U-705 Urethane Adhesive

TECHNICAL DATA

PRODUCT DESCRIPTION

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.

Product Color & Appearance	Cream Colored Paste
Product Packaging Options	4 Gallon Unit
Coverage Rate [1]	135 – 225 sq. ft. per Gallon, based on selected trowel
Setting Characteristics @ Full Cure [2]	Hard-Set Adhesive

MOISTURE REQUIREMENTS

Moisture Control Properties	Not a Moisture Inhibitor or Moisture Mitigation Product
New Concrete Substrates	
ASTM F2170 – RH Limit	99.9%, *in situ*
ASTM F1869 – MVER Limit	25 lbs. / 1,000 sq. ft. / 24 hours
Existing Concrete Substrates	
ASTM F2170 – RH Limit	90%, *in situ*
ASTM F1869 – MVER Limit	12 lbs. / 1,000 sq. ft. / 24 hours
ASTM F710 – pH Limit	≤ 14

Concrete substrates must be properly prepared, have an intact moisture vapor retarder per ASTM E1745, and be without hydrostatic pressure for the above moisture limits to be in effect. Following the installation guidelines at the higher moisture levels ensures the adhesive will dry and cure as intended under the higher moisture level conditions. It doesn't guarantee there will not be a moisture issue or failure during the installation if exposed to prolonged high moisture levels. This product is not a Moisture Inhibitor or Moisture Mitigation product, meaning that it does not control or prevent moisture failures.

PRODUCT PERFORMANCE PROPERTIES

VOCs (California Rule # 1168 SCAQMD)	≤ 0.0 grams / Liter
ASTM D6004 – Adhesive Sheer Resistance	Excellent
ASTM D6862 – 90° Peel Resistance	Excellent
ASTM D7888 – Plasticizer Resistance	Excellent
ASTM D7149 – Freeze Thaw Stability	Non-Freezing
ASTM F1337 – Shelf-Life [3]	1 Year from Manufacturing Date
Reading Manufacturing Date Code	18. 11. 2024 Day. Month, Year - Actual manufacturing date, no codes Located on a white sticker on top of the pail
Service & Storage Temperature	60° - 85° F
Indoor / Outdoor Suitability	Indoor & Outdoor Use

APPLICATION & WORKING PROPERTIES

Porosity or **Absorption** in relation to the substrate is *the process by which a liquid is drawn into and tends to fill permeable pores in a porous solid body* as defined in ASTM F3191 Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring. It is critical to determine porosity or absorption rates of the substrate before applying the adhesive to determine the appropriate application method. It is a common misunderstanding that all concrete slabs are porous and while that probably is true, the finishing methods used today makes the non-absorptive until the top layer is removed, which then they become absorptive or somewhat absorptive depending upon the testing performed using the ASTM F3191 method.

Recommended Trowel Size [4]	Standard Flooring	Athletic Flooring
Porous Substrates	1/16” x 1/16” x 1/16” V Notch	3/32” x 3/32” x 3/32” V Notch
Non-Porous Substrates	1/16” x 1/32” x 1/32” U Notch	1/16” x 1/16” x 1/16” V Notch

Flash / Open Time [5]	10 – 15 Minutes
Working Time [6] (Flooring Installed & Rolled)	Adhesive Covered & Rolled within 40 Minutes

COVERAGE, CLEAN UP, WAIT TIMES

Coverage Per Gallon / Trowel	Per Gallon / Per 4 Gallon Unit
1/16” x 1/32” x 1/32” U Notch	225 sq. ft. / 900 sq. ft.
1/16” x 1/16” x 1/16” V Notch	160 sq. ft. / 640 sq. ft.
3/32” x 3/32” x 3/32” V Notch	135 sq. ft. / 540 sq. ft.

Adhesive Clean Up	Do not allow adhesive to dry on the surface as it may permanently discolor the surface. Wet adhesive is recommended to be cleaned with warm soapy water or denatured alcohol. Mineral spirits and solvents should not be applied directly to flooring and used sparingly as it could damage the surface. Should be rinsed with neutral cleaner and clean water after using mineral spirits.
Allotted Timeframes for Post-Installation Activities	Heat Welding & Light Foot Traffic ≥ 12 Hours Heavy Foot Traffic & Light Rolling Loads ≥ 24 Hours Maintenance Activities ≥ 72 Hours Heavy Rolling Loads ≥ 120 Hours

IMPORTANT INFORMATION CONCERNING ADMIXTURES

Excelsior U-705 is approved for use over concrete substrates containing 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 state 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 ***ASTM F3311 Mat Bond Evaluation of Performance and Compatibility for Resilient Flooring System Components*** 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.

