Aliphatic ClearCoat + Polyaspartic Pure Polyurea

Technical Data Sheet

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Selection and Specification Data

Description

VersaFlex **Aliphatic ClearCoat+** is a high solids, color stable aliphatic polyurea coating that can be applied directly to and adheres well to most substrates, including concrete, steel, wood, and plastic and may be used as a topcoat for existing epoxy, polyurethane, or polyurea. This coating is extremely color stable and displays excellent UV weathering characteristics. **Aliphatic ClearCoat+** may be applied in temperatures as low as 20°F. When fully cured, **Aliphatic ClearCoat+** will produce a highly abrasion-resistant, high-gloss, smooth finish able to withstand the abuse of industrial equipment, steel-wheeled carts, and forklifts. **Aliphatic ClearCoat+** is USDA, FSIS approved and conforms to SSPC - Paint 39, Type 2.

Typical Uses

- Any interior/exterior application requiring color stability
- Color stable coating applied over aromatic polyurea/ polyurethane or epoxy basecoat
- OEM equipment and parts
- Top coat over decorative flake and quartz broadcast systems.

Color & Stability

Clear or pigmented. The standard color is White (VF1213). Custom colors are available upon request. View VersaFlex ColorFlex chart for custom made colors at www.versaflex.com.

Limitations

Requires dry, sound, and clean substrate. Not recommended for constant immersion service.

Theoretical square feet per gallon

Applied up to 10 mil thickness, 160 sf per gallon depending on substrate porosity and surface profile. Applied up to 16 mil thickness, 100 sf per gallon over textured surfaces. **Notes:** Applications over 10 mils in thickness may lengthen curing time. There are 1604 mil inches per gallon. Coverage dependent on substrate texture and condition.

Note: The value ranges stated in this document are based on processing of the material in laboratory conditions. Equipment configurations and/or field application conditions may produce variances in physical properties.

Physical Properties (Typical) 7 day cure at ambient temperature

Description	Test Method	Results
Gloss (60°)	ASTM D523	**80**
Shore (D) Hardness	ASTM D2240	**68**
Tensile Strength (psi)	ASTM D638	**5945 psi**
Tensile Elongation (%)	ASTM D638	**4 %**
Tear Strength (pli, Die C)	ASTM D624	**460 pli**
Taber abrasion, mg wt. loss (1000 g, 1000 revs, CS-17)	ASTM D4060	**20 mg**
Pot Life	@77°F w/ recommended acetone reduction	**25 min**
Tack Free	ASTM D1640	**1-2 hours**
Dry-to-recoat	ASTM D1640	**2 hours**
Max recoat window	ASTM D1640	**4 hours**
Light Traffic		**3 hours**
Full Cure		**7 days**

The value ranges stated in this Technical Data Sheet are based on system processing under controlled laboratory conditions. Equipment configuration and/or field application conditions may produce variances in the final system values.

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Substrate and Surface Preparation

General

Prior to coating, the substrate must be prepared in a manner that provides a uniform, clean, sound, neutralized surface suitable for the specified coating. The substrate must be free of all contaminants, such as oil, grease, rust, scale or deposits. In general, coating performance is proportional to the degree of surface preparation.

Concrete

New concrete should be cured for a minimum of 28 days. Testing for moisture vapor emission or relative humidity according to ASTM F1869 or ASTM F 2170 is recommended. A moisture mitigating primer is recommended if:

- Relative Humidity is greater than 75%
- Calcium chloride test measures greater than 3 lb. / 24 hours / 1000sq feet
- Tramex concrete moisture meter reading over 5% (ASTM F2659)

Provide a dry, clean, sound concrete substrate. Repair spalls and other defects with approved patching material, such as VersaFlex **QuickMender**. Prepare concrete surfaces to SSPC SP13/NACE No. 6. standards. For application direct to concrete, surface should have a profile that meets SSPC-SP3 standards or a profile suitable for the applied coating thickness as stated in ICRI guideline No. 310.2R-2013.

Surface Contaminants

Check for soluble salts on surfaces to be coated. Test with Chlor*Test. If amount of soluble salts exceeds recommended limits, treat with Chlor*Rid. Repeat process until acceptable limits are reached.

Maximum amounts of soluble salts (micrograms per square centimeter):

- Chlorides - 3 immersion, 7 non-immersion
- Nitrates - 5 immersion, 10 non-immersion
- Sulfates - 10 immersion, 20 non-immersion

Metal Surfaces

Provide a clean, sound metal substrate. Sand blast metal to remove laitance and other contamination and provide a suitable 2-3 mil blast profile. Prepare metal surfaces to SSPC-SP10 Near White Blast or better. Test prepared surfaces using Elcometer adhesion testing (ASTM D 4541). Wipe steel surfaces with acetone prior to application of **Aliphatic ClearCoat+** to remove moisture or dust that may have accumulated on the surface after abrasive blasting.

Primers

Aliphatic ClearCoat+ is a self priming product, so in general a primer is not required. For highly porous substrates, a primer such as **VF 15, VF 20, Raven 171**, or **Raven 175** primer is recommended. For concrete slabs with high RH or high moisture vapor emissions, a moisture mitigating primer such as **Milamar MVE1** or **Raven 175** is recommended.

If use of a primer is necessary on metal surfaces, **Milamar ICO Rust Guard** or **Raven 190** is recommended.

Mixing Instructions

Mix Ratio: 2A:3B

Aliphatic ClearCoat+ is prepackaged in separate containers with adequate space in the part 'B' container to accept the full contents of part 'A' container and provided color pigment.

Full or Partial Batch Mix: Mix part 'A' with part 'B' until thoroughly mixed using a paint paddle or low speed drill mixer; however, do not entrain air or bubbles into the mixture.

