



Technical Data Guide





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Wear Resistance

What is Wear Resistance?

Resistance to abrasion is defined as the ability of a material to withstand mechanical action such as rubbing, scraping, or erosion. Zuri® has been designed to provide exceptional resistance to wear. The third layer of the Trivance™ Technology is a co-extruded acrylic with hardness greater than most conventional composite or PVC decking products, and a film thickness that far exceeds an interior floor finish. This Acrylic is used in products requiring similar toughness such as: Watercraft, kayaks, recreational vehicles, automotive and specialty optic lenses.

How to determine Wear Resistance?

Test Procedure: ASTM D4060 - 01

Taber tests involve mounting a specimen (Zuri Deck) to a turntable platform that rotates at a fixed speed. Two S-33 (sandpaper) abrasive wheels, which are applied at 1000 grams pressure, are lowered onto the specimen surface. As the turntable rotates, the wheels are driven by the sample in opposite directions. One abrading wheel rubs the specimen outward toward the edge and the other, inward toward the center while a vacuum system removes loose debris during testing.



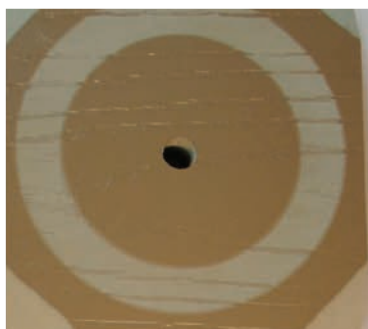
The Taber Rotary Platform Abraser

Failure is noted when the abrader wheels wear through the coating into the substrate. The number of rotations required to penetrate the coating are recorded as “cycles”.

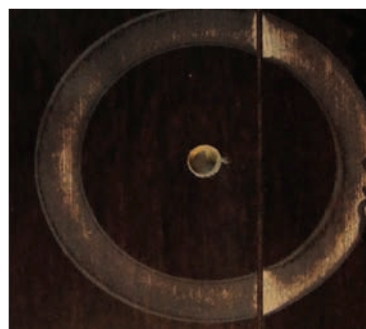
What does that mean to the consumer?

Zuri has a surface 30% harder than conventional non-wood decking products and a coating thickness (3) three times that of the interior flooring industry standard. Test data proves that Zuri's Trivance™ Technologies' protective acrylic finish has wear resistance that exceeds that of the interior flooring offered with a 50 year warranty. Simply stated Zuri® has been engineered to provide and maintain its aesthetics for many years.

Composite Deck with coating –
cycles 200



Premium interior flooring
(50 yr warranty)
600 to 900 cycles



Zuri®
1000 to 1500 cycles





Stain Resistance

What is Stain Resistance?

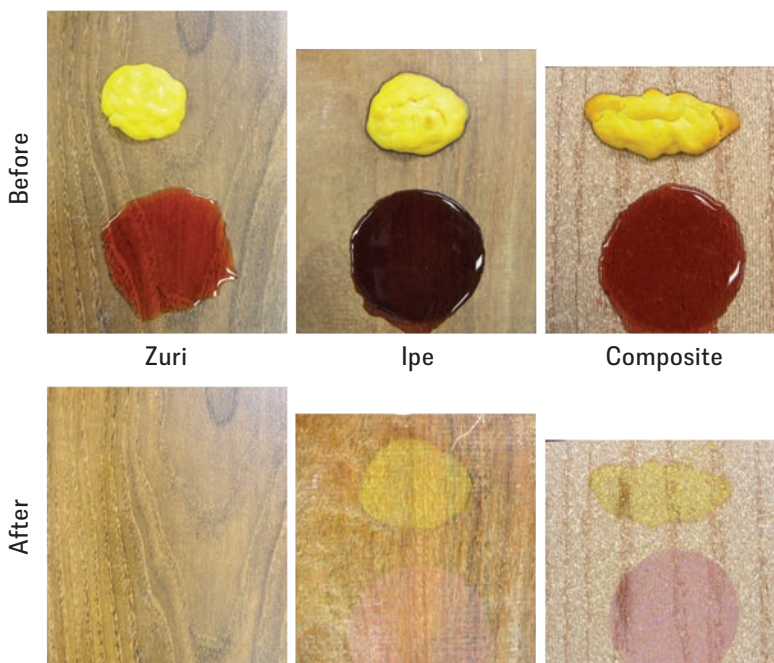
Stain resistance is the ability of a product to resist permanent discoloration when exposed to a foreign substance. The third layer of Zuri's Trivance™ Technology is an acrylic cap that has the highest level of stain resistance in the decking industry today. This innovative coating is highly resistant to staining from food, household products, and organic debris, and will maintain its like new appearance for many years.

How is Stain Resistance measured?

AAMA 615 is an industry test procedure that is designed to measure the durability of coatings. The AAMA test exposes surfaces to detergent, window cleaner, and multiple acids. These products have no adverse effect on Zuri™ decking. A more practical test for decking is exposure to food and household products commonly found in the deck environment. Many common food and household products were allowed to cure onto Zuri for 30 days. In most cases the products were easily cleaned to like new appearance with only mild detergent, water and a wipe with a terry cloth rag, even after drying to a crusty and sticky mess.

