

PRODUCT DESCRIPTION

USD-810 is a two-part, solvent free urethane adhesive used for the permanent installation of ESD vinyl and rubber flooring products. USD-810 is low VOC and solvent free, yet is highly aggressive and cured to a flexible, ESD film for superior adhesion. USD-810 can be installed over porous and non-porous substrates

in indoor applications. USD-810 has superior bond strength and is extremely durable, making it ideal for areas that may be subjected to heavy use, machinery or rolling loads.

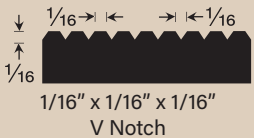
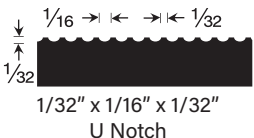
FEATURES

- **VOC Free**
- **Solvent Free**
- **Improves Conductivity of ESD Flooring**
- **Ideal for Installation Under Heavy Equipment**
- **Superior Bond Strength**
- **Excellent Shear Strength**
- **Contributes to LEED Credits**
- **Can Be Directly Installed Over MM-100**

TECHNICAL INFORMATION

Unit Size:	1 Gallon
Weight:	13 lbs.
VOC:	< 12 g/l
LEED v2009 IEQ Credit 4.1:	Complies
ASTM F2170 RH Limit:	90% RH
ASTM F1869 MVER Limit:	6 lbs.
ASTM F710 pH Limit:	7-10
ASTM D7149 Freeze Thaw:	5 Cycles at 0° F
Brushed & Rough Porous Coverage	135 sq. ft. per gallon
Smooth Porous & Non-Porous Coverage	150 sq. ft. per gallon
Pot Life:	20 - 40 Minutes
Flash Time:	Immediate
Working Time:	30 - 40 Minutes
Light Foot Traffic:	8-12 Hours
Heavy Foot Traffic:	24 Hours
Heavy Rolling Loads:	24 - 48 Hours
Heat Welding:	24 Hours
Maintenance:	48 Hours
Shelf Life:	1 Year
Storage Temperature:	65° - 75° F

SPREAD RATE CHART

Substrate Porosity	Trowel Size	Coverage Per Gallon
Brushed & Rough Porous	 <p>1/16" x 1/16" x 1/16" V Notch</p>	135 sq. ft.
Smooth Porous & Non-Porous	 <p>1/32" x 1/16" x 1/32" U Notch</p>	150 sq. ft.

PRODUCT LIMITATIONS

All referenced times are subject to substrate porosity and flatness, as well as ambient conditions, such as air temperature, relative humidity and substrate temperature - actual times may vary based on these conditions. Spread rates may vary, depending on porosity and flatness of the substrate. Adhesive cannot resist extreme dimensional instability of flooring materials, which may cause gapping, cupping, buckling and/or edge lifting. Adhesive is intended to be properly grounded - without grounding, ESD flooring system may not perform as intended.



1. PRE-INSTALLATION CHECKLIST

- Consult all associated product literature concerning installation and warranty prior to installation.
- Allow all trades to complete work prior to installation.
- Deliver all materials to the installation location in its original packaging with labels intact.
- Inspect all materials to ensure there is no leakage or damage.
- Do not stack pallets to avoid damage.
- Ensure installation area and material storage temperatures are between 65° F (19° C) and 85° F (30° C) and 40% - 65% RH for at least 48 hours before, during and after installation.
- Ensure HVAC system is operational and fully functioning at normal operating conditions 48 hours prior to, during and 48 hours after installation.
- Turn off radiant-heated flooring systems 48 hours prior to installation. 48 hours after installation, gradually increase the temperature over the course of 24 hours to a maximum temperature of 85° F (29.5° C).
- Protect installation area from extreme temperature changes, such as heat and freezing, as well as direct sunlight for at least 48 hours before, during and after installation.
- Ensure concrete moisture testing is conducted or scheduled to be conducted prior to flooring installation.
- Ensure all vents, walls, moldings and/or doorways are protected with tape or plastic prior to installation.
- Test substrate for porosity in order to determine the installation method necessary.
- Do not proceed with installation until all conditions have been met.

2. SUBSTRATE PREPARATION

All substrates must be prepared according to ASTM F710, as well as applicable ACI and RFCI guidelines. Substrates must clean, smooth, permanently dry, flat, and

structurally sound. Substrates must be free of visible water or moisture, dust, sealers, paint, sweeping compounds, curing compounds, residual adhesives and adhesive removers, concrete hardeners or densifiers, solvents, wax, oil, grease, asphalt, visible alkaline salts or excessive efflorescence, mold, mildew and any other extraneous coating, film, material or foreign matter.