ADHESIVE BOND TEST

We suggest performing an ***ASTM F3311 Mat Bond Evaluation of Performance and Compatibility for Resilient Flooring System Components*** Prior to Installation to alleviate any concerns regarding the condition of the substrate and if it is ready to receive resilient flooring.

SITE REQUIREMENTS

During acclimation, the site must be fully enclosed, weather tight, and material must be in the installation area with the ***HVAC system functional*** and operating 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.

It is recommended to maintain an ambient relative humidity between 40% and 60% for a period of 48 hours prior to installation, during the installation and for the service life of the installation afterwards.

NON-APPROVED SUBSTRATES

Concrete substrates that have been abated or prepared with chemical adhesive removers, solvents, or chemical cleaners.

APPROVED SUBSTRATES

Concrete above, on, or below grade. Properly prepared to receive moisture sensitive resilient flooring that has been in place a minimum of 45 days.

Properly prepared APA rated plywood underlayments.

Properly prepared Portland cement-based patches & underlayments.

Properly prepared & primed Gypsum cement-based underlayments meeting the requirements of ASTM F2419 – Standard Practice for Installation of Thick Poured Gypsum Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring.

Properly prepared Steel & Aluminum.

Radiant-heat systems that have been properly installed and operating at a surface temperature no higher than 85° F (29° C).

Properly installed and prepared moisture mitigation systems.

SUBSTRATE REQUIREMENTS

All substrates must be prepared according to the information contained within the product installation instructions.

Concrete substrates on-grade and/or below grade must be properly prepared, have an intact moisture vapor retarder per ***ASTM E1745***, and be without hydrostatic pressure for the above moisture limits to be in effect. Following the installation guidelines at the higher moisture levels ensures the adhesive will dry and cure as intended under the higher moisture level conditions. It doesn't guarantee there will not be a moisture issue or failure during the installation if exposed to prolonged high moisture levels. ***This product is not a Moisture Inhibitor or Moisture Mitigation product***. This means it does not control or prevent moisture failures.

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, 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.

DISPOSAL INFORMATION

Dispose according to local, state and federal regulations. Do not allow products to enter drains, waterways or landfills in a wet state. Hardened product residues are considered construction waste. Empty packaging is recyclable.

ATTRIBUTES, CERTIFICATIONS, & REGULATORY INFORMATION

- Manufactured in Germany
- Contributes to LEED v4/4.1 Requirements
- Meets South Coast Air Quality Management District rule #1168 requirements
- Does Not Contain Recycled Materials

- California Prop 65 Labeling - **WARNING**: Cancer and Reproductive Harm

SUPPORT & ADDITIONAL DOCUMENTATION

Product Support Phone & Email	(844) 393 – 4044 / solutions@rhctechnical.com
Technical Documentation	solutions@rhctechnical.com
Associated or Related Documentation	SDS Sheet

[1] Coverage Rates are approximate and subject to the level of porosity and ambient conditions, angle of the trowel, age of the trowel, etc. Actual results may vary.

[2] Full cure is typically achieved within 30 days of application of adhesive and covered with approved resilient floor covering utilizing the appropriate methods for the conditions of the substrate in which adhesive is being applied.

[3] Shelf Life depends on proper storage within service & storage temperatures in unopened original containers.

[4] Trowel Notch Dimensions are standard Depth x Width x Space.

[5] Flash Time is the time allowed between applying the adhesive and placing the flooring. This will vary depending on site conditions including temperature humidity, absorption rates, trowel wear, etc.; higher temps with higher humidity will be shorter than lower temps with lower humidity. Conditions listed are determined at 70° F (21° C) & 50% RH.

[6] Working Time is the time allowed between the adhesive being ready for placement of the flooring and when the adhesive should be completely covered with flooring and rolled. This will vary depending on site conditions including temperature humidity, absorption rates, trowel wear, etc.; higher temps with higher humidity will be shorter than lower temps with lower humidity. Conditions listed are determined at 70° F (21° C) & 50% RH.

The contents contained within this Technical Data Sheet (TDS) may be utilized or copied into another projected related document. While this original document will remain in effect at the time of product installation, this TDS shall not be supplemented or replaced by the resulting project documentation. Any alterations to the wording or requirements contained in or derived from this document shall void all related warranties.

See installation information and documents for full installation details regarding substrates, job site conditions, & acclimation procedures. The intent of this document is to provide technical and performance properties of the mentioned adhesive and define the intended method of installation for the products in which the adhesive is approved for use. Any installation 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. Anything that appears to be a link, is and leads to additional information if necessary or provides a means of contact in the event there are any additional questions. Before accepting this document, refer to the product website to confirm that you have the most current revision.

These products are intended for installation by professionals. Prior to use the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability.