



This document is intended to cover substrate preparation requirements, adhesive application, and special installation instructions for resilient flooring concepts listed above. Please refer to the Table of Contents for the specific sections and if you view a digital document, the sections are a link to that place within the document. If there are any questions or concerns, please reach out to solutions@rhctechnical.com.

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Prior to acceptance of this document refer to product website to confirm that you have the most current revision.
For additional technical support, send an e-mail to solutions@rhctechnical.com.

1. RECOMMENDED ADHESIVES

Adhesive should be selected based on the conditions the installed area will be subjected too and conditions of the substrate. Porosity should be reviewed to determine the appropriate method of using the adhesive and proper trowel size to utilize when applying the adhesive. All information given in the document below is based on the prescribed installation environment information in this document. Any adhesives being used outside of the conditions should be expected to act differently than specified due to the environment they are being utilized in.

For flooring materials that are designed to be installed without adhesive, refer to the requirements below. If those products are installed with adhesives, the requirements for the selected adhesive would apply.

Recommended Adhesive Coverage Rates, Moisture and Traffic Limits after Installation*							
Flooring	RH% Limit		MVER Limit		Light	Heavy	Maintenance
Loose Lay	90%		8 lbs.		Immediate	Immediate	Immediate
Adhesive	Porous	Non-Porous	RH% Limit	MVER Limit	Light	Heavy	Maintenance
SP-500	100 sq. ft. - 150 sq. ft. / unit		90%	8 lbs.	Immediate	24 Hours	48 Hours
AP-520, R	400 sq. ft.		90%	6 lbs.	Immediate	Immediate	72 Hours
AP-520, T	225 sq. ft.		90%	6 lbs.	24 Hours	48 Hours	72 Hours
AW-510	160 sq. ft.	225 sq. ft.	90%	6 lbs.	24 Hours	48 Hours	72 Hours



PS-525**	150 sq. ft. - 225 sq. ft.	99%	12 lbs.	Immediate	48 Hours	72 Hours
C-631	20 - 40 lin. ft. / pail	85%	6 lbs.	Immediate	Immediate	72 Hours
U-705***	160 sq. ft.	235 sq. ft.	100%	12 lbs.	8 Hours	24 Hours
EW-710***	135 sq. ft.	150 sq. ft.	90%	6 lbs.	12 Hours	24 Hours
*coverages are per gallon unless noted otherwise						
*rates are approximate and subject to level of porosity as well as ambient conditions, actual values may vary						
**coverage will vary dependent upon product being installed and selected trowel size						
***required for installation of Oil & Grease Resistant performance compounds						
R = Roller Application, T= Trowel Application						

Excelsior SP-500 Spray Adhesive is an acrylic aerosol pressure sensitive adhesive used for the installation of LVT, LVP and approved Rubber flooring products over porous and non-porous substrates in indoor applications; it is a low odor, non-flammable, solvent-free and ready to use product.

Excelsior AW-510 Adhesive is an acrylic wet-set adhesive used for the permanent installation of dimensionally stable Solid Vinyl Tile, LVT, LVP, approved Rubber, Resilient Quartz flooring, and stair tread products over porous and non-porous substrates in indoor applications; it is a low odor, non-flammable, solvent-free and ready to use product

Excelsior AP-520 Roll-On Adhesive is a roller or trowel applied acrylic pressure sensitive adhesive used for the installation of LVT, LVP and approved Rubber flooring products over porous and non-porous substrates in indoor applications; it is a low odor, non-flammable, solvent-free and ready to use product

Excelsior PS-525 Modified Pressure Sensitive Adhesive is a trowel applied, increased grab, acrylic pressure sensitive adhesive used for the installation of LVT, LVP, solid vinyl, quartz, and approved Rubber flooring products over porous and non-porous substrates in indoor applications; it is a low odor, non-flammable, solvent-free and ready to use product

Excelsior C-631 Water Based Contact Adhesive is an aggressive contact adhesive used for the permanent installation of vinyl and rubber resilient flooring, stair treads, wall base, flash coving and accessories in horizontal or vertical installations over porous and non-porous substrates in indoor applications; it is a low odor, non-flammable, and solvent-free product

Excelsior U-705 Urethane Adhesive is a single component wet-set urethane adhesive used for the permanent installation of all resilient and athletic flooring products over porous and non-porous substrates. When cured it is water resistant and has high sheer strength and is the perfect choice for areas with topical moisture, heavy traffic and rolling loads both indoors and outdoors including areas with sunlight and not climate controlled; it is a low odor, non-flammable, solvent-free and ready to use product

Excelsior EW-710 Epoxy Adhesive is a two-component urethane enhanced wet-set epoxy adhesive used for the permanent installation of all resilient and athletic flooring products over porous and non-porous substrates. When cured it is water resistant and has high sheer strength and is the perfect choice for areas with topical moisture, heavy traffic and rolling loads both indoors and outdoors including areas with sunlight and not climate controlled; it is a low odor, non-flammable, and solvent-free product

Since there are many installation products available today for the commercial environment, we cannot evaluate each available product for fitness of use. We have thoroughly evaluated the above products with our resilient flooring and recommend their use. Our product warranties regarding bond are only with these products, the use of other products does not void product warranties but realize those bond warranties come from either the manufacturer or distributor. If you have a question about the fitness of use of other products, please contact customer service or technical services.



2. PRE-INSTALLATION & HANDLING OF MATERIALS

Consult all associated product literature concerning adhesive installation, maintenance, and warranty prior to installation of flooring. It is recommended to allow all trades to complete work prior to installation when possible.

2.1 PRODUCT LIMITATIONS

Our products are not recommended in the following areas. Please consult Technical Services for installation methods if one or more of these conditions apply.

Areas exposed to stiletto heels, cleats, spiked or other footwear that will cause damage.

Areas exposed to certain conditions that may cause staining, for example areas such as newly applied asphalt in driveways or parking lots, antioxidants in certain types of rubber used in mats, wheels, and tires. Areas which may be subjected to objects that may burn or melt flooring, protect from excessive heat.

Areas where forklifts and/or pallet jacks travel at high speed, for example sudden stops, turns or other maneuvers will create friction and lead to surface damage from tire burn. Areas where the presence of sharp items, such as nails protruding from pallets or other objects, could cause severe physical damage.

Areas subjected to excessive spillage of alcohols, ketones or other solvents which may cause damage to flooring products. Areas were inappropriate, improperly designed, or inadequate floor protection devices are utilized. It is the responsibility of the equipment manufacturer to provide suitable floor contacts to prevent indentation or delamination.

Areas with excessive surface moisture, it is the responsibility of the end-user/maintenance provider to assure excessive water does not penetrate or damage the finished flooring. In areas subjected to severe topical water after installation, or where at least one floor drain exists, areas must be installed with either the U-705 Urethane or EW-710 Epoxy Adhesive.

DO NOT use markers (sharpies, pens, construction crayons, etc.), tapes or paints (construction or other) on the flooring or on the substrate as these items may bleed through or otherwise cause permanent staining.

Use only recommended cleaning chemicals or their equivalent in the correct dilution. Do not mix two different cleaning products together, and always follow the manufacturer's instructions. Always check the suitability of cleaners for use on vinyl floors with the chemical manufacturer. Do not use cleaners containing pine oil, phenolic sanitizer, or enzyme cleaners that will be left on the surface of the flooring. We assume no liability for damage to our flooring resulting from the misuse or improper use of markers, paints, or maintenance products. Please confirm with the manufacturer of all tape, cleaning products, chemicals, and equipment for their recommendations.

2.2 STORAGE OF MATERIAL

We understand there may be a need to store material for lengthy periods after purchase and prior to installation. As with all products it is important to make sure they are protected from the elements and stored indoors. Our products are stored in warehouses for inventory and distribution prior to shipping. These are not climate-controlled warehouses but are protected from extreme conditions of excessive cold or heat. We would recommend similar conditions for storage after receipt of material.

