



GelFlex M

Aliphatic Polyurea Coating

Technical Data Sheet

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Selection and Specification Data

Description

VersaFlex GelFlex M is a 1A:1B by volume, 100% solids, zero V.O.C. aliphatic polyurea coating designed for use in applications that require exterior UV stability, high physical properties, and an exceptional high-gloss finish. GelFlex M develops an excellent bond to properly prepared substrates and has very good impact and abrasion resistance.

Typical Uses

- UV-Stable coating for exterior structures
- Sprayed In-mold “Gel Coat” Alternative
- 100% Solids, No VOC , Styrene Free, FRP topcoat replacement

Color & Stability

Standard colors are White, Light Gray, Dark Gray, and Black. Custom colors are available upon request.

GelFlex M is UV and color stable.

Note: Custom colors will have an upcharge and are non-returnable; custom color options can be viewed at www.versaflex.com.

Theoretical Coverage Rates

Theoretical coverage is 1604 square feet per gallon at 1 mil DFT. Actual surface coverage will depend on substrate porosity and roughness. GelFlex M is recommended to be applied at 20-30 mils DFT in one coat. Application method, substrate roughness, profile, and porosity will effect coverage rates.

Physical Properties (Typical) - (7-day cure at 72°F)

Description	Method	Result
Tensile Strength	ASTM D412/638	8394
Elongation	ASTM D412/638	2.51
Die “C” Tear	ASTM D624	501
Gloss, 60°, Initial	ASTM D523	91
Tack Free Time (secs)	Internal	40
Hardness, Shore D	ASTM D2240	80
Viscosity A-Side (77°F)	Brookfield	1100
Viscosity B-Side (77°F)	Brookfield	800

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.

Substrate and Surface Preparation

Suggested Recommendations for FRP Substrate:

Wash the FRP composite with a non-fragrant, non-moisturizing type soap and water to remove any residual oils/tanning lotions/contaminants on the surface of FRP Composite part. Sand, removing any oxidized layers and post applied coatings until the original FRP composite coating or laminate resin used in the O.E.M. fabrication has been exposed. NOTE: The use of acetone can be employed to ensure the exposed layer does not soften. Ensure a profile of 2 to 3 angular mils has been achieved through abrasion. Wash FRP composite part with non-fragrant, non-moisturizing type soap and water to remove any residual oils from mechanical abrading devices and rinse well. Allow the FRP composite part to dry thoroughly before applying GelFlex M.



GelFlex M

Technical Data Sheet

Application and Equipment Guidelines

VersaFlex GelFlex M has been specifically developed for use with high-pressure plural component proportioning equipment. Heated hose is required. It is recommended to recirculate for 15-30 minutes before application. If recirculation is not available, Iso drum (Part A) should be warmed using heated drum blankets to a temperature of 85°F prior to spraying. Contact VersaFlex for details on material delivery systems and options.

Processing Properties	Units	Results
Gel Time	Minutes	~5
Tack Free Time	Minutes	~20
Recoat Time (minimum)	@ 72°F	Immediately
Recoat Time (max. w/o prep.)	@ 72°F	3 hours

Proportioning Equipment	
Graco	Reactor H-XP2 Reactor H-XP-3

Recommended Settings

Static Pressure	220 psi
Dynamic Pressure (spraying)	1,800 - 2,000 psi
Heat Settings	160°F - 170°F
Hose Heat Settings	160°F