All substrates must have any and all existing adhesives, materials, contaminants or bond-breakers mechanically removed via scraping, sanding, grinding or buffing with a 25 grit DiamaBrush Prep Plus tool prior to adhesive installation. In extreme situations, shotblasting may be required. Mechanical preparation must expose at least 90% of the original substrate. Following cleaning and removal, all substrates must be vacuumed with a flat vacuum attachment or damp mopped with clean, potable water to remove all surface dust. ***Sweeping without vacuuming or damp mopping will not be acceptable.***

All porous substrates must be tested per ASTM F3191 to confirm porosity. Use a pipette or equivalent to conduct three tests by placing a .05 mL (1/4" wide) droplet of clean, potable water onto the surface. If the substrate absorbs water within 60 seconds, the substrate is considered porous. Conduct 3 tests for the first 3000 sq. ft. and one for each additional 2000 sq. ft., at least one per room. All other substrates that do not meet this requirement are considered non-porous. Ensure that all non-porous substrates are not contaminated with any aforementioned contaminants.

It is recommended that all substrates have a floor flatness of FF32 and/or a flatness tolerance of 1/8" in 6' or 3/16" in 10'. Substrates that do not meet this requirement should have a compatible cementitious patch (such as the Excelsior CP-300) or self-leveling underlayment (such as the Excelsior SU-310) installed to flatten the installation area.

Do not use solvent/citrus based adhesive removers prior to installation. Follow The Resilient Floor Covering Institute's (RFCI) "Recommended Work Practice for Removal of Existing Floor Covering and Adhesive", and all applicable local, state, federal

and industry regulations and guidelines. When removing asbestos and asbestos containing materials, follow all applicable OSHA standards.

CONCRETE SUBSTRATES

All concrete must have a minimum compressive strength of 3500 PSI and be prepared in accordance with ASTM F710. When flooring is being installed directly over concrete, concrete surfaces that have an ICRI Concrete Surface Profile (CSP) over 4 should be flattened with a self-leveling underlayment or a patch to prevent imperfections from telegraphing through flooring materials. On or below grade concrete must have a permanent, effective moisture vapor retarder installed below the slab. New or existing concrete substrates on all grade levels must be tested in accordance with ASTM F2170, using in situ Probes, to quantitatively determine the amount of relative humidity no more than one week prior to the installation.

In addition to ASTM F2170 Relative Humidity Testing, existing concrete that has previously had floor covering installed on all grade levels must be tested in accordance with ASTM F1869, using Calcium Chloride test kits, to quantitatively determine the Moisture Vapor Emissions Rate (MVER) of the concrete.

If ASTM F2170 or ASTM F1869 test results exceed the prescribed limits, a moisture mitigation product, such as Excelsior MM-100 Moisture Mitigation, must be installed prior to proceeding with installation. Install The MM-100 per technical data sheet at a rate of 400 sq. ft. per gallon. When installing over concrete as moisture mitigation, material must be applied in two coats. Do not install flooring until moisture testing has been conducted per the appropriate standard and/or moisture mitigation has been installed and is dry to the touch. Do not install flooring in below grade areas when hydrostatic pressure is visible or suspected.

RESINOUS SUBSTRATES

When installing directly over a resinous products, such as the Excelsior MM-100 or an epoxy coating, ensure that coating is dry to the touch and has cured for the prescribed length of time. Substrate must be



clean, dry, sound and free of contaminants. Resinous substrates are non-porous – follow all installation instructions and flash times for non-porous substrates.

GYPSUM BASED SUBSTRATES

Gypsum-based substrates must have a minimum compressive strength of 3500 PSI. Gypsum substrates that do not meet this requirement may have one coat of the Excelsior MM-100 installed to improve the strength of the substrate. Substrate must be structurally sound and firmly bonded to subfloor. Any cracked or fractured areas must be removed and repaired with a compatible patch or repair product. Follow instructions for installation over a gypsum substrate. New or existing gypsum substrates may require a sealant or primer. Follow all manufacturer's recommendations regarding preparation for resilient flooring installation.

WOOD SUBSTRATES

Wood substrates must be prepared in accordance with ASTM F1482. Wood subfloors should be of double layer construction with a minimum thickness of 1". Crawl spaces beneath wood subfloors shall be in compliance with local building ventilation codes and have at least 18" of cross-ventilated space between the ground and the joists. Wood joists should be spaced on not more than 16" centers.

Prior to installation, moisture retardant sheeting with a maximum rating of 1.0 perm must be installed beneath the wood subfloor, overlapped at least 8". For standard installations, use Underlayment Grade plywood with a minimum thickness of 1/4" thick and a fully sanded surface. When floors may be subjected to moisture, use an APA approved exterior grade plywood.

