NOVALIS®
INNOVATIVE FLOORING

NV-GLU+

Technical Data & Installation

General Information

The Novalis NV-GLU+ is a specially formulated acrylic adhesive used for the permanent installation of Novalis glue down vinyl floor coverings. The NV-GLU+ is water-based, easy to apply and incredibly strong. The NV-GLU+ is also resistant to high levels of moisture and alkalinity, whether topical or from the substrate.

The NV-GLU+ is easy to clean up, wet or dry, and will not mar or etch the surface of floor covering.

Adhesive Features

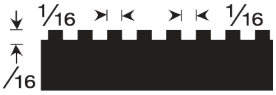
- **Superior Initial Grab**
- **Superior Shear Strength**
- **Approved for Use With All Novalis LVT & LLT Products**
- **Easy To Clean-Up**
- **Will Not Mar or Discolor Flooring**
- **Low VOC**
- **FloorScore Certified**

Technical Information

Unit Sizes:	**1 Gallon & 4 Gallon Pails**
Unit Weight:	**1 Gallon: 9.5 lbs. (4.3 kg.)** **4 Gallon: 36.7 lbs. (16.64 kg.)**
Base Polymer:	**Acrylic**
Color / Consistency:	**Beige Paste**
pH of Adhesive:	**8 - 8.5**
VOC Emissions:	**1.1 g/l**
ASTM D7149 Freeze Thaw:	**Stable, 5 Cycles @ 10° F**
Coverage Rate / Gallon:	**125 - 250 sq. ft.**
Coverage Rate / 4 Gallon Pail:	**500 - 1000 sq. ft.***
Open/Flash Time:	**~ 15 - 30 minutes◊**
Working Time:	**Up to 4 hours◊**
Light Foot Traffic Limit:	**Immediate**
Heavy Foot Traffic / Rolling Loads:	**12 Hours**
Heat Welding / Initial Maintenance:	**12 Hours**
Shelf Life:	**2 Years *(unopened & properly stored)***
Storage Temperature:	**40° - 90°F *(4° - 32° C)***
Acclimation / Installation Temperature:	**± 2° F of In-Service Temperature** **≥ 10° F Above Dew Point**
Installation Humidity:	**35 - 65%**

* Depending on Trowel Size & Usage | ◊ Depending on Substrate & Site Conditions

Spread Rate Chart

Trowel Size	Spread Rate	
 1/32" x 1/16" x 5/64" U Notch (WHA)	225 - 250 sq. ft. per gallon	5.5 - 6.1 sq. m. per litre
 1/32" x 1/16" x 1/32" U Notch (FFA)	175 - 200 sq. ft. per gallon	4.3 - 4.9 sq. m. per litre
 1/16" x 1/16" x 1/16" Square Notch (FCA)	125 - 175 sq. ft. per gallon	3 - 4.3 sq. m. per litre

Use the specified trowel notch, detailed within the flooring instructions. Replace trowels every 4 gallons to ensure even coverage – do not re-notch trowels.

General Information

Important Information: Novalis NV-GLU+ is suitable for Novalis flooring only. NV-GLU+ must be used in indoor applications and on approved, properly prepared substrates, following the current Installation Instructions. All associated technical documents, including the Warranty and Safety Data Sheet, shall be read, understood, and followed. ***Failure to properly review and follow all relevant technical documents could result in issues that are not covered under warranty.***

Receiving Material & Storage: Remove all plastic and strapping from the product after delivery. Confirm that the adhesive is approved for use with the flooring, especially in the event you've received more than one. Carefully check all materials for shipping damage and note all damage on the bill of lading before accepting the delivery. Material accepted with visible shipping damage that is not reported on the bill of lading will not be covered under warranty. The adhesive must be stored in dry indoors conditions between 40°F and 90°F (4°C - 32°C). Do not store outside (even in containers) and do not stack pallets.