Avoid storage of material in shipping containers, direct sunlight, outdoors, etc. It is extremely important after long terms of storage to properly acclimate material into the service environment prior to installation.

Deliver all materials to the installation location in its original packaging with labels intact. Do not stack pallets to avoid damage. Remove any plastic and strapping from packaging after delivery to the installation location. Inspect



all material for proper type, color, and matching lot numbers if appropriate. Ensure that all adhesives intended for installation are approved for use with accessory materials if appropriate.

2.3 SERVICE ENVIRONMENT

Service environment is defined as the environment in which the materials will be utilized. Service temperature is defined as the normal setting of the HVAC in the environment in which the material is installed, i.e., typically 72° F in most commercial applications.

The reported technical data information for these products is based on a formulation that is designed, manufactured, and evaluated to perform at constant temperatures, not fluctuating more than 10° from normal selected service temperatures from the allowable 60° F (15° C) - 85° F (26° C) range. These products are designed for service on substrate temperatures ranging from 60° F (15° C) - 85° F (26° C) unless otherwise noted in the specific installation section. These products are designed for service within ambient relative humidity between 40% and 60%.

If material will see conditions outside of these parameters, select appropriate adhesives for the intended service environment, such as wet-set acrylics or urethanes for areas that will have temperature variations or excessive windows and/or sunlight exposure from walls or ceilings such as sunrooms, window walls, skylights, etc.

NOTE: Pressure sensitive adhesives are soft setting adhesives and do not prevent effects or issues that temperature changes and direct sunlight creates in products due to thermodynamics, these will be greater in vinyl-based products versus rubber-based products.

If there are concerns regarding this information or the service temperature, substrate temperature or installation environment will not meet these requirements, please contact Technical Services for recommendations prior to installation at solutions@rhctechnical.com, we will be happy to discuss and provide direction or confirmation of the project at that time.

3. JOB SITE CONDITIONS

Before starting the job and performing any preparations, testing and/or installation we recommend the following conditions be met to ensure a successful installation.

Facility must be fully enclosed, sealed and weather tight. Building HVAC must be up and running in permanent operation prior to installation. Allow all trades to complete work prior to installation whenever possible, if not possible be aware of issues that can be created by other trades during the installation process. These include but are not limited to adhesive displacement from ladders, rolling carts and job boxes, etc.

Installation areas must have adequate lighting to allow for proper inspection of the flooring and substrates prior to installation.

Installation areas must be properly moisture evaluated to ensure the substrate is properly dry to receive flooring products. Review additional information below and of course, if conditions are not in agreement with the requirements notify the General Contractor and Technical Services if needed.

By covering a substrate, underlayment, or existing surface, you have indicated acceptance of substrate and installation environment.



3.1 ACCLIMATION

Installation area and all materials must be maintained at **desired service temperatures** for a period of 48 hours prior to installation, during the installation and for the service life of the installation afterwards. If the material must be installed outside of the above acclimation and service temperature ranges, contact Technical Services for more detailed installation recommendations.

3.2 SUBSTRATE PREPARATION

All substrates must be prepared according to the following information (ASTM F710 & ASTM F1482 have been used as a baseline, keep in mind our requirements are more detailed than these documents), as well as applicable ACI and RFCI guidelines.

Substrates must be 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.

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 shall have a cementitious patch or self-leveling underlayment installed to flatten the installation area.

All substrates must have 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, shot blasting 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 HEPA approved vacuum and flat vacuum attachment to remove all surface dust. Sweeping without vacuuming will not be acceptable.

NOTE: Regarding substrate preparation when mechanical sanding, grinding, shot blasting, and vacuuming always follow the Resilient Floor Covering Institute's (RFCI) "Recommended Work Practice for Removal of Existing Floor Covering and Adhesives", and all applicable local, state, federal and OSHA requirements regarding Asbestos and Silica containment regulations.

NOTE: Do not use solvent/citrus based or other chemical adhesive removers prior to installation.

3.2.1 CONCRETE SUBSTRATES

All concrete substrates, whether on-grade and/or below grade must have an intact and effective moisture vapor barrier which meets the current requirements of ASTM E1745.

On-grade and/or below grade slabs not containing an intact and effective moisture vapor barrier meeting the current requirements of ASTM E1745 should have a 100% solids moisture control system applied prior to application of patches, underlayments, adhesive and the installation of flooring products for the product warranty to remain in effect.

All concrete substrates must have a minimum compressive strength of 3500 PSI and be prepared in accordance with information below. When flooring is being installed directly over concrete, concrete surfaces that have an ICRI Concrete Surface Profile (CSP) over 4 shall be smoothed with a self-leveling underlayment or a patch to prevent imperfections from telegraphing through flooring materials.

3.2.1.1 CHEMICALLY ABATED CONCRETE SUBSTRATES

In situations where existing flooring adhesive was removed chemically, since there are known concerns with this process, one of the following conditions now exist.

(1) Once the chemical is present in the substrate it cannot recognize the difference between the old adhesive and the new adhesive, (2) it is considered a penetrant and there is no way to know how deep into the substrate it could have penetrated into the substrate due to porosity, (3) there is no way to tell (in a short term test) if the substrate has been neutralized or rinsed (abatement chemical removed) well enough to accept new adhesive.

However, if a chemical abatement has already been performed, we recommend the Mapei process to prepare the substrate to receive a finish flooring product. The Mapei process is to scour the substrate using the Planiprep SA according to Mapei instructions, then top with the Planiprep ET according to Mapei instructions. Once the process is completed, the substrate would need to be treated as non-porous for the selection of installation adhesives and methods.

3.2.1.2 CONCRETE SUBSTRATES CONTAINING MOISTURE CONTROL ADMIXTURES

In situations where admixtures or additives are added to the concrete mix for the sole purpose of controlling moisture, we do accept those substrates and consider them acceptable if the following is verified and completed prior to installation.

We want to clearly indicate the responsibilities at the time of application and moving forward for warranty purposes. If the product works as it is intended, it should change the porosity (absorption rate) of the concrete which would alter the application process of the adhesive based on the adhesive chosen for the project, for example a wet set for porous applications would now be unacceptable for the project.

We require porosity testing at the time of application to ensure the application method of the adhesive is performed correctly. We also require bond test in several areas to ensure the slab is suitable for bonding. If these things are done (as indicated in our installation information) there should be no other compatibility issues with the moisture control admixtures in the concrete substrate.

Typically, any performance warranties related to the admixtures, including material releasing from the substrate due to issues with the admixture is covered under the manufacturer's warranty and added insurance policies related to the project.

3.2.1.3 MOISTURE TESTING

Moisture testing is an essential part of determining the suitability of a concrete slab to receive a resilient floor covering. Moisture testing must be performed on all concrete slabs, regardless of their age or grade level, including areas where resilient flooring has already been installed.

Moisture testing shall be conducted with the area or building at service conditions, (i.e., fully enclosed, weather-tight, and with the permanent HVAC in operation). In general, moisture testing shall be conducted on concrete surfaces that exhibit the final prepared stage before the installation of the flooring material and before installation of smoothing or leveling compounds. Test results are only indicators of current moisture conditions at the time of testing and do not predict future moisture conditions.

NOTE: Moisture failures are generally a complex, cumulative, and synergistic series of events. The moisture testing information below is provided as an industry service and to help reduce the likelihood of moisture related failures within the floor covering industry.

Moisture testing determines a snapshot at the time of testing only and does not guarantee or preclude the possibility of issues in the future. To effectively determine moisture at the time of installation the on-grade or below grade substrates must have an effective moisture vapor barrier that meets the current requirements of ASTM E1745. If these conditions do not exist, we recommend a moisture mitigation system prior to installation of resilient flooring.

We require ASTM F2170 RH moisture testing on all concrete substrates. In addition to ASTM F2170, we strongly recommend ASTM F1869 MVER testing be performed, especially on concrete substrates that have previously had

flooring installed. ASTM F1869 MVER testing is beneficial to the installation performed on the substrate in the prepared condition if not going to prepare the substrate to the extent required in the testing procedure.