- Wine
- Soft Drinks
- Salad Dressing
- Ketchup
- Mustard
- BBQ Sauce
- Bleach
- Sunscreen
- Muriatic Acid

Test results: mustard/wine



What does that mean to the consumer?

Thanks to the innovative Trivance™ Technology, Zuri™ is one of the most durable and stain resistant decking products on the market today. Zuri™ eliminates the hassle of intensive cleaning and costly re-finishing required to maintain the ascetic of other products. Easy to clean and maintain, Zuri™ decking will look great for many years to come. Simply stated, Zuri™ looks great and stays that way with minimal effort.



UV Resistance or Weatherability

What is UV Resistance?

UV resistance is defined as the ability of a material to resist ultra violet (UV) light or sunlight. UV light, or sunlight, will cause non-resistant materials and surfaces to fade or discolor. Zuri® has been engineered to provide exceptional resistance to color fade. The third layer of the Trivance™ Technology is a co-extruded acrylic enhanced with UV absorbers to block or shield the product from the harmful UV Sunlight. This Acrylic is used in other products requiring similar UV stability such as: Watercraft, recreational vehicles, automotive and specialty optic lenses.

How to determine UV Resistance or Weatherability?

QUV ACCELERATED WEATHERING TEST

The QUV accelerated weathering tester reproduces the damage caused by sunlight, rain and dew. In a few days or weeks, the QUV tester can reproduce the damage that occurs over months or years outdoors.

To simulate outdoor weathering, the QUV tester exposes materials to alternating cycles of UV light and moisture at controlled, elevated temperatures. It simulates the effects of sunlight using special fluorescent UV lamps. It simulates dew and rain with condensing humidity and/or water spray. For exterior approved products the test is typically conducted for a minimum of 2000 hr. (subjectively a representation of 5 yr real world exposure)

Pass / Fail criteria for the test vary with products and manufacturer's specs, but typically any color fade less than 2 Delta-E is perceived as excellent fade resistance.

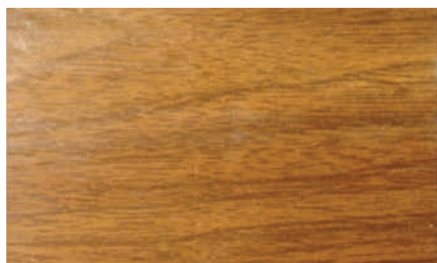
Note: Delta-E is a single number that represents the difference between two colors with the idea that a dE of 1.0 is the smallest color difference the human eye can see

The samples below illustrate the Acrylics ability to block harmful UV light. Both samples are printed with a non-exterior print to simulate worse case scenario and one sample (1) was protected with Zuri's Trivance™ Topcoat, the other (2) was unprotected. Samples were QUV tested for a period of 2,700 hours.

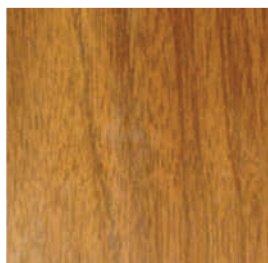
What does that mean to the consumer?

Zuri has continued to be tested in the QUV chamber with an unprecedented **17,000** hours of exposure with a color change of less than 1.5 Delta-E. This test duration is 10 times the typical test exposure. The color change after this level of exposure is undetectable to the human eye. Simply stated Zuri® will maintain its beautiful appearance and color for years to come.

Sample 1
Protected with Trivance™ Topcoat
.78 delta-E color change



Sample before
exposure to test



Sample 2
NOT Protected with Trivance™ Topcoat
11.62 delta-E color change





Surface Altering Chemicals

Some chemicals such as organic solvents, strong acids and plasticizers can alter the protective cap of Zuri decking. Oftentimes these chemicals are a component in common cleaners, degreasers, insect repellents and sun screen. It is important to understand which chemicals can impact the protective cap of Zuri and it is important to know which types of common products may contain these chemicals.

Following is a non-inclusive list of the types of chemicals that should not be used on Zuri Decking:

- Ammonia
- Gasoline
- Napathal
- Kerosene
- Ethyl Alcohol
- Isopropyl Alcohol
- Acetone
- Benzene
- Toluene
- Xylene
- Butyl Alcohol
- Sulfuric Acid
- DEET
- Brake Fluid
- Chlorine >10% Acetic Acid
- Plasticizers
- Lacquer Thinner
- Fantastic
- Lestoil
- Lysol Spray Disinfectant
- Lysol Basin & Tub
- Aromatic Solvents
- Chlorinated Solvents
- Petroleum Distillates

When using products always read the product label prior to use and consult the manufacture if there is any uncertainty regarding the safe use of the product. It is incumbent to know and understand which chemicals are used in cleaning products, insect repellents, and sun screen lotions before use as these types of products may contain chemicals that could impact the surface of the deck. Many of these products include very clear warnings regarding their potential to damage or effect plastics, paint, varnish and other surfaces. Any product containing such warnings should never be used on Zuri decking. The use of products containing such materials may cause damage to the decking surface and will void the warranty.

