backed single-ply membranes to acceptable substrates in both new construction and recover applications. Helix Low-Rise Adhesive is applied in continuous beads for board and insulation attachment or applied in splatter coat coverage, or contiuous beads for fleece back membrane attachment.

PACKAGING

- Box of (4) 1.5-Liter Cartridges / 18 lbs.
- Pressure Tank/Canister Kit / 104 lbs.
- 15-Gallon Drum Set / 287 lbs.
- 50-Gallon Drum Set / 1,004 lbs.

COVERAGE RATES

Container	Approximate Coverage (SqFt)*			
	4" OC	6" OC	12" OC	Splatter**
Cartridge	165	250	500	N/A
Tank	1,165	1,750	3,500	2,400
15-Gallon Drum	3,000	4,500	7,500	6,000
50-Gallon Drum	10,000	15,000	25,000	20,000

*Coverage rates may vary based on factors such as substrate type, bead size, etc.
**Splatter application approved for Fleece Back Membrane attachment only.

- **Cartridges** are sold in boxes containing four 1.5 liter tubes and six static mixing tips. Cartridges require a cordless dispensing gun.
- **Pressure tank/canister kits** contain one A-side tank, one B-side tank, one dispense gun and 25 hose assembly, 10 static mixers, 10 shower caps for splatter coat application, 10 extensions straws for bead application, one petroleum jelly packet, one assembly wrench and one instruction sheet. Kits contain everything needed for adhesive application and require no additional equipment.

  Tanks require shaking. Prior to use, shake both tanks for at least 15-20 seconds, holding the tanks by the handles and using an up and down "pumping" motion. When stopping for more than 2-hours re-shake the tanks.
- **15- and 50-gallon drum kits** contain one A-side drum and one B-side drum. Drums require the use of a specialized pump or dispense equipment. Care should be taken to ensure the dispense equipment applies material at a 1:1 ratio, especially on equipment with ration adjustment.

ACCEPTABLE SUBSTRATES

Insulations, Coverboards and Membranes

1. High-Density Wood Fiberboard
2. Polyisocyanurate, CGF
3. Extruded Polystyrene (XPS)
4. Expanded Polystyrene (EPS)
5. DensDeck®
6. Securock®
7. Oriented Strand Board (OSB) and Plywood
8. Fleece Back single-ply membranes

Note: Perlite and fiberglass insulation are not acceptable. Existing phenolic insulation must be removed. A minimum of an approved cover board or insulation is required over properly prepared gravel BUR. Fleece Back membrane cannot be installed directly over a gravel/slag surface.

Insulations, Cover Boards and Membranes

1. Structural concrete
2. Lightweight concrete
3. Gypsum
4. Cementitious wood fiber
5. Wood (min. thickness 19/32")
6. Steel (painted or galvanized, min. 22 gauge)
7. Weathered, Smooth BUR
8. Gravel surfaced BUR
9. Mineral/Granulated Mod Bit Cap Sheet
10. Weathered, Smooth Mod Bit Cap Sheet
11. Previously unexposed (shiny) asphalt must be primed with Aeroweb
12. Some roof coatings (pull test required)
13. F5 Air & Vapor Barrier

Note: Adhesion tests are required when adhering to existing roofs to determine the bond strength to the existing roof surface. All surfaces listed above must be clean, dry, and free of any loose materials/debris and in sound condition. Contact MuleHide Technical Department regarding any substrates not listed above at 800-786-1492.

INSTALLATION TEMPERATURE

1. Pressure tanks/canisters
   a. Tanks/canister temperature must be 70-85°F during application. Failure to maintain proper temperature will result in off ratio foam mixture.
   b. Use tank heaters in cold conditions and shade tanks from sunlight in warm conditions.
   c. Avoid storing tanks overnight on rooftop/jobsite when ambient temperatures are excessively hot or cold, or use heat blankets.
   d. Substrate temperature must be above 32°F during application.