ASTM F2170 Relative Humidity testing indicates the amount of moisture in the concrete that has the potential to come out of the substrate during equilibration. ASTM F1869 Calcium Chloride testing indicates how much and how quickly the relative humidity in the concrete is evaporating from the top 1/2" to 3/4" of the concrete.

For moisture readings exceeding the RH and/or MVER limitations, a dehumidification system can be utilized until moisture readings when reevaluated are within acceptable levels. For excessive readings, the application of a high-quality moisture mitigation system may also be employed.

We do not warrant any product or procedure for remediation of high moisture content. There are several companies that manufacture products suitable for moisture remediation. We suggest you refer to ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring and ASTM F3010 "Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings".

NOTE: Although these moisture testing information and recommendations are widely accepted within the resilient floor covering industry, there is currently no known exact amount of moisture vapor emission rate or exact % of RH to know exactly when a floor covering, adhesive, or coating system will fail.

ASTM test methods may be obtained from www.astm.org and we encourage your company to become an active and engaged member in development of these standards.

3.2.1.3.1 ASTM F2170 - RELATIVE HUMIDITY TESTING (*in-situ* PROBES)

This test method covers the quantitative determination of percent relative humidity in concrete slabs for field or laboratory test. This method is measured in percentage (%) content. Refer to recommended adhesives chart at the beginning of this document for the acceptable RH levels for installation.

Conduct one test for every 1,000 square feet (minimum 3 tests) to ensure concrete does not exceed the recommended RH for the flooring product and the adhesive being used.

NOTE: We require the use of Wagner Meters Rapid RH Probes for ASTM F2170 testing.

3.2.1.3.2 ASTM F1869 - MOISTURE VAPOR EMISSION RATE TESTING (CALCIUM CHLORIDE)

This test method covers the quantitative determination of the rate of moisture vapor emitted from below-grade, on-grade, and above-grade (suspended) bare concrete floors. This method is measured in lbs. / 24 hours / 1000 square feet. Refer to recommended adhesives chart at the beginning of this document for the acceptable RH levels for installation.

To conduct the F1869, the surface of the concrete must be porous. Hard machine troweled concrete or concrete surfaces with extraneous substances on the surface such as residual adhesive, sealers, curing compounds, etc. must be mechanically removed prior to testing.

3.2.1.3.3 ADDITIONAL MOISTURE METHODS

ASTM F3311 Mat Bond Evaluation and ASTM F2659 Electric Moisture Meters can be used to detect the presence of moisture, but do not satisfy the test requirement of ASTM F2170 and/or ASTM F1869. These methods provide qualitative results that may indicate targets or hot spots for further testing. Only the ASTM F2170 and/or ASTM F1869 can provide quantitative results for acceptance.

NOTE: We strongly recommend the use of Wagner Meters Concrete Moisture Meters for ASTM F2659 testing.

To conduct the Mat Bond Evaluation, double face tape 3' x 3' pieces of polyethylene to the subfloor (approximately 50' apart) for a minimum of 72 hours. After 72 hours, remove the polyethylene and if there is any evidence of moisture, allow additional time for the subfloor to dry before testing further.

3.2.1.3.4 WATER ABSORPTION (POROSITY)

All concrete substrates must be evaluated per ASTM F3191 to confirm porosity, this is utilized to determine the method of adhesive application or how the adhesive will act upon the concrete.

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 2000 sq. ft. and one for each additional 3000 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.

3.2.1.3.5 DEW POINT (SURFACE TEMPARTURE AT WHICH CONDENSATION OCCURS)

Dew point is the temperature at which the humidity in the air begins to condensate on a surface. As it relates to indoor moisture condensation, the Dew Point is a crucial factor for ensuring adequate and proper conditions exist during substrate testing, substrate preparation, and installation of flooring products.

Within the installation parameters regarding air temperature of 60° F - 85° F and relative humidity of 40% - 60%, the substrate temperature shall be at least 5° F above the Dew Point. Adhesives shall not be spread, and flooring shall not be installed any time the concrete surface temperature is within 5° F of dew point. See the chart below to determine Dew Point Temperature to compare to current slab temperature.

Dew Point Reference Chart								
		Ambient Air Temperature In Degrees Fahrenheit						
		60° F	65° F	70° F	75° F	80° F	85° F	90° F
Relative Humidity Percentage	70%	50° F	55° F	60° F	64° F	68° F	74° F	78° F
	65%	47° F	53° F	57° F	62° F	66° F	72° F	76° F
	60%	45° F	50° F	55° F	60° F	64° F	69° F	73° F
	55%	43° F	48° F	53° F	58° F	61° F	67° F	70° F
	50%	40° F	45° F	50° F	55° F	59° F	64° F	67° F
	45%	37° F	42° F	47° F	52° F	56° F	61° F	64° F
	40%	35° F	40° F	43° F	49° F	52° F	58° F	61° F
	35%	31° F	36° F	40° F	45° F	48° F	54° F	57° F
	30%	28° F	32° F	36° F	41° F	44° F	50° F	52° F

To determine the dew point; read the room air temperature, read the room relative humidity and the concrete surface temperature. Locate the intersection of the air temperature and relative humidity readings and determine the dew point. If the concrete surface temperature is within 5° of each other, installation shall not occur.

3.2.2 WOOD SUBSTRATES

Wood substrates must be prepared in accordance with ASTM F1482. Prior to installation, moisture retardant sheeting with a maximum rating of 1.0 perm must be in place beneath the wood subfloor. It shall be overlapped at a minimum of 8" and the crawl space shall be well-ventilated.

Wood substrates shall be, at a minimum double layer construction with a total thickness of 1". It shall be rigid and free of any movement. It shall be structurally sound and designed as a resilient flooring underlayment, smooth enough to prevent telegraphing through the flooring product. At a minimum, the top layer directly under the flooring and adhesive should come from section 3.2.3.1 Approved Wood Substrates and have a minimum thickness of 1/4".

It shall be free of any substance that may stain such as marking inks, paints, solvents, adhesives, asphalt, dye, etc. and be of uniform density, porosity, and thickness. It shall be installed in strict accordance with the board manufacturers' recommendations.

3.2.2.1 APPROVED WOOD SUBSTRATES

APA Certified Plywood, Poplar Underlayment, Birch Plywood Underlayment

3.2.2.2 NON-APPROVED WOOD SUBSTRATES

Lauan, OSB, Particle Board, Masonite, Chipboard, Construction Grade Plywood, Flake board, Fire or Pressure Treated Plywood, Existing Hard Wood, or Strip Wood Flooring

Advantech Underlayments (requires a minimum of 1/4" of Approved Wood Substrates on top by Advantech Manufacturer)

3.2.2.3 WOOD SUBSTRATES MOISTURE TESTING

Wood substrates must not exceed 8% moisture content.

NOTE: We require the use of Wagner Meters Wood Moisture Meters for testing.

3.2.3 GYPSUM BASED SUBSTRATES

Gypsum-based substrates must have a minimum compressive strength of 3500 PSI. Substrate must be structurally sound and firmly bonded to the subfloor below. Compressive strengths below 3500 PSI can reduce performance properties of products installed. Sometimes steps can be taken to improve the PSI of at least the surface of the gypsum-based surface. In residential installations this may be lower due to the specification of the product and therefore just be aware of the possibility of reduced performance due to the performance of the gypsum substrate.

Any cracked or fractured areas must be removed and repaired with a compatible patch or repair product for gypsum-based substrates. Follow those products installation instructions for installation over a gypsum substrate.

Most if not all gypsum substrates require the application of a sealer on the surface to prevent dusting and promote adhesion to the substrate. New or existing gypsum substrates may require additional primer just prior to finished floor being installed. These products are available from many suppliers as standard latex primers and do not interfere with the installation of our products. Follow all manufacturers' recommendations regarding preparation for resilient flooring installation.