Recommended Tool List:

- Safety Glasses
- Safety Shoes
- Dust Mask
- Cut-Resistant Gloves
- Knee Pads
- HEPA-Filtered Vacuum
- 6-ft. and 1-ft. Straight Edge or Level
- Appropriate Adhesive Trowels or Blades
  (see flooring or technical bulletin requirements)
- 100 lb. Three Section Roller
- Non-Contact Infrared Thermometer
- Appropriate Substrate Preparation Tools

Warning: All local, state, and federal regulations must be followed; this includes the removal of in-place asbestos flooring and adhesive, as well as any lead-containing materials. The Occupational Safety and Health Administration (OSHA) has exposure limits for people exposed to respirable crystalline silica; this requirement must be followed. Do not use solvent or citrus-based adhesive removers. When appropriate, follow the Resilient Floor Covering Institute's (RFCI) *Recommended Work Practice for Removal of Existing Floor Covering and Adhesive*. Always wear safety glasses and use respiratory protection or other safeguards to avoid inhaling any dust. The label, installation, and maintenance instructions along with the technical data sheet, limited warranty and any appropriate Safety Data Sheet (SDS) of all products must be read, understood, and followed prior to installation. Copies of ASTM documents are available for purchase at www.astm.org.

Substrate Preparation

Substrate Flatness: Check all subfloors for flatness prior to installation. It is recommended that all subfloors have a floor flatness of FF32 and/or have a maximum deviation of < 1/8-inch gap (2 x US quarters should not slide underneath) within 6-feet and ≤ 1/16-inch gap (1 x US quarter should not slide underneath) within 1-foot. Subfloors that do not meet this requirement should be corrected appropriately prior to installation. Failure to follow this recommendation must be pre-agreed upon with customer / end-user before installation begins.

Concrete Moisture Requirements

Above-grade: All concrete surfaces must be visibly dry prior to and during installation.

On and/or Below-grade: All concrete substrates that are in direct contact with ground must comply with one of the following options prior to installation.

1. Concrete must have a **confirmed**, effective **vapor retarder** installed directly beneath the slab, that is compliant with the A*STM E1745 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slab*.
2. Concrete must be tested for relative humidity within 3-weeks of flooring installation, following the *ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes*. **ASTM F2170 test results must not exceed 90% RH.**
3. **(Residential Only):** Concrete must be tested for surface moisture, following the *ASTM F2659 Standard Guide for Preliminary Evaluation of Comparative Moisture Condition of Concrete, Gypsum Cement and Other Floor Slabs and Screeds Using a Non-Destructive Electronic Moisture Meter*. Electronic moisture meter(s) must be set for concrete substrates and properly calibrated with a 0.0 – 6.9% Moisture Content (MC) scale. Perform at least 3 tests within a 1-sq. ft. location and record the highest MC reading. Repeat the test at ≥ 8 different locations per 1,000 sq. ft. **All F269 test results shall be ≤ 4.5% MC.**
4. Install a surface applied **concrete moisture mitigation system** that complies with the A*STM F3513 Standard Practice for Single Component, Fluid-Applied Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings* or the *ASTM F3010 Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings*, following the product manufacturer's instructions.

Concrete Substrate & Subfloor Requirements: All concrete must be at least 28 days old, structurally sound, stable and have a minimum compressive strength of ≥ 3000 PSI prior to installation. The concrete must be clean, dry, and free of contaminants, such as dust, residual adhesives, solvents, wax, oil, grease, mold, mildew, asphalt, and visible alkaline salts prior to installation

to ensure proper adhesion and long-term performance. If site conditions are inadequate or if there is any evidence of water, hydrostatic pressure or chemical adhesive removers on the concrete, do not proceed with the installation and contact the Novalis technical department for guidance.

To treat dormant construction joints and cracks, first remove all debris, dust, and dirt from the cracks. Next, fill cracks with a rigid crack treatment designed for construction joints, ensuring the surface is troweled flush with the surrounding concrete. Use an appropriate expansion joint covering system over all expansion joints to manage concrete expansion and contraction.

