

TDS AND APPLICATION GUIDE

DESCRIPTION:

S3 - 4151 is a proprietary Hybrid Acrylic single component, high performance, water-based adhesive formulated to bond all types of flooring products and backings, as well as thermoplastics, thermosets, composites, and metals. 4151 adhesive forms resilient, flexible bonds with minimal surface preparation, and is highly water and moisture resistant. 4151 will not emulsify once cleared (flushed) and maintains performance in environments. Because of its versatility and toughness, installers can increase efficiency and have confidence in the quality of the bonding performance for virtually all finished floors.

4151 FEATURES & BENEFITS:

- Zero VOC's
- Certified as GREENLABEL PLUS
- High moisture capabilities up to 99%RH, 12 MVER, and 12 pH
- Can be applied with roller or notched trowel
- Excellent bonding to many subfloors - concrete, gypsum, plywood
- Can be applied to Advantech subfloor material
- Maintains tac and flexibility
- Wet, semi-wet and cleared (flushed off) on porous surfaces
- Cleared on nonporous surfaces
- Can be used on radiant floors
- Can be used on multiple cushion back systems
- Cost effective – high coverage
- Pails can be reopened up to three times
- Will not re-emulsify when allowed to clear out (flash) prior to final floor install

APPLICATIONS:

- Sheet vinyl products
- LVP, LVT, and VCT tiles
- Rubber floor tiles and sheet goods
- Carpet tiles- multiple backing technologies
- Cost effective – high square foot coverage
- Pails can be reopened up to 3 times
- Will not re-emulsify when allowed to clear out (flash) prior to final floor install

PRODUCT DETAILS:

Packaging	US 4-gallon pail (18.9L) or US 55-gallon drum (170.1L) drum
Color	White liquid that clears out when dry with blue florescent
Shelf Life	4 months in unopened containers; do not allow material to freeze
Open Time (D6325)	25-30 minutes
Dry Time Guidelines	30 min to 2 hours – pending humidity and air flow
Theoretical Coverage	165-400 SF per gallon – dependent on trowel notch size, roller. and backing type

Application Temperature	Should be applied between 40°F and 90°F
ASTM F710-11	pH can be as high as 12
ASTM F2170-11	Relative humidity of slab should be <99% RH
ASTM F1869-11	Reading should be ≤12 lbs. per 1000 ft ² / 24 hrs. per Calcium Chloride Method
Viscosity	50,000-90,000 cPs
Material pH	pH 7.5-9.5
Solids Content	>50%

ENVIRONMENTAL TESTING:

ENVIRONMENTAL PERFORMANCE (ASTM D1002), PSI

Wood: 72-hour water soak, tested wet (reassembled & allowed to dry): 52 (58)

Wood: 72-hour water soak, followed by 72 hours @ room temp: 56

ENVIRONMENTAL PERFORMANCE (ASTM F2753, ROLLING LOAD OVER RESILIENT FLOOR COVERING), PSI

The test was completed at 300lbs using a Hill-Rom gurney wheel at 500 and 1000 cycles.

Indentation Condition Remarks:

500 Cycles - .014 Inch

The tested sample showed slight gloss change to the surface, and there was visible indentation to resilient not adhesive.

1000 Cycles - .017 Inch

The tested sample showed slight gloss change to the surface, and there was visible indentation to resilient not adhesive.

ENVIRONMENTAL PERFORMANCE (ASTM F2753, ROLLING LOAD OVER RESILIENT FLOOR COVERING)

SPECIFIED LOAD 250 Lbs. RESIDUAL COMPRESSION .005 Inch*

Tested specimen was adhered to a steel plate using the 4151 adhesive and the suggested 1/16 x 1/32 x 1/32 u notched trowel.

CONCRETE & PATCH PREPARATION

Note that in general ALL substrates must be clean, sound, and have minimum 250 psi tensile bond strength when tested per ASTM D4541. Be sure concrete is free from oil, grease, paint, or any contaminants that would act to prohibit adhesion.

Concrete Finish: S3 4151 adhesive can be installed on most cementitious patches and self-leveling materials without need for a primer. Prior to installation, surface should be free of dust or residue.

INSTALLATION

S3 4151™ - Follow the flooring manufacturer's installation instructions and guidelines regarding adhesive application rate and method.

Carpet Tile: Spread the adhesive with manufacturer specified trowel or roller. Allow to clear prior to placing tiles, for a releasable installation. Clear time is approximately 30 minutes depending on ambient humidity and temperature. Ensure installation of tiles during working time and prior to dust or other airborne contaminants settling on flooring, up to 4 hours.