5 to 15% acetone by volume (1 - 3 pints if mixing an entire 2.5 gallon kit) may be added to the mixed 'A' & 'B' to obtain the stated pot life.

If pigment was ordered separately, add the pigment to the Part B and mix thoroughly before adding the Part A. Continue mixing Part A with the pigmented Part B for 3-5 minutes. If only mixing a partial kit, add pigment in the same proportion. **Example:** If 25% of each 'A' & 'B' portions are used, only add 25% of color pigment pack.

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Process Equipment and Application Rates

Floor Coaters

Padco™ Big Foot Professional Floor Coater

Roller Application

Use lint-free 1/4 or 3/8 –inch nap depending on surface texture

Airless

7/8 hp min. (Graco Ultra 395) - 0.017 to 0.021 tip

Cup Gun or Pressure Pot

Must have air dryer

Process Temperature

Ambient

Pot Life - 20 - 25 minutes

Tack Free Time - 1 - 2 hours

Application Rates

Up to 10 mils per application; approximately 160 square feet per gallon depending on substrate porosity and surface profile. Applied up to 16 mil thickness, 100 sf per gallon over textured surfaces. **Note:** Applications over 10 mils in thickness may lengthen curing time.

Vertical areas shall be coated in lower millage applications/multiple coats to achieve the required mil thickness.

Application Methods

Not to be used for constant immersion environments.

Application Temperature

20ºF and higher. **Aliphatic ClearCoat+** will cure at temperatures down to 20ºF. However, cure times will be extended. Do not apply to frozen concrete substrates with high moisture content, as this will affect coating adhesion and long-term performance

Applying

It is recommended that the product be applied in a multi-directional (north-south, east-west) motion to ensure proper coating thickness. Pour ribbon of mixed material onto surface to be coated.

If using **Padco Floor Coater** applicator, spread coating slowly keeping the applicator at a 30 to 45 degree angle. Special care should be taken to prevent excess material from flowing onto the finished area. At the end of each pass, reverse the applicator angle and repeat the same process in the opposite direction. Cut-in of corners and hard to reach areas may be done with the use of a 4” roller or brush.

Roller application: Pour a continuous ribbon of material on the floor and spread with a notch or smooth blade squeegee (depends on floor texture). Roll with 1/4 or 3/8 inch nap roller in two directions for even application.

Spray Application: See section above for processing equipment.

Re-Coat

Maximum overcoat time is 4 hours. Within four hours, apply an additional coat of **Aliphatic ClearCoat+** at 10 mils. A 3rd coat of 10 mils may be applied for additional UV protection- clear only. Optional. If re-coat window is exceeded, areas to be re-coated should be cleaned and wiped with VF TackCoat at a rate of 500-600 sf per gallon to reactivate the coating surface.

Non Slip

Apply 10 mil coat of **Aliphatic ClearCoat+** and broadcast with aggregate for non skid, as required. Apply second coat within 4 hours. Alternatively, you may lightly broadcast fine aggregate into the topcoat and immediately back-roll in multiple directions to evenly distribute the non-slip texture. Remember that **Aliphatic ClearCoat+** sets up very quickly, so there will be minimal time to back roll the broadcasted aggregate.

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Cleanup and Safety

Cleanup

Cured product may be disposed of without restriction. Excess liquid 'A' & 'B' material should be mixed together and allowed to cure, then disposed of in the normal manner. Product containers that are "drip free" may be disposed of according to local, state, and federal laws.

Use disposable plastic tools and buckets wherever possible. Disposable tools may be thrown away after use. Cured material may be stripped or peeled from plastic tools and containers. Steel mixers or other metal tools are more difficult to clean. They may need to be soaked in a solvent such as MEK to soften and peel cured material.

Safety - Review SDS at www.versaflex.com.

- Wear Long sleeve overalls or disposable Tyvek suit
- Rubber gloves
- Protective eye wear
- Rubber or leather boots
- Respirator
- Do not use near high heat or open flame
- Do not take internally
- Keep out of reach of children

Packaging, Handling, and Storage

Packaging

2.5 Gallon Kit: 1 gallon of "A" side in a black plastic pail, and 1.5 gallons of "B" side in a white plastic pail.

2.5 Quart Sample Kit: 1 quart metal can of "A" side and 1.5 quarts of "B" side in a metal can.

Containers filled by weight.

Shelf Life

One year from shipment date, in original, unopened factory containers.

Storage Temperature & Humidity

Under normal storage conditions of 60°F to 95°F (18° - 35°C).

Warranty

Limited Warranty. Company warrants its goods to be free of manufacturing defects. Goods manufactured by Company will comply with all applicable federal, state and local laws and regulations. Company makes no warranty as to any parts or equipment manufactured by others. Customer shall look solely and only to the manufacturer of such parts or equipment with respect to any warranty claims. Company hereby assigns to Customer the original manufacturer's warranties to all such equipment and parts, to the full extent permitted. THE AFORESAID IS THE EXCLUSIVE WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. SPECIFICALLY, THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

Limitation of Liability. COMPANY'S LIABILITY FOR DEFECTIVE OR NON-CONFORMING GOODS SHALL BE LIMITED TO, AND SHALL IN NO EVENT EXCEED, THE AMOUNT PAID BY CUSTOMER FOR SUCH DEFECTIVE OR NON-CONFORMING GOODS. UNDER NO CIRCUMSTANCES SHALL COMPANY BE LIABLE FOR ANY SPECIAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR LOST PROFITS. In no event may any claim by Customer arising from or relating to any sale of any goods or services referenced herein be brought more than one year after the date of delivery of such Goods.