If needed, flatten or smooth the surface with a moisture-resistant, commercial-grade leveling or patching compound, following the product manufacturer's instructions.

Gypsum/Lightweight Substrate Requirements: Lightweight or gypsum substrate must be dry as per the product manufacturer's specifications and have a minimum compressive strength of 2000 PSI when installed over wood, or 3000 PSI when installed over concrete. The substrate must be installed and prepared in accordance with the *ASTM F2471 Standard Practice for Installation of Thick Poured Lightweight Cellular Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring* or the *ASTM F2419 Standard Practice for Installation of Thick Poured Gypsum Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring*, respectively. New or existing substrates may require a sealant or primer before installing resilient flooring. Follow the product manufacturer's instructions for appropriate preparation. Substrates must be firmly bonded to a structurally sound subfloor. Any cracked or damaged areas must be removed and repaired using a compatible repair product.

Wood Substrate & Subfloor Requirements: All wood substrates must be structurally sound, stable, and free from deflection, movement, or instability. Sleepers and sleeper systems must not make direct contact with concrete foundations. The moisture content percentage (MC-%) of the wood must also meet the requirements for the specific region to ensure proper performance, stability and durability. Wood subfloors and substrates must be compliant with and, if necessary, prepared in accordance with the *ASTM F1482 Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring*. Wood substrates must consist of a double-layer construction with a recommended total thickness of at least 1 inch, adhering to all local, state, and federal building codes. For standard installations, the top layer must be American Plywood Association (APA) rated underlayment grade plywood or an equivalent material, with a minimum thickness of 1/4 inch. The plywood must be fully acclimated, smooth, free of knots or voids, and fully sanded. When floors may be subjected to moisture, use an APA-rated exterior grade plywood or an equivalent material.

Resinous Coating Requirements: When installing directly over resinous coatings, such as epoxy coating or a moisture mitigation system, ensure the coating is clean, free of contamination, structurally sound, smooth, dry and properly cured per manufacturer's instructions.

Metal Substrate Requirements: Metal substrates must be clean, dry, structurally sound smooth and free of oil, rust and/or oxidation. When installing in areas that may be subject to topical water, moisture and/or high humidity, an anti-corrosive coating should be applied to protect the metal substrate. Contact a local paint or coating supplier for coating recommendations.

Other Subfloors & Substrates: Installing over existing resilient vinyl flooring is not recommended. However, it may be possible over some materials, such as vinyl composition tile (VCT), quartz tile, solid vinyl tile, sheet vinyl or linoleum, as well as existing hard surface flooring substrates, such as terrazzo, porcelain or ceramic tile. Ensure subfloor is dry, existing flooring is clean, dry, sound, solid and well adhered. All loose material must be removed and repaired or replaced. All imperfections must be flattened and smoothed with a suitable repair product. Electing to install over existing floor covering releases the manufacturer from all liability related to suitability and continued performance of the existing product, including all subsequent effects on the new floor covering.

Radiant Heating Requirements: When installing flooring over a substrate that contains a radiant heating system, ensure that none of the heating elements make direct contact with the flooring material. Ensure radiant heat is no higher than 70° F (21° C) 8-hours prior to and during the entire installation. After installation, the radiant heat may gradually be increased over the course of 24 hours, until normal operating temperature is reached. Ensure the temperature of the radiant heating system does not exceed 85° F (29.5° C) and avoid making abrupt changes in radiant heating temperature.

Sound Control Substrates: Novalis LVT products may be installed over the Novalis F-22-SCU Sound Control Underlayment, but may not be installed with any other sound control products, such as cork, foam or rubber underlayments.

Labor costs associated with unapproved third-party materials will not be covered under warranty. For additional information, please see the Novalis F-22-SCU Tech Data or the associated Sound Control technical bulletin.