Installation Over Non-Porous Substrates: Install Carpet tile, vinyl sheet, tiles, and plank flooring onto adhesive as it becomes dry to the touch, with little or no transfer to finger. This will normally require 30–60 minutes of drying time at suggested installation temperature and humidity. Be sure to install flooring during the working time of the adhesive, up to 4 hours after it becomes dry to the touch. Do not install flooring onto wet adhesive on non-porous substrates. Per manufacturer instructions, after flooring placement, use a 75-100 lbs. three section roller to roll the surface in both directions, ensuring complete contact with adhesive. CAUTION: When high RH and or MVER is present, allow 4151 to clear before setting.

Installing Over Porous Substrates: Carpet tile, broadloom, vinyl sheeting and tiles, and vinyl plank flooring may be placed in the adhesive after 10–20 minutes open time (flash-off) over porous substrates. Be sure to install flooring during the working time of the adhesive, up to 4 hours after flash-off. When installing vinyl plank or tile over a non-porous substrate, the adhesive should be allowed to be semi wet (cleared valleys light transfer on ridges) to the touch, enough to prevent slippage. Immediately after flooring placement, use a 75-100 lbs. three section roller to roll the surface in both directions, ensuring complete contact with adhesive. CAUTION: Loss of adhesion can result if flooring is not installed within the working time of the adhesive.

High Moisture: For successful installation and strong adhesion at <99 RH, 12 pH, and 12 MVER it is required, on either porous or non-porous substrates, to allow product to clear prior to installation of all flooring products to ensure S3 4151 will not emulsify. If working with new concrete, there is the potential for RH to increase to 100, specifically trench cuts, so S3 Surface Prep EXT™ and S3 MoistureShield™ or S3 MRP is recommended to ensure moisture remains within tolerance. For high MVER, S3 Surface Prep EXT™, S3 MRP, or S3 125 MVB™ is recommended.

Return to Service: Follow the flooring manufacturers' installation guidelines; otherwise, restrict foot traffic for 12 hours after installation. No heavy traffic, rolling loads, or furniture placement for 24 hours after installation. Additional time may be necessary if the installation is over a non-porous substrate. Allow at least five days following the installation before conducting wet cleaning procedures or initial maintenance.

Clean Up: Use a clean wet cloth or sponge to remove adhesive while wet. Dried adhesive will require the use of mechanical or appropriate solvent means to remove.

COVERAGE:

Type	Over Porous Surface	Over Non-Porous Surface
Carpet Tile	180-260	200-280
LVP, LVT, and VCT	175-230	200-250
Sheet Vinyl	180-240	200-240
Non-Pattern Broadloom	120-165	120-165
Rolled – Carpet Tile	300-350	300-400
Rubber- Sheet or Tiles	180-230	200-250

STORAGE:

Protect from freezing. All containers must be sealed properly when stored, between 40°F and 80°F.

HANDLING:

All containers must be secured during transport to prevent damage. Lids must be tightened during transport and storage to avoid spillage.

TECHNICAL ASSISTANCE:

If you have any questions regarding this product, please call (800) 933-7520 for further information.

SAFETY PRECAUTIONS:

HEALTH CONSIDERATIONS

As with all epoxies, good hygienic habits must be observed, and the wearing of protective clothing and gloves is advised. Before using any S3 Surface Solutions, LLC. product, please read and follow the product Safety Data Sheet (SDS). Use this product only as directed. Keep out of the reach of children.

FOR YOUR PROTECTION

The data, statements, and recommendations set forth in this product information sheet are based on research and development work carefully conducted by S3 Surface Solutions, LLC., and we believe such data, statements, and recommendations will serve as reliable guidelines. This product is subject to numerous uses under varying conditions over which we have no control and accordingly, we do NOT warrant that this product is suitable for any use. Users are advised to test the product in advance to make certain it is suitable for their installation conditions and uses.

DISCLAIMER

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WARRANTY

The data, statements, and recommendations set forth in this product information sheet are based on testing, research, and other development work that has been carefully conducted by us, and we believe such data, statements, and recommendations will serve as reliable guidelines. However, this product is subject to numerous uses under varying conditions over which we have no control; and accordingly, we do NOT warrant that this product is suitable for any particular use. Users are advised to test the product in advance to make certain it is suitable for their production conditions and particular use or uses. **WARRANTY - All products manufactured by us are warranted to be first-class material and free from defects in material and workmanship. Liability under this warranty is limited to the net purchase price of any such products proven defective; or, at our option, to the repair or replacement of said products upon their return to us transportation prepaid. All claims hereunder on defective products must be made in writing within 30 days after the receipt of such products in your plant and prior to further processing or combining with other materials and products. WE MAKE NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE SUITABILITY OF ANY OF OUR PRODUCTS FOR ANY PARTICULAR USE, AND WE SHALL NOT BE SUBJECT TO LIABILITY FROM ANY DAMAGES RESULTING FROM THEIR USE IN OPERATIONS NOT UNDER OUR DIRECT CONTROL. THIS WARRANTY IS EXCLUSIVE OF ALL OTHER WARRANTIES**