Other wood subfloor materials, such as OSB, lauan, particleboard, chipboard or cementitious tile backer boards, are not acceptable subfloors. Avoid preservative-treated and fire-retardant plywood, as some may be manufactured with resins or adhesives that may cause discoloration or staining of the flooring.

Wood subfloor deflection, movement, or instability will cause the flooring

installations to release, buckle or become distorted. As such, do not use plastic or resin filler to patch cracks. Do not use cement or rosin coated nails and staples or solvent-based construction adhesives to adhere the plywood. Do not install on a sleeper system (wood subfloor system over concrete) or directly over Sturd-I-Floor panels.

METAL SUBSTRATES

Metal substrates must be thoroughly sanded/grinded and cleaned of any residue, oil, rust and/or oxidation. Substrate must be smooth, flat and sound prior to installation. Install flooring material within 12 hours after sanding/grinding to prevent re-oxidation. Any deflection in the metal floor can cause a bond failure between the adhesive and the metal substrate. Metal substrates are non-porous – follow all installation instructions and flash times for non-porous substrates.

EXISTING FLOORING SUBSTRATES

Existing rubber flooring and LVT, as well as the adhesives used to install them, must be completely removed from the substrate prior to installation. Existing VCT, VAT, quartz tile, solid vinyl tile, sheet goods, hardwood flooring, asphaltic materials and existing adhesives or adhesive residue must have a compatible cementitious patch underlayment installed over the substrate prior to installation. Existing hardwood flooring may also have suitable underlayment grade plywood installed over the substrate.

Adhesive may be installed over existing Stone flooring substrates, such as terrazzo, porcelain or ceramic tile. Ensure existing flooring is a single layer of material and that all materials are clean, dry, sound, solid, well adhered and free of site-applied finishes, waxes and/or contaminants. Any and all loose tiles must be removed and repaired or replaced. All grout lines and irregularities must be filled and troweled flush with a suitable cementitious patch, such as the Excelsior CP-300. All existing flooring substrates that are outside of flatness tolerances should be repaired with a cementitious patch or self-leveling underlayment (with a minimum compressive strength of 3500 PSI after 28

days) to avoid telegraphing imperfections through flooring material.

All existing flooring substrates must have any and all site-applied finishes and/or waxes completely removed prior to flooring installation in order to ensure a proper adhesive bond. For mechanical removal, use a low-speed buffer and 40-60 grit sandpaper. Properly prepared substrates should not have any remaining gloss or sheen. For chemical removal, ensure chemical treatments will not disrupt adhesion of the existing flooring to the substrate. Be sure to rinse the existing flooring adequately with clean, potable water to remove any and all chemicals from the surface of material.

Do not install flooring until any moisture on, between or below existing flooring has completely dried. Ensure all dust, dirt and debris are removed prior to flooring installation. Existing flooring substrates are non-porous – follow all installation instructions, trowel sizes and flash times for non-porous substrates.

3. CRACKS, JOINTS & VOIDS

All cracks, joints and voids, as well as the areas surrounding them, must be clean and free of dust, dirt, debris and contaminants. All minor cracks and voids 3/64" wide or less may be repaired with a suitable cementitious patch.

Due to the dynamic nature of concrete slabs, manufacturer **cannot** warranty installations to cover expansion joints, cracks or other voids (such as control cuts, saw joints and moving cracks or voids) wider than 3/64". Do not install flooring directly over any expansion joints or cracks wider than 3/64".

All expansion joints should have a suitable expansion joint covering system installed to allow expansion joint to freely move. To treat expansions joints where an expansion joint covering system can't be installed or to treat through cracks (depth at least 75% of the thickness of the concrete), chase joint or crack with a suitable saw or grinder and open to a minimum width of 1/4". Be sure to clean all dust, dirt and debris from crack. Joints and cracks should then be sealed with a suitable, elastomeric caulk (such as Ardex Ardiseal Rapid Plus,

Mapei P1 SL or equivalent) designed for use in expansion joints. Install a closed-cell backer rod at prescribed depth and follow caulk manufacturer's instructions for installation. Ensure surface is troweled flush with surface of concrete.

To treat other cracks and voids (such as control cuts, saw-cut joints and surface cracks) over 3/64", chase joint or void with a suitable saw or grinder and clean all dust, dirt and debris from crack. Fill entire crack with a rigid crack filler (such as Ardex Ardifix, CMP CM10 or equivalent) designed for use in control or saw-cut cuts. Follow material manufacturer's instructions for installation. Ensure surface is troweled flush with surface of concrete.