Unsuitable Substrates: These include but are not limited to: Floating or loose floor coverings, vinyl asbestos tile (VAT), hardwood, carpet, cushioned vinyl, rubber, cork, foam, asphalt tile, additional acoustical underlayments and any subfloor with visible mold, mildew, or fungi and any subfloor in wet areas, such as inside showers and saunas. Do not install over substrates that have been coated with a varnish or an oil-based, enamel, paint, primer, primer-sealer or stain-blocker. Do not install over any substrate made of Masonite™, chipboard, wafer board, fiberboard, particleboard, construction-grade plywood, CDX, OSB (including AdvanTech™), Lauan, cement board or any non-underlayment grade panels – if present, cover with an APA-

rated underlayment-grade plywood. Do not use pressure-treated plywood. If using fire-retardant plywood, confirm adhesion using the Mat Bond Evaluation detailed below. Do not install directly over any adhesive or adhesive residue of any kind. Do not install in recreation vehicles, campers, boats. If installing in fully enclosed and weatherproof three-season rooms, sunrooms and other areas that do not comply with the Site Conditions, contact the technical department for specific instructions before proceeding.

Note: Issues related to unsuitable substrates or subfloors are not covered under the warranty.

Adhesive Mat Bond Evaluation: If the compatibility of an otherwise suitable substrate or any other products is in question, perform a mat bond evaluation following the *ASTM F3311 Standard Practice for Evaluation of Performance and Compatibility for Resilient Flooring System Components Prior to Installation.*

Adhesive Installation

Site Conditions: The prepared installation area must be fully enclosed and weatherproof. Maintain steady site conditions (within ± 5°F) using an HVAC system set to the normal, post-installation operating temperature and humidity conditions (In-Service Conditions) for at least 48 hours before, during, and 48 hours after installation. In-Service Conditions must be between 60°F (16°C) and 80°F (27°C) and between 35% and 65% relative humidity. Additionally, In-Service Conditions must be ≥ 10°F above dew point. During installation, block any direct sunlight using window treatments or other protective methods.

Product Acclimation: Before installation, confirm that the flooring is acclimated to within ± 2°F of the in-service conditions using a non-contact infrared (IR) thermometer. If these conditions are not met, delay the installation until the flooring temperature is within the acceptable ranges.

Failure to meet these site conditions may impact adhesive performance. If the required conditions cannot be met, contact the technical department for specific instructions before proceeding.

Adhesive Application: After the substrate that has been prepared, apply the adhesive slowly and evenly to the substrate using the appropriate adhesive trowel at a ~45° angle. Avoid skips, puddles or sharp trowel turns. Allow the appropriate open time for the adhesive - trowel ridges should still be pliable and tacky when pressed, with slight adhesive transfer to fingertips (~15 – 30 minutes, depending on substrate and site conditions). Only apply adhesive that can be covered within the working time (up to 4 hours, depending on substrate and site conditions). If adhesive ridges are firm and there's no transfer to fingertips, do not install flooring and contact the technical department.

Note: Alternate trowel sizes may be required, depending on the product, underlayment, associated Technical Bulletins or specific guidance from the technical department.

Clean Up: Remove any wet adhesive from the surface of the flooring immediately using a damp, c clean cloth. If the adhesive has dried, use 70% Isopropyl alcohol and a clean cloth to remove it.

Post-Installation: Do not place, slide, drag heavy objects across the floor. When moving appliances, heavy furniture or equipment, protect the flooring with appropriate, hard surface furniture sliders or 1/2" plywood. Casters, glides and feet of all furniture or equipment must have a flat contact point that is at least 1 sq. in. or 1.125 in. in diameter to limit indentation.

Warranty

Novalis adhesives are covered as part of the system warranty for the Novalis floor covering being installed - consult the warranty for the specific product in use for more information. No warranty is expressed, implied or provided when Novalis adhesives are used in conjunction with floor covering that is not manufactured by Novalis.

FOR PROFESSIONAL USE ONLY. PLEASE CAREFULLY REVIEW ALL ASSOCIATED TECHNICAL DATA SHEETS, SAFETY DATA SHEETS, MAINTENANCE DOCUMENTS AND WARRANTY INFORMATION PRIOR TO INSTALLATION.