3.2.4 UNDERLAYMENT PANELS

Cementitious and Gypsum based underlayment panels are acceptable substrates if the installation of those panels follows the guidelines set forth by the panel manufacturers. If there is no designation of porosity or how to treat the



panel when it comes to adhesive application, we would recommend a porosity test to determine how to apply the adhesive.

3.2.5 RESINOUS SUBSTRATES

When installing directly over a resinous product, such as a urethane moisture barrier 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 contaminates. Resinous substrates are considered **non-porous** so ensure selected adhesives can be used over non-porous substrates and follow all installation instructions and flash times for non-porous substrates.

3.2.6 METAL SUBSTRATES

Metal substrates must be thoroughly sanded/ground and cleaned of any residue, oil, rust and/or oxidation. Substrate must be smooth, flat, and sound prior to installation. When installing in areas that may be subject to topical water or moisture and/or high humidity, an anti-corrosive coating must be applied to protect metal substrate. Contact a local paint or coating supplier for coating recommendations. Install flooring 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. Be sure to follow installation procedures and trowel sizes for non-porous substrates. Installing over Checker plate or Diamond plate is not recommended.

3.2.7 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 may be repaired with a suitable cementitious patch. Due to the dynamic nature of concrete slabs, we cannot warranty installations to cover expansion joints, cracks, or other voids such as control cuts, saw joints, moving cracks, and/or voids. Do not install flooring directly over any expansion joints as all expansion joints shall be honored and have a suitable expansion joint covering system installed to allow expansion joint to move as it was designed. In areas where random cracks are 1/16" or greater it is hard to tell if the slab will continue to move or has finished moving. Consult a structural engineer if there are any questions or concerns with a crack or joint, especially those that may affect structural integrity such as expansion joints or excessive random cracking in areas that are not designed to move.

3.2.8 RADIANT HEATING SUBSTRATES

When installing flooring products approved for radiant heated substrates (individual installation sections and product data sheets will indicate if product is not to be installed over radiant heated substrates) over a substrate that contains a radiant heating system, ensure the radiant heat is turned off 48 hours prior to installation and remains off during the entire installation.

The radiant heat may be turned on 48 hours after installation and the normal operating temperature shall be increased gradually over the course of 24 hours. 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.

3.2.9 EXISTING FLOORING SUBSTRATES

Some products in Luxury Vinyl Flooring category are floating and may be utilized in applications that do not coincide with these guidelines and that will be spelled out in the individual installation section for those products if there are exclusions.

Existing carpet, rubber, LVT, LVP, linoleum, cushioned vinyl, cork, asphaltic materials, and/or floating floors 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, non-cushioned sheet goods, and/or asphaltic materials and existing adhesives or adhesive residue must have a compatible cementitious patch or cementitious self-leveling underlayment installed over the substrate (existing flooring) prior to installation.

Existing hardwood flooring requires suitable underlayment grade plywood be installed over the substrate.

New flooring 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. All loose tiles must be removed and repaired or replaced. All grout lines and irregularities must be filled and troweled flush with a suitable primer and cementitious patch to prevent telegraphing of the existing floor. All existing flooring substrates that are outside of flatness tolerances that cannot be repaired with a suitable patching compound shall be leveled with a suitable cementitious self-leveling underlayment to achieve a smooth, flat substrate.

All existing flooring substrates must have all site-applied finishes and/or waxes completely removed prior to flooring installation to ensure a proper adhesive bond. For mechanical removal, use a low-speed buffer and 40-60 grit sandpaper. Properly prepared substrates shall 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 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.

3.2.10 EXISTING ACCESS PANEL SUBSTRATES

Cementitious filled and Metal access panels are acceptable substrates for the installation of resilient flooring. All existing flooring material must be removed, and the panel prepared to the original surface with all adhesives removed.

It must be determined if the panels are to remain accessible to the area underneath and how that access will be maintained. Some panels have fasteners that must remain accessible to remove the panel. Some panels may require the removal of larger format tiles to gain access, in these applications we would recommend a releasable adhesive for the installation of our products, which we do not provide a true releasable adhesive within our Excelsior product line.

3.2.11 LOOSE LAY MOISTURE OR SOUND CONTROL PRODUCTS

When installing over Loose Lay moisture or sound control products, please contact Technical Services with the product information you are installing over for further directions.

4. ADHESIVE APPLICATION INSTRUCTIONS

The application of the adhesive is a critical part of the successful installation of the product. Below we have provided typical application information regarding the different adhesives and how they should work when applied within the stated jobsite conditions. We are considering porosity as the only difference and not substrate type such as cementitious or wood. Of course, any variation in temperatures will cause the adhesive actions to vary and if specific to the application of a particular product we have tried to list those for you. As we are not able to list all the conditions and if you have a specific question that is not covered, please contact us.

Within the product installation section below, approved adhesives for that product will be listed below along with any specific information related to the use of each adhesive with the product.



4.1 EXCELSIOR SP-500 SPRAY ADHESIVE

Our SP-500 is an acrylic aerosol pressure sensitive adhesive that is a white aerosol in appearance. It is a permanent bond adhesive and not intended to be treated as a releasable adhesive. If flooring is removed for replacement, new adhesive would need to be applied to install replacement flooring. It is available in a 22-ounce recyclable aluminum can with dispensing nozzle applied.

Concrete substrates should be evaluated to determine the moisture level in the slab at the time of application of the adhesive. The SP-500 is approved for use on slabs with the following moisture conditions. These conditions are maximum levels for the product to apply, dry, and perform at their peak performance. SP-500 is not a moisture inhibitor or moisture mitigation product.

ASTM F2170 – RH Limit: 90%

ASTM F1869 – MVER Limit: 8 lbs. / 1000 sq. ft. / 24 hours

Application is done by releasing contents of the can from in a standing position with arms straight above the substrate while moving the body and not waving the arms. Coverage from the can is based on the flooring being installed and is the same on absorptive (porous) or (non-absorptive) non-porous substrates.

Approved Rubber Flooring: 100 Square Feet per Can

Approved Vinyl Flooring: 150 Square Feet per Can

Proper coverage is achieved by marking an area with the measurements of the coverage and emptying the contents of the can evenly within that area. Not achieving the coverage amount in the area will result in weaker bond between the flooring and substrate and lead to flooring releasing under use. Over applying the adhesive will result in potential telegraphing of the adhesive and prevent proper drying of the adhesive.

Once adhesive is applied correctly, observe the flash / open time prior to placing any flooring into the adhesive. Working time is meant to be understood as the time in which the flooring should be placed in the adhesive and when you should stop placing flooring and remove the dead adhesive. Working time also includes the flash / open time of the adhesive. All adhesive not covered after the working time has passed, should be removed, and reapplied to that area.

Flash / Open Time: 10 – 20 Minutes, Dry to Light Touch, No Transfer to Finger

Working Time: Adhesive Covered & Flooring Rolled within 2 Hours

If you are installing a product with the SP-500 that will be heat welded, you can begin the process of preparing the seams and heat welding immediately following the installation of the flooring product.

After flooring has been installed it is recommended to limit traffic conditions and maintenance on the installed flooring for the following period. This allows the adhesive to properly dry as to prevent displacement of the adhesive during the drying time.

Light Foot Traffic: Immediate Access

Heavy Foot Traffic & Rolling Loads: ≥ 48 Hours

Maintenance: ≥ 72 Hours

Light foot traffic is meant to be understood as installation or jobsite traffic. Heavy foot traffic and rolling loads is meant to be understood as service conditions. Maintenance is meant to be understood as any maintenance practices that would be performed to the flooring after installation involving more than a damp mop.



4.2 EXCELSIOR AW-510 ACRYLIC WET-SET ADHESIVE

Our AW-510 is an acrylic wet-set adhesive that is an off-white paste in appearance. It is a permanent bond adhesive and not intended to be treated as a releasable adhesive. If flooring is removed for replacement, new adhesive would need to be applied to install replacement flooring. It is available in a 1 Gallon or 4 Gallon unit and designed to be trowel applied. AW-510 is designed as a wet-set adhesive but can and should be used sometimes in a pressure sensitive application, dependent upon porosity of the substrate.

