IMO Rubber Tile

INSTALLATION INSTRUCTIONS

Products covered by this document are IMO Rubber Tile in all available colors.

The intent of this document is to cover substrate preparation requirements, adhesive application, and special installation instructions for resilient flooring concepts listed above. These guidelines are to be considered as a starting point at a minimum for a successful installation. We rely on the expertise and professionals that are installing the products to adjust based on site conditions. 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.

Prior to acceptance of this document refer to the product website to confirm that you have the most current revision. These products are intended for installation by professionals. 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 to 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*							
Adhesive	**Porous**	**Non-Porous**	**RH% Limit**	**MVER Limit**	**Light**	**Heavy**	**Maintenance**
EW-710	135 sq. ft.	150 sq. ft.	90%	6 lbs.	12 Hours	24 Hours	48 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							

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.

Standard Compound Rubber tile & sheet products are not designed to be used in areas that will include exposure to Animal Fats, Vegetable Oils, and/or Petroleum Oils and Lubricants. There must be a special compound installed to withstand these conditions.

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 where 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 in their original packaging configuration. 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 storage to properly acclimatize material into the service environment prior to installation, this acclimation process may take longer than the stated requirements for the products and there could be some residual effects of this storage that may make installation more difficult.

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 but do exist and therefore need to be taken into consideration.

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 (if temporary systems or systems other than the permanent HVAC systems are utilized it must be capable of maintaining the same conditions as the permanent HVAC and/or service conditions). 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. If not, consideration should be taken regarding the effects of these conditions and how they can affect the installation.

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.

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

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.

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 the 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 tests 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 admixture 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 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 and 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.

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.

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.

3.1.2.4 DETERMINING PH LEVEL

Concrete substrates typically have a higher concentration of soluble alkali salts on the surface due to the initial bleeding process of a freshly placed slab. If there is sufficient moisture within the slab at the time of resilient installation, there could be a potentially damaging high pH solution that develops beneath the flooring material.

To determine the pH level present, we recommend following ASTM F3441 Standard Guide for Measurement of pH Below Resilient Flooring Installations. Currently, this is not a requirement of ours but a strong recommendation to record the results at time of installation in the event of a future failure to help determine root causes of the failure. Either the Flat Surface Electrode pH Meter method or the pH Test Paper method would be an acceptable test method if performed according to the ASTM standard.

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 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.

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

3.2.3 GYPSUM BASED SUBSTRATES

Gypsum-based substrates are recommended to have a minimum compressive strength of 3500 PSI. The 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 light commercial, multi-family, and/or residential applications this may be lower or closer to 2500 PSI 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. This does not affect the warranty of the product unless the properties of the gypsum-based substrate lead to or cause failure.

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 contamination. 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. The 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

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 single layers of 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 to 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 the 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.

We offer products to many of the access panel manufacturers for lamination in their process, if project permits this would be the recommended process to follow.

3.2.11 LOOSE LAY MOISTURE OR SOUND CONTROL PRODUCTS

It is not recommended to install 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 consider 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 ADHESIVE BOND TEST

After the 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.

4.2 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 being 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:
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 the 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 the 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 are 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.

5. INSTALLATION INSTRUCTIONS

Rubber Flooring products typically do not need a sound deadening underlayment to be effective in reducing sound transmission. The use of a sound deadening underlayment will diminish the performance properties of the product. 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.

Ensure substrate is suitably prepared prior to installation, as manufacturer is not responsible for substrates that have not been properly prepared and evaluated 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 all adhesion issues related to improper adhesive selection or usage. Select appropriate adhesives, such as wet-set acrylics or urethanes, for areas that will have excessive window/sunlight exposure from walls or ceilings such as sunrooms, window walls, skylights, etc. In these types of areas, a wet-set adhesive that sets hard should be used such as PS-525, AW-510, U-705, or EW-710.

Prior to installation, confirm material installation pattern and direction per design specifications or work order. Inspect all tiles before installing or during installation to verify that there are no visible defects, damage, or excessive shading variations. 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. If there are concerns regarding shade or color variation, do not install material, and consult a sales representative and manufacturer’s technical staff.

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. Ensure all end seams are a minimum of 6" apart.

Use a nail-down guide or equivalent along the 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).

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 a 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.***

5.1 INSTALLATION SPECIFIC INFORMATION

Products are lot controlled, and it is suggested to install lots together and not mix them within the same area of installation.

5.1.1 ADHESIVES

The primary recommended adhesive for installation is the **Excelsior EW-710 Urethane Enhanced Wet-Set Two-Part Epoxy Adhesive**.

The primary recommended adhesive for installations where topical water will be present is the **Excelsior EW-710 Urethane Enhanced Wet-Set Two-Part Epoxy Adhesive**.

No other adhesives are allowed to be utilized for the installation of the IMO Rubber Tile due to the certificate issued by the United States Coast Guard.

5.1.2 LAYOUT INFORMATION

There are directional arrows on these products, and they are intended to be installed monolithically in the traditional point to point method.

5.1.3 INSTALLATION

Once layout has been determined apply adhesive according to instructions for specific product in use. Once the adhesive has been applied and the open time observed, carefully place material into adhesive. Ensure that adhesive does not ooze into seams. Pay close attention to open and working times to avoid covering adhesive that is too wet or dry.

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.

Roll installation area with a 3 section, 100 lb. roller within the working time of the adhesive being utilized to ensure proper bonding, crossing in a perpendicular direction after initial roll. Do not wait until completing the entire installation before rolling as the adhesive may have surpassed the open time and cured.

If adhesive is oozing out of seams or material is shifting excessively, adhesive may be too wet for installation. Review open times and allow adhesive to flash longer prior to installing material into adhesive. Clean excessive adhesive or adhesive residue from the surface of the material according to adhesive instructions.

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 an innovative idea to protect flooring and accessories from scuffing or tearing using temporary floor protection.