Special care should be taken if using insect repellents or sun screen products that contain such chemicals near Zuri decking as inadvertent overspray or drips may damage the decking surface.

Products that have been tested and are safe to use on Zuri decking include:

- Soap and water
- Formula 409 Cleaner
- Spic and Span
- Mr Clean Cleaner
- Soft Scrub Cleaner
- Glass Plus Cleaner
- Liquid Comet Cleaner
- Clorox Bleach
- Sodium Hydroxide
- Deck Max Cleaner
- Deck Max Revitalizer

Stubborn stains may be removed by pressure washing with a maximum of 2700 psi and a 25 degree or greater cone nozzle. Excessive pressure with aggressive cone nozzles could cause damage to the board and void the warranty.



Surface Altering Products



Example of discoloration that can be caused by using these products on Zuri Deck.

Most “rubber” or soft plastic products contain chemicals known as plasticizing solvents to achieve the desired flexible properties. These plasticized, flexible plastics include products such as “rubber” or vinyl mats, welcome mats, garden hoses, rain wear, plastic tarps, vinyl gloves, inflatable swimming pools and inflatable toys, etc. The plasticizers used to create flexible properties can sometimes leach out of the product. This is often observed as “the new car smell”, or the smell noticed when opening sealed packages containing flexible products such as rain wear or inflatable toys.

If these types of products are placed onto Zuri decking for extended periods, and the plasticizers migrate out of the product they can be absorbed into decking surface. If absorbed into the decking it can have the same effect on the decking as its intended use in the flexible product. While it is unlikely that enough plasticizer could be absorbed to change the structural properties of the decking there can be enough plasticizer absorbed to change the surface aesthetically. Most often this will appear as a shift in color such as whitening, fogging or hazing appearance on the surface.

Most flexible plastic products should not be used or laid directly onto the surface of Zuri. Use of such products could cause aesthetic changes in the surface and void the warranty.

Following is a non-inclusive list of the type of products to avoid using directly on Zuri decking:

- Rubber mats
- Inflatable swimming pools
- Rain wear
- Vinyl mats
- Inflatable pool toys
- Plastic tarps
- Latex mats
- Garden hoses



Technical Data

	Test Method	Typical Value ¹
Specific Gravity	-	0.60 - 0.65
Weight per linear foot	-	1.46 – 1.58 lb/ft
Modulus of elasticity	ASTM D7032	251,007 psi
Modulus of rupture	ASTM D7032	5,042 psi
Uplift Resistance	ASTM D7032	659 psf (face screw) 352 psf (camo) 261 psf (EB-TY)
Coefficient of Friction	ASTM D2394	Longitudinal: Dry .86/ Wet .97 Transverse: Dry .82/ Wet .89 Exceeds all ADA requirements
Creep Relaxation	ASTM D7032	98.60%
Abrasion Resistance (S-33)	ASTM D4060	82 cycles/mil
Coefficient of Thermal Expansion	ASTM D696	3.2×10^{-5} in/in/°F
Flame Spread Index (Under Deck Burning)	ASTM E84	40
Flame Propagation (Top Surface Burning)	ASTM E108/ ASTM D7032	Pass

Residential Spans		
	Standard	
Span Rating Perpendicular	AC174	16" O.C.
Span Rating 45° Diagonal	AC174	12" O.C.
Stair Span Rating	AC174	12" O.C.

3rd Party Product Evaluation Report

Pending

- (1) The data presented in this technical bulletin was obtained from a statistical sample set of finished goods. Average values are reported. Testing was conducted by an IAS accredited third party laboratory. Actual results may vary due to environmental factors including UV exposure, climate, time, etc.

HEAT RETENTION

Zuri decking is designed to simulate the rich, dark colors of exotic hardwoods that have been finely finished. These dark colors tend to have heat buildup that might feel quite warm on a hot day with direct sunlight. Very dark colors can build up temperatures as much as 90° F above the ambient environment. While temperature is a major factor as to how hot a surface feels, there are other factors that contribute to how rapidly heat can be transferred from a material into the skin. For example a steel plate that is 130° will feel much hotter than a piece of wood that is 130° because it can transfer heat into the skin much faster than wood.

Zuri decking has heat buildup values that are very similar to several popular species of wood commonly used for decking that have been finished. The following table illustrates Zuri decking as compared to similar hardwood species that have been finished with a Helmsman Spar urethane coating.

Finished Wood Species	HBU*	Zuri Color	HBU*
Pressure Treated Pine	71	Chestnut	68
Mahogany	73	Pecan	71
Garapa	74	Weathered Gray	76
Cumaru	76	Walnut	77
IPE	77	Brazilia	78

* HBU (Heat Build Up): A measure of temperature gain of a surface that is exposed to direct sunlight.



Materials Checklist



- ☐ Cap-tor Screws



- ☐ 2P-10 Activator and Glue



- ☐ Heavy-duty PVC Cement



- ☐ End Coat Paint Applicator



- ☐ Camo Guns - Camo Marksman Pro
Please note: You may use the Marksman Pro NB for trims.

[illegible]

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