2. Cartridges, 15-gallon, and 50-gallon drums
    a. Cartridge/drum temperature is recommended to be above 70°F. Colder cartridge/drum temperatures will result in excessive foam rise and cure times as well as excessive workload on dispensing equipment, or off ratio conditions.
    b. Use drum heaters in cold conditions and shade tanks from sunlight in warm conditions.
    c. Substrate temperature must be above 32°F during application.
    d. Verify 1:1 application ratio of drums with adjustable pump systems

Proper Ratio

The adhesive must be dispensed in a 1:1 ratio.

✔ **1:1 Ratio**
Grayish green in color. Low-rise, tacky foam after cure.

✘ **A-Rich Ratio**
Slow to rise/no reaction. Yellow in color. Brittle foam after cure.

✘ **B-Rich Ratio**
Very fast reaction/skin over. Bluish-gray in color. Soft, flexible foam after cure.

SURFACE PREPARATION

1. MuleHide recommends an adhesive pull test over any reconditioned surface (recover) to ensure bond strength and structural integrity of the existing surface.

2. Prior to applying Helix roofing adhesive, the surfaces to which the adhesive is being applied must be inspected to ensure that it is smooth, flat, clean, sound, dry and free of any oil, sharp edges, loose and foreign materials or irregular surfaces. Fibrous cement decks should be checked for their ability to retain the adhesive (some types may allow adhesive to pass through).

3. Existing substrates having residual asphalt must be cleaned and scraped smooth as best as possible. Any remaining asphalt that was not previously exposed (non-oxidized, glossy, shiny) must be primed with approved primer.

4. When applying Helix roofing adhesive over existing materials/ surfaces, all wet materials must be removed, and remaining moisture dried before the application. Do not use on substrates showing signs of deterioration or loss of structural integrity.

INSTALLATION INSTRUCTIONS

Follow set up instructions on the box or included in the package for cartridges and pressure tanks. For 15-gallon and 50-gallon drums follow set up recommendations of pump/dispense equipment supplier, but ensure adhesive is dispensed/applied at a 1:1 ratio. Consult MuleHide Technical Department with any questions at 800-786-1492.

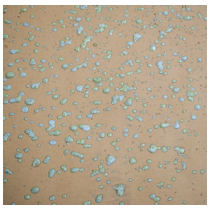
1. Insulation/Coverboard Attachment - Bead application Only
    a. Apply adhesive in ¾"-1" width beads out of mixer tip. Space beads 12", 6", or 4" apart according to MuleHide specifications
    b. Adhesive will then expand several inches in width and rise.
    c. Once adhesive has risen/foamed up, boards may be placed onto adhesive. Rise time may vary from 10-15 seconds on hot (100°F+) substrates to 5+ minutes on cold (32°F) substrates.
    d. Tack/open/working time of the adhesive may vary from 1 minute on hot (100°F+) substrates to 10+ minutes on cold (32°F) substrates.
    e. When walking the boards into place, (prior to applying temporary weight), it is recommended to roll them with a 75 lb - 150 lb segmented weighted roller weighing at least 50 lbs per linear foot.
2. Fleece Back membrane - Bead or spatter application
    a. Unroll the Fleece Back sheet and position in place. Carefully fold the sheet back in half lengthwise, making sure you do not reposition the membrane. Leaving half the membrane laid out will help prevent this.
    b. Bead application - Apply adhesive in ¾"-1" width beads out of mixer tip. Space beads 12", 6", or 4" apart according to MuleHide Specifications. Adhesive will then expand several inches in width and rise.
    c. Sweep side-to-side with application to splatter the deck/ substrate with droplets covering 50% of the surface area. (3 lbs applied per 100 sqft).
    d. Once adhesive has risen/foamed up, adhering membrane may be placed onto adhesive. Rise time may vary from 10-15 seconds on hot (100°F+) substrates to 5+ minutes on cold (32°F) substrates.
    e. Tack/open/working time of the adhesive may vary from 1 minute on hot (100°F+) substrates to 10+ minutes on cold (32°F) substrates.