Concrete substrates should be evaluated to determine the moisture level in the slab at the time of application of the adhesive. The AW-510 is approved for use on slabs with the following moisture conditions. These conditions are maximum levels for the product to apply, dry, and perform at their peak performance. AW-510 is not a moisture inhibitor or moisture mitigation product.

*ASTM F2170 – RH Limit: **90%***

*ASTM F1869 – MVER Limit: **6 lbs. / 1000 sq. ft. / 24 hours***

Concrete substrates should be evaluated to determine the porosity of the slab at the time of the application of the adhesive. While the AW-510 can be used on all substrates, the level of absorption (porosity) will determine the trowel size needed for the application of the adhesive as well as the flash / open times and working times. Wood substrates listed in section 3.2.3.1 approved wood substrates should be considered absorptive (porous) unless treated otherwise.

*(Absorptive) Porous Substrates: **Wet-Set, 1/16" x 1/16" x 1/16" V-Notch Trowel***

*(Non-Absorptive) Non-Porous Substrates: **Pressure Sensitive, 1/16" x 1/32" x 1/32" U-Notch Trowel***

Application is done by spreading the adhesive with the appropriate trowel. Start spreading the adhesive where you plan to begin installation, keeping in mind how you will access this area and how you will be working with the material. With a wet-set adhesive is recommended to work off the material and with a pressure sensitive adhesive it is recommended to work off the material or on the material with a kneeling board. Replace worn trowels as needed, try to maintain a consistent trowel angle, and avoid adhesive puddling when applying to the substrate. Trowel angle and wear will affect the coverages from the stated coverage. Coverage from the unit is based on the porosity of the substrate.

*(Absorptive) Porous Substrates: **Wet-Set, 160 Square Feet per Gallon***

*(Non-Absorptive) Non-Porous Substrates: **Pressure Sensitive, 225 Square Feet per Gallon***

Once adhesive is applied correctly, observe the flash / open time prior to placing any flooring into the adhesive. Working time is meant to be understood as the time in which the flooring should be placed in the adhesive and when you should stop placing flooring and remove the dead adhesive. Working time also includes the flash / open time of the adhesive. All adhesive not covered after the working time has passed, should be removed, and reapplied to that area.

Flash / Open Time:

*(Absorptive) Porous Substrates: **5 – 10 Minutes***

*(Non-Absorptive) Non-Porous Substrates: **Dry to Touch, No Transfer to Finger, Valleys Clear***

Working Time:

*(Absorptive) Porous Substrates: **Adhesive Covered & Flooring Rolled within 60 Minutes***

*(Non-Absorptive) Non-Porous Substrates: **Adhesive Covered & Flooring Rolled within 75 Minutes***

If you are installing a product with the AW-510 that will be heat welded, you should wait a minimum of 24 hours before beginning the process of preparing the seams and heat welding following the installation of the flooring product.



After flooring has been installed it is recommended to limit traffic conditions and maintenance on the installed flooring for the following period. This allows the adhesive to properly dry as to prevent displacement of the adhesive during the drying time.

Light Foot Traffic: ≥ 24 Hours

Heavy Foot Traffic & Rolling Loads: ≥ 48 Hours

Maintenance: ≥ 72 Hours

Light foot traffic is meant to be understood as installation or jobsite traffic. Heavy foot traffic and rolling loads is meant to be understood as service conditions. Maintenance is meant to be understood as any maintenance practices that would be performed to the flooring after installation involving more than a damp mop.

4.3 EXCELSIOR AP-520 ACRYLIC WET-SET ADHESIVE

Our AP-520 is an acrylic pressure sensitive adhesive that is an orange liquid in appearance. It is a permanent bond adhesive and not intended to be treated as a releasable adhesive. If flooring is removed for replacement, new adhesive would need to be applied to install replacement flooring. It is available in a 3 Gallon unit and designed to be either trowel or 3/8" nap paint roller applied. AP-520 is designed as a pressure sensitive adhesive and should not be used as a wet-set adhesive.

Concrete substrates should be evaluated to determine the moisture level in the slab at the time of application of the adhesive. The AP-520 is approved for use on slabs with the following moisture conditions. These conditions are maximum levels for the product to apply, dry, and perform at their peak performance. AP-520 is not a moisture inhibitor or moisture mitigation product.

ASTM F2170 – RH Limit: 90%

ASTM F1869 – MVER Limit: 6 lbs. / 1000 sq. ft. / 24 hours

Concrete substrates should be evaluated to determine the porosity of the slab at the time of the application of the adhesive. While the AP-520 can be used on all substrates, with two different application methods, the flash / open times and working times are consistent. Wood substrates listed in section 3.2.3.1 approved wood substrates should be considered absorptive (porous) unless treated otherwise.

Trowel Applications: 1/16" x 1/32" x 1/32" U-Notch Trowel

Roller Applications: 3/8" Smooth Nap Paint Roller

Application is done by spreading the adhesive with the appropriate trowel or roller. Start spreading the adhesive where you plan to begin installation, keeping in mind how you will access this area and how you will be working with the material. With a pressure sensitive adhesive, it is acceptable to work on the material during installation of the flooring. Replace worn trowels and rollers as needed, try to maintain a consistent trowel angle, and avoid adhesive puddling when applying to the substrate. Trowel angle and wear will affect the coverages from the stated coverage. Coverage from the unit is based on the application method.

Trowel Applications: 225 Square Feet per Gallon

Roller Applications: 400 Square Feet per Gallon

Proper coverage with a roller is achieved by marking an area with the measurements of the coverage and emptying the contents of the can evenly within that area. Not achieving the coverage amount in the area will result in weaker bond between the flooring and substrate and lead to flooring releasing under use. Over applying the adhesive will result in potential telegraphing of the adhesive and prevent proper drying of the adhesive.

Once adhesive is applied correctly, observe the flash / open time prior to placing any flooring into the adhesive. Working time is meant to be understood as the time in which the flooring should be placed in the adhesive and when you should stop placing flooring and remove the dead adhesive. Working time also includes the flash / open



time of the adhesive. All adhesive not covered after the working time has passed, should be removed, and reapplied to that area.

Flash / Open Time: Dry to Touch, No Transfer to Finger

Working Time: Adhesive Covered & Flooring Rolled within 3 Hours

If you are installing a product with the AP-520 that will be heat welded, you can begin the process of preparing the seams and heat welding immediately following the installation of the flooring product.

After flooring has been installed it is recommended to limit traffic conditions and maintenance on the installed flooring for the following period. This allows the adhesive to properly dry as to prevent displacement of the adhesive during the drying time.

Light Foot Traffic: Immediate Access

Heavy Foot Traffic & Rolling Loads: ≥ 48 Hours

Maintenance: ≥ 72 Hours

Light foot traffic is meant to be understood as installation or jobsite traffic. Heavy foot traffic and rolling loads is meant to be understood as service conditions. Maintenance is meant to be understood as any maintenance practices that would be performed to the flooring after installation involving more than a damp mop.

4.4 EXCELSIOR PS-525 MODIFIED PRESSURE SENSITIVE ADHESIVE

Our PS-525 is a modified acrylic pressure sensitive adhesive that is a Tan paste in appearance. It is a firm permanent bond adhesive and not intended to be treated as a releasable adhesive. If flooring is removed for replacement, new adhesive would need to be applied to install replacement flooring. It is available in a 4 Gallon unit and designed to be trowel applied. PS-525 is designed as a pressure sensitive adhesive but can and should be used sometimes in a wet-set application, dependent upon the type of application and/or porosity of the substrate.

Concrete substrates should be evaluated to determine the moisture level in the slab at the time of application of the adhesive. The PS-525 is approved for use on slabs with the following moisture conditions. These conditions are maximum levels for the product to apply, dry, and perform at their peak performance. PS-525 is not a moisture inhibitor or moisture mitigation product.