Consult a structural engineer prior to treating any crack or joint, especially those that may affect structural integrity (such as expansion joints). Review all manufacturer installation instructions and/or consult manufacturer technical staff for all crack or joint filling products prior to treating joints and cracks.

4. GROUNDING STRIP INSTALLATION

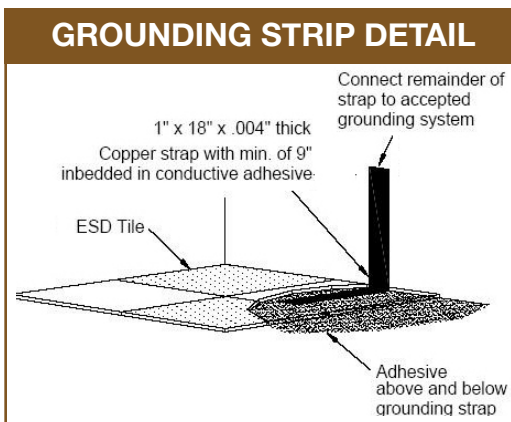
In order to properly conduct and dissipate electricity, adhesive must be grounded with an Excelsior Copper Strip. Prior to installation, consult project electrician or electrical engineer regarding the placement of copper strips and grounding, in order to synchronize copper strip placement with grounding location. Excelsior Copper Strips must be placed every 2000 sq. ft., at least one in each room.

Prior to installing flooring materials, install Excelsior Copper Strip directly into fresh adhesive and trowel adhesive over strip to fully embed it in adhesive. Copper strip must be at least 18" in length, with at least 9" embedded into adhesive and at least 9" running up the wall for connection with electrical ground or ground bus bar. Ensure ground installation is consistent with specifications and electrical grounding guidelines or diagrams, such as the one below.

5. PRODUCT INSTALLATION

FOR PROFESSIONAL USE ONLY. PLEASE CONSULT ALL ASSOCIATED TECHNICAL DATA SHEETS, SAFETY DATA SHEETS AND WARRANTY INFORMATION PRIOR TO INSTALLATION.

Ensure substrate is suitably prepared prior to installation, as manufacturer is not responsible for substrates that have not been properly prepared and tested for moisture. Ensure adhesive is approved for use with flooring material and the proper trowel type and size is used, as manufacturer is not responsible for any and all adhesion issues related to improper adhesive selection or usage. To determine correct trowel size, see chart on page 1.



Use a nail-down guide or equivalent visual aid along starting row to expedite wet-set installation.

Pour Part B into Part A and mix with a low speed drill (<400 RM) and an epoxy or jiffy type mixing paddle for 2 - 3 minutes or until mixture is homogenous and consistent throughout. Pour entire contents of adhesive unit onto substrate and spread adhesive using appropriate trowel size at a 45° angle, ensuring consistent coverage. Do not allow adhesive to puddle, pool or remain in container. Replace trowels at recommended intervals to maintain proper trowel ridge and spread rate.

Material may be installed into fresh adhesive immediately. If necessary, adhesive may be allowed to flash for 20 minutes to reduce shifting and oozing of adhesive. Install flooring material into fresh adhesive within 40 minutes of application. Be sure to install copper grounding strip every 2000 sq. ft. (at least one per room) prior to laying floor material into adhesive. Periodically lift material to ensure proper

adhesive transfer - adhesive should cover 90% of tile. Pay close attention to open times to avoid adhesion issues.

Do not work on material that is installed into wet adhesive, as this could displace adhesive. When working off of material is not possible, use a kneeling board or equivalent to disperse weight evenly and prevent adhesive displacement. Immediately after installation, roll the flooring material with a 3 section, 100 lb., crossing in a perpendicular direction after initial roll. Use a hand roller in areas that cannot be reached with larger roller. Reroll flooring 30 minutes after initial roll. Visually inspect installation to ensure that material has not shifted and that adhesive has not been squeezed out of joints or compressed onto surface.

6. CLEAN-UP

Dry adhesive is difficult to remove and may discolor flooring materials. As such, wet adhesive or adhesive residue should be removed immediately using a clean cloth and denatured alcohol or equivalent. If adhesive has hardened onto the surface of material, gently remove adhesive and clean area with denatured alcohol or equivalent. Once wet or dry adhesive is removed, rinse area with a clean towel or cloth and a solution of Excelsior NC-900 and clean, potable water. Area may be permanently discolored from adhesive. Tools where adhesive has dried can be cleaned mechanically with denatured alcohol or equivalent and an abrasive pad or tool. **Do not apply solvents directly to flooring materials.**

7. WARRANTY

Manufacturer provides a 1 year material & labor warranty for all installations where adhesive is properly installed. See Excelsior adhesive warranty for more information.