Helix
Low-Rise Adhesive

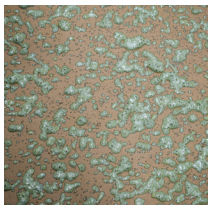
PRODUCT DATA SHEET

f. Gradually roll Fleece Back membrane into Helix adhesive, ensuring adhesive has risen/foamed up. If membrane reaches adhesive that has not risen/foamed up, then stop rolling Fleece Back membrane into adhesive until this occurs. As sheet is being installed, immediately start rolling the membrane width-wise with a 75 lb - 150 lb segmented weighted roller weighing at least 50 lbs per linear foot. Repeat process until Fleece Back sheet is fully installed.

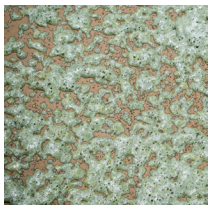
g. If ends of membrane want to curl upwards (TPO), apply ballast for 10-15 minutes to allow adhesive to begin cure.



Splatter Pattern
✘ **Light Coverage**



Splatter Pattern
✔ **Good Coverage**



Splatter Pattern
✔ **More Than Enough Coverage**

STORAGE AND HANDLING

- Keep containers closed tightly during transport and storage.
- Protect containers from puncture during transport.
- Protect from moisture, direct sunlight, and freezing temperatures (32°F/0°C).
- Ideal storage temperature is 55-90°F to achieve maximum product shelf life. 18-month shelf life for cartidges, 15-and 50-gallon drums and 12-month shelf life for pressurized tanks.
- Storage conditions outside of the above recommendations will shorten product shelf life.

DISPOSAL AND CLEANUP

1. Uncured adhesive can be cleaned with solvents such as mineral spirits, xylene, etc. Cured adhesive can be scraped from surfaces with a metal scraper.
2. Individual A-side or B-side adhesive components in their liquid state should be treated as hazardous waste and disposed of in a licensed facility according to federal, state, and local regulations.
3. Empty cartridges, 15-gallon, and 50-gallon drums can be disposed of in most landfills as non-hazardous waste. However, be sure to consult federal, state, and local regulations for your specific area with regards to the treatment of hazardous and nonhazardous wastes.
4. Pressure tank/canister disposal:
   a. Discharge the canisters using the included dispense gun and mixing tip. Empty the foam completely into a waste container until one canister is fully depleted.
   b. Remove dispense gun manifold and discharge residual chemical into a sealed waste container (ie: plastic bucket) until residual chemical and gas are evacuated and both canisters are depressurized.
   c. Empty canisters, dispense gun, and hoses can be disposed of in most landfills as non-hazardous waste. However, be sure to consult federal, state, and local regulations for your specific area with regards to the treatment of hazardous and nonhazardous wastes.
   d. Dispose of captured residual chemical in a licensed facility according to applicable federal, state, and local regulations. Do not discharge chemical into sewer system or allow to contaminate soil.

PROTECTION & SAFETY

MuleHide maintains safety data sheets on all of its non-exempt products. Safety data sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees and customers. MuleHide's safety data sheets should be read and understood by all of your supervisory personnel and employees before using MuleHide products in your facilities.

ADDITIONAL INFORMATION

On projects where a MuleHide standard or premium warranty is requested, an authorized MuleHide representative shall inspect all completed work.

The information given on this PDS is subject to change without notice. Always check the MuleHide website at www.mulehide.com for the latest information, changes and updates or contact MuleHide at 800-786-1492.

DISCLAIMER

The statements provided concerning the material shown are intended as a guide for material usage and are believed to be true and accurate at the time of printing. No statement made by anyone may supersede this information, except when done in writing by Mule-Hide Products Co., Inc. ("MuleHide"). Since the manner of use is beyond our control, MuleHide does not authorize anyone to make any warranty of merchantability or fitness for any particular purpose or any other warranty, guarantee or representation, expressed or implied, concerning this material. This product may be eligible for a MuleHide warranty, please check the MuleHide website at www.mulehide.com or contact MuleHide directly at 800-786-1492 for details. Buyer and user accept the product under these conditions and assume the risk of any failure, any injury to person or property (including that of the user), loss or liability resulting from the handling, storage or use of the product whether or not it is handled, stored or used in accordance with the directions or specifications. MuleHide must be notified in writing of any claims and be given the opportunity to inspect the alleged failure before repairs are made.