ASTM F2170 – RH Limit: 99%

ASTM F1869 – MVER Limit: 12 lbs. / 1000 sq. ft. / 24 hours

Concrete substrates should be evaluated to determine the porosity of the slab at the time of the application of the adhesive. While the PS-525 can be used on all substrates, the level of absorption (porosity) will determine the flash / open times and working times. Wood substrates listed in section 3.2.3.1 approved wood substrates should be considered absorptive (porous) unless treated otherwise. Trowel size is determined by product being installed and most but not all applications will use the smaller notch trowel.

Resilient Flooring: 1/16" x 1/32" x 1/32" U-Notch Trowel

Athletic Flooring & Stair Treads: 1/16" x 1/16" x 1/16" Square Notch Trowel

Application is done by spreading the adhesive with the appropriate trowel. Start spreading the adhesive where you plan to be installing, keeping in mind how you will access this area and how you will be working with the material. With a wet-set adhesive is recommended to work off the material and with a pressure sensitive adhesive it is recommended to work off the material or on the material with a kneeling board. Replace worn trowels as needed, try to maintain a consistent trowel angle, and avoid adhesive puddling when applying to the substrate. Trowel angle and wear will affect the coverage from the stated coverage. Coverage from the unit is based on the trowel size and porosity of the substrate.



Resilient Flooring: 225 Square Feet per Gallon
Athletic Flooring & Stair Treads: 150 Square Feet per Gallon

Once adhesive is applied correctly, observe the flash / open time prior to placing any flooring into the adhesive. Working time is meant to be understood as the time in which the flooring should be placed in the adhesive and when you should stop placing flooring and remove the dead adhesive. Working time also includes the flash / open time of the adhesive. All adhesive not covered after the working time has passed, should be removed, and reapplied to that area.

Flash / Open Time: Dry to Touch, No Transfer to Finger
Working Time: Adhesive Covered & Flooring Rolled within 6 Hours

If you are installing a product with the PS-525 that will be heat welded, you can begin the process of preparing the seams and heat welding immediately following the installation of the flooring product.

After flooring has been installed it is recommended to limit traffic conditions and maintenance on the installed flooring for the following period. This allows the adhesive to properly dry as to prevent displacement of the adhesive during the drying time.

Light Foot Traffic: Immediate Access
Heavy Foot Traffic & Rolling Loads: ≥ 48 Hours
Maintenance: ≥ 72 Hours

Light foot traffic is meant to be understood as installation or jobsite traffic. Heavy foot traffic and rolling loads is meant to be understood as service conditions. Maintenance is meant to be understood as any maintenance practices that would be performed to the flooring after installation involving more than a damp mop.

4.5 EXCELSIOR C-631 CONTACT ADHESIVE

Our C-631 is an acrylic contact adhesive that is a beige paste in appearance. It is a permanent bond adhesive and not intended to be treated as a releasable adhesive. If flooring or accessories are removed for replacement, new adhesive would need to be applied to install replacement flooring or accessories. It is available in a 1 Quart unit and designed to be applied with either a paint brush or 3/8" nap paint roller.

Concrete substrates should be evaluated to determine the moisture level in the slab at the time of application of the adhesive. The C-631 is approved for use on slabs with the following moisture conditions. These conditions are maximum levels for the product to apply, dry, and perform at their peak performance. C-631 is not a moisture inhibitor or moisture mitigation product.

ASTM F2170 – RH Limit: 85%
ASTM F1869 – MVER Limit: 6 lbs. / 1000 sq. ft. / 24 hours

Concrete substrates should be evaluated to determine the porosity of the slab at the time of the application of the adhesive. While the C-631 can be used on all substrates, the level of absorption (porosity) will determine the flash / open times and working times. Wood substrates listed in section 3.2.3.1 approved wood substrates should be considered absorptive (porous) unless treated otherwise.

Application Method: Paint Brush or 3/8" Smooth Nap Paint Roller

Application is done by spreading or rolling the adhesive with the appropriate brush or roller. C-631 is applied to both the product and the substrate and allowed to dry to the touch, then place the material and roll to ensure contact. Coverage from the unit is based on the material and amount applied.

Coverages: 20-40 Square Feet per Unit



Once adhesive is applied correctly, observe the flash / open time prior to placing any flooring into the adhesive. Working time is meant to be understood as the time in which the flooring should be placed in the adhesive and when you should stop placing flooring and remove the dead adhesive. Working time also includes the flash / open time of the adhesive. All adhesive not covered after the working time has passed, should be removed, and reapplied to that area.

Flash / Open Time: Dry to Touch, No Transfer to Finger

Working Time: Adhesive Covered & Flooring Rolled within 6 Hours

If you are installing a product with the C-631 that will be heat welded, you can begin the process of preparing the seams and heat welding immediately following the installation of the flooring product.

After flooring has been installed it is recommended to limit traffic conditions and maintenance on the installed flooring for the following period. This allows the adhesive to properly dry as to prevent displacement of the adhesive during the drying time.

Light Foot Traffic: Immediate Access

Heavy Foot Traffic & Rolling Loads: Immediate Access

Maintenance: ≥ 72 Hours

Light foot traffic is meant to be understood as installation or jobsite traffic. Heavy foot traffic and rolling loads is meant to be understood as service conditions. Maintenance is meant to be understood as any maintenance practices that would be performed to the flooring after installation involving more than a damp mop.

4.6 EXCELSIOR U-705 URETHANE WET-SET ADHESIVE

Our U-705 is a urethane wet-set adhesive that is a cream-colored paste in appearance. It is a permanent bond adhesive and not intended to be treated as a releasable adhesive. If flooring is removed for replacement, new adhesive would need to be applied to install replacement flooring. It is available in a 3 Gallon unit and designed to be trowel applied.

Concrete substrates should be evaluated to determine the moisture level in the slab at the time of application of the adhesive. The U-705 is approved for use on slabs with the following moisture conditions. These conditions are maximum levels for the product to apply, dry, and perform at their peak performance. U-705 is not a moisture inhibitor or moisture mitigation product.

ASTM F2170 – RH Limit: 99.9%

ASTM F1869 – MVER Limit: 25 lbs. / 1000 sq. ft. / 24 hours

Concrete substrates should be evaluated to determine the porosity of the slab at the time of the application of the adhesive. While the U-705 can be used on all substrates, the level of absorption (porosity) will determine the trowel size needed for the application of the adhesive as well as the flash / open times and working times. Wood substrates listed in section 3.2.3.1 approved wood substrates should be considered absorptive (porous) unless treated otherwise.

Resilient Flooring & Stair Treads

(Absorptive) Porous Substrates: 1/16" x 1/16" x 1/16" V-Notch Trowel

(Non-Absorptive) Non-Porous Substrates: 1/16" x 1/32" x 1/32" U-Notch Trowel

Athletic Flooring

(Absorptive) Porous Substrates: 3/32" x 3/32" x 3/32" V-Notch Trowel

(Non-Absorptive) Non-Porous Substrates: 1/16" x 1/16" x 1/16" V-Notch Trowel



Application is done by spreading the adhesive with the appropriate trowel. Start spreading the adhesive where you plan to begin installation, keeping in mind how you will access this area and how you will be working with the material. With a wet-set adhesive is recommended to work off the material or on the material with a kneeling board. Replace worn trowels as needed, try to maintain a consistent trowel angle, and avoid adhesive puddling when applying to the substrate. Trowel angle and wear will affect the coverage from the stated coverage. Coverage from the unit is based on the porosity of the substrate and trowel size utilized.

(Absorptive) Porous Substrates:

1/16" x 1/16" x 1/16" V-Notch Trowel, 160 Square Feet per Gallon

3/32" x 3/32" x 3/32" V-Notch Trowel, 135 Square Feet per Gallon

(Non-Absorptive) Non-Porous Substrates:

1/16" x 1/32" x 1/32" U-Notch Trowel, 225 Square Feet per Gallon

1/16" x 1/16" x 1/16" V-Notch Trowel, 160 Square Feet per Gallon

Once adhesive is applied correctly, observe the flash / open time prior to placing any flooring into the adhesive. Working time is meant to be understood as the time in which the flooring should be placed in the adhesive and when you should stop placing flooring and remove the dead adhesive. Working time also includes the flash / open time of the adhesive. All adhesive not covered after the working time has passed, should be removed, and reapplied to that area.

Flash / Open Time:

(Absorptive) Porous Substrates: Immediate Installation

(Non-Absorptive) Non-Porous Substrates: 10 – 15 Minutes

Working Time:

(Absorptive) Porous Substrates: Adhesive Covered & Flooring Rolled within 40 Minutes

(Non-Absorptive) Non-Porous Substrates: Adhesive Covered & Flooring Rolled within 40 Minutes

If you are installing a product with the U-705 that will be heat welded, you should wait a minimum of 24 hours before beginning the process of preparing the seams and heat welding following the installation of the flooring product.

After flooring has been installed it is recommended to limit traffic conditions and maintenance on the installed flooring for the following period. This allows the adhesive to properly dry as to prevent displacement of the adhesive during the drying time.

Light Foot Traffic: ≥ 12 Hours

Heavy Foot Traffic & Rolling Loads: ≥ 24 Hours

Maintenance: ≥ 48 Hours

Light foot traffic is meant to be understood as installation or jobsite traffic. Heavy foot traffic and rolling loads is meant to be understood as service conditions. Maintenance is meant to be understood as any maintenance practices that would be performed to the flooring after installation involving more than a damp mop.

4.7 EXCELSIOR EW-710 URETHANE ENHANCED WET-SET TWO-PART ADHESIVE

Our EW-710 is a urethane enhanced wet-set two-part epoxy adhesive that is a dark beige thick paste when mixed. It is a permanent bond adhesive and not intended to be treated as a releasable adhesive. If flooring is removed for replacement, new adhesive would need to be applied to install replacement flooring. It is available in a 0.92 Gallon unit and designed to be trowel applied.



Concrete substrates should be evaluated to determine the moisture level in the slab at the time of application of the adhesive. The EW-710 is approved for use on slabs with the following moisture conditions. These conditions are maximum levels for the product to apply, dry, and perform at their peak performance. EW-710 is not a moisture inhibitor or moisture mitigation product.

ASTM F2170 – RH Limit: 90%

ASTM F1869 – MVER Limit: 6 lbs. / 1000 sq. ft. / 24 hours

Concrete substrates should be evaluated to determine the porosity of the slab at the time of the application of the adhesive. While the EW-710 can be used on all substrates, the level of absorption (porosity) will determine the trowel size needed for the application of the adhesive as well as the flash / open times and working times. Wood substrates listed in section 3.2.3.1 approved wood substrates should be considered absorptive (porous) unless treated otherwise.

Resilient Flooring & Stair Treads

(Absorptive) Porous Substrates: 1/16" x 1/16" x 1/16" V-Notch Trowel

(Non-Absorptive) Non-Porous Substrates: 1/16" x 1/32" x 1/32" U-Notch Trowel

Athletic Flooring

(Absorptive) Porous Substrates: 3/32" x 3/32" x 3/32" V-Notch Trowel

(Non-Absorptive) Non-Porous Substrates: 1/16" x 1/16" x 1/16" V-Notch Trowel

EW-710 requires mixing of the two provided units prior to applying the adhesive to the substrate, following are the mixing instructions for the EW-710:

Empty contents of Part B container into Part A container, mix with a low speed (< 400 RPM) and an epoxy or jiffy mixing paddle for 3 minutes or until mixture is homogenous and consistent throughout. Immediately empty entire contents of mixed Epoxy onto substrate and apply using the appropriate trowel.

Application is done by spreading the adhesive with the appropriate trowel. Start spreading the adhesive where you plan to be installing, keeping in mind how you will access this area and how you will be working with the material. With a wet-set adhesive is recommended to work off the material and with a pressure sensitive adhesive it is recommended to work off the material or on the material with a kneeling board. Replace worn trowels as needed, try to maintain a consistent trowel angle, and avoid adhesive puddling when applying to the substrate. Trowel angle and wear will affect the coverage from the stated coverage. Coverage from the unit is based on the porosity of the substrate.

(Absorptive) Porous Substrates:

1/16" x 1/16" x 1/16" V-Notch Trowel, 160 Square Feet per Gallon

3/32" x 3/32" x 3/32" V-Notch Trowel, 135 Square Feet per Gallon

(Non-Absorptive) Non-Porous Substrates:

1/16" x 1/32" x 1/32" U-Notch Trowel, 225 Square Feet per Gallon

1/16" x 1/16" x 1/16" V-Notch Trowel, 160 Square Feet per Gallon

Once adhesive is applied correctly, observe the flash / open time prior to placing any flooring into the adhesive. Working time is meant to be understood as the time in which the flooring should be placed in the adhesive and when you should stop placing flooring and remove the dead adhesive. Working time also includes the flash / open time of the adhesive. All adhesive not covered after the working time has passed, should be removed, and reapplied to that area.

Flash / Open Time:

(Absorptive) Porous Substrates: Immediate Installation

(Non-Absorptive) Non-Porous Substrates: 10 – 15 Minutes



Working Time:

(Absorptive) Porous Substrates: **Adhesive Covered & Flooring Rolled within 60 Minutes**

(Non-Absorptive) Non-Porous Substrates: **Adhesive Covered & Flooring Rolled within 60 Minutes**

If you are installing a product with the EW-710 that will be heat welded, you should wait a minimum of 24 hours before beginning the process of preparing the seams and heat welding following the installation of the flooring product.

After flooring has been installed it is recommended to limit traffic conditions and maintenance on the installed flooring for the following period. This allows the adhesive to properly dry as to prevent displacement of the adhesive during the drying time.

Light Foot Traffic: ≥ 12 Hours

Heavy Foot Traffic & Rolling Loads: ≥ 24 Hours

Maintenance: ≥ 48 Hours

Light foot traffic is meant to be understood as installation or jobsite traffic. Heavy foot traffic and rolling loads is meant to be understood as service conditions. Maintenance is meant to be understood as any maintenance practices that would be performed to the flooring after installation involving more than a damp mop.

4.8 ADHESIVE BOND TEST

After substrate has been properly prepared and adhesive chosen for installation, it is recommended to perform an adhesive bond test using material to be installed and selected adhesive being used for installation to determine adequacy. This will help to ensure application of the adhesive and the bond achieved is adequate for the project to continue.

5. INSTALLATION INSTRUCTIONS

If using a sound deadening underlayment, it should be no thicker than 2.5mm and most should be treated as a non-porous substrate at time of installation and if you have any questions or concerns, please contact technical services for installation information.

5.1 HEALTH & LEARNING, NORTHERN TIMBERS, & NORTHERN PARALLELS GLUE DOWN

5.1.1 ADHESIVES

The primary recommended adhesive for installation is the **Excelsior PS-525 Modified Pressure Sensitive Adhesive** with a 1/16" x 1/32" x 1/32" U Notch Trowel.

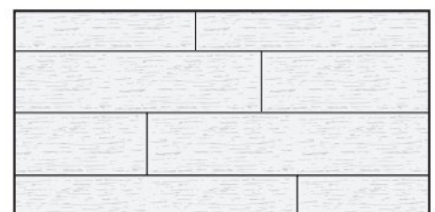
The primary recommended adhesive for installations where topical water will be present is the **Excelsior U-705 Urethane Wet-Set Adhesive**.

Excelsior SP-500 Spray Adhesive, Excelsior AW-510 Wet-Set Acrylic Adhesive, Excelsior AP-520 Roll-On / Trowelable Adhesive, and Excelsior

Brick or Ashlar



Staggered Pattern



Point to Point





EW-710 Urethane Enhanced Wet-Set Two-Part Epoxy Adhesive may also be utilized.

NOTE: Pressure sensitive adhesives are soft setting adhesives and do not prevent effects or issues that temperature changes and direct sunlight creates in vinyl products due to thermodynamics.

5.1.2 LAYOUT INFORMATION

Products are lot controlled and it is suggested to install lots together and not mix them within the same area of installation. Prior to installation, confirm material installation pattern and direction per design specifications or work order. Blend materials from several cartons to ensure consistent appearance and color or shade variation. Some flooring products, colors and textures have latent and acceptable color and shade variations. Inspect all tiles before installing or during installation to verify that there are no visible defects, damages, or excessive shading variations. If there are concerns regarding shade or color variation, do not install material, and contact a sales representative or solutions@rhctechnical.com.

5.1.2.1 HEALTH & LEARNING TILES

This collection can be installed in either of the identified patterns. They are recommended and traditionally installed in the brick or ashlar pattern.

5.1.2.2 NORTHERN TIMBERS PLANKS

This collection can be installed in either of the identified patterns. They are recommended and traditionally installed in the brick or ashlar pattern. They are not recommended to be installed in the point-to-point pattern.

5.1.2.3 NORTHERN TIMBERS TILES

This collection can be installed in either of the identified patterns. They are recommended and traditionally installed in the brick or ashlar pattern.

5.1.2.4 NORTHERN PARALLELS CHEVRON PLANKS

This collection is typically installed in a staggered pattern. This product contains a left chevron and a right chevron to create the look of the product. It is not intended for the chevrons to match exactly with a left and a right.

5.1.2.5 NORTHERN PARALLELS COASTAL COLLECTION TILES

This collection can be installed in either of the identified patterns. They are recommended and traditionally installed in the brick or ashlar pattern. There is some color effect of drying sand present in these tiles that can and will appear to be an inconsistent color.

5.1.3 INSTALLATION

Ensure substrate is clean, dry, flat, and sound prior to installation. Ensure the room is square using the 3-4-5 squaring rule or similar method to ensure acceptable installation. Determine lay out for the area if not provided by dry laying the material with the area. Cut borders and other specialty pieces to fit snugly against or around walls, thresholds, transition strips, fixtures and other protrusions or accessories. Ensure material around perimeter is 1/8" from wall or less, depending on depth of wall base or trim, unless otherwise specified. Ensure all end seams are a minimum of 6" apart.

Use a nail-down guide or equivalent along starting row to expedite wet-set installation. Apply adhesive according to instructions for specific product in use and observe adhesive flash times, if applicable. Ensure all adhesive working times are observed and followed. Be sure to follow instructions based on substrate porosity (porous or non-porous). Use below chart for reference.



Install material into adhesive and observe directional arrows on back of tile to ensure arrows are installed in the same direction, unless installing in a specific and pre-determined design, such as a quarter-turn design. For larger installations, use a pyramid layout when installing tiles to eliminate run-off.

When installing into adhesive using a wet-set method, avoid walking or working on material until adhesive has cured for light foot traffic. Working on material that is installed into wet adhesive could cause adhesive to displace. When working off material is not possible, use a kneeling board or equivalent to disperse weight evenly and prevent adhesive displacement. Pay close attention to working time to avoid adhesion issues. This may require installing material in smaller sections. Replace trowels at recommended intervals to maintain proper trowel ridge and spread rate.

Periodically lift material to ensure proper adhesive transfer and ensure adhesive has not surpassed the open time – adhesive should cover 90% of tile. Roll material with a 3 section, 100 lb. roller within 30 minutes of installation, crossing in a perpendicular direction after initial roll. Use a hand roller in areas that cannot be reached with larger roller.

Visually inspect installation to ensure that material has not shifted, and that adhesive has not been squeezed out of joints or compressed onto surface. Clean excessive adhesive or adhesive residue from the surface of the material per adhesive recommendations. ***Do not apply abrasive or solvent based cleaners directly to flooring material.***

5.2 NORTHERN TIMBERS LOOSE LAY

5.2.1 ADHESIVES

The primary recommended adhesive for installation perimeter is the **Excelsior PS-525 Modified Pressure Sensitive Adhesive** with a 1/16" x 1/32" x 1/32" U Notch Trowel. This would also be the recommended adhesive for a full spread adhesive installation with this product.

This product is not recommended where topical water will be present as a loose lay, it should be fully adhered with the **Excelsior U-705 Urethane Wet-Set Adhesive**.

Excelsior SP-500 Spray Adhesive, Excelsior AW-510 Wet-Set Acrylic Adhesive, Excelsior AP-520 Roll-On / Trowelable Adhesive, and Excelsior EW-710 Urethane Enhanced Wet-Set Two-Part Epoxy Adhesive may also be utilized for the installation of this product.

Note: When installing material in heavy use areas and through doorways or when flooring installation changes direction, apply adhesive along doorway or along seam and create an "X" pattern to prevent excessive flooring movement.

NOTE: Pressure sensitive adhesives are soft setting adhesives and do not prevent effects or issues that temperature changes and direct sunlight creates in vinyl products due to thermodynamics.

5.2.2 LAYOUT INFORMATION

Products are lot controlled and it is suggested to install lots together and not mix them within the same area of installation. Prior to installation, confirm material installation pattern and direction per design specifications or work order. Blend materials from several cartons to ensure consistent appearance and color or shade variation. Some flooring products, colors and textures have latent and acceptable color and shade variations. Inspect all tiles before installing or during installation to verify that there are no visible defects, damages, or excessive shading variations. If there are concerns regarding shade or color variation, do not install material, and contact a sales representative or solutions@rhctechical.com.



5.2.2.1 NORTHERN TIMBERS LOOSE LAY

This collection can be installed in either of the identified patterns. They are recommended and traditionally installed in the brick or ashlar pattern. They are not recommended to be installed in the point-to-point pattern.

5.2.3 INSTALLATION

Ensure substrate is clean, dry, flat, and sound prior to installation. Ensure the room is square using the 3-4-5 squaring rule or similar method to ensure acceptable installation. Determine lay out for the area if not provided by dry laying the material with the area. Cut borders and other specialty pieces to fit snugly against or around walls, thresholds, transition strips, fixtures and other protrusions or accessories. Ensure material around perimeter is 1/8" from wall or less, depending on depth of wall base or trim, unless otherwise specified. Ensure all end seams are a minimum of 8" apart.

Apply adhesive along starting row and along perimeter of initial installation area according to instructions for specific product in use. Ensure the width of the adhesive installation is no less than the width of two planks. Observe adhesive flash times and working times and expand adhesive installation area as installation continues. Be sure to follow instructions based on substrate porosity (porous or non-porous).

Install material and observe directional arrows on back of tile to ensure arrows are installed in the same direction, unless installing in a specific and pre-determined design, such as a herringbone design. For larger installations, use a pyramid layout when installing planks to eliminate run-off. Use a straight edge along initial row to ensure that all planks are aligned with each other and ensure all seams are tight.

Roll material with a 3 section, 100 lb. roller within 30 minutes of installation, crossing in a perpendicular direction after initial roll. Use a hand roller in areas that cannot be reached with larger roller. Visually inspect installation to ensure that material has not shifted and that all seams are tight.

Visually inspect installation to ensure that material has not shifted, and that adhesive has not been squeezed out of joints or compressed onto surface where adhesive is spread. Clean excessive adhesive or adhesive residue from the surface of the material per adhesive recommendations. ***Do not apply abrasive or solvent based cleaners directly to flooring material.***

6. FLOORING PROTECTION AFTER INSTALL

Protect newly installed flooring and accessories with construction grade paper or protective boards, such as Ram Board, ThermoPLY, Masonite or other materials to prevent damage by other trades. Do not slide or drag pallets or heavy equipment across the new flooring and accessories. Limit usage and foot traffic according to the adhesive's requirements. When moving appliances or heavy furniture, it is a good idea to protect flooring and accessories from scuffing or tearing using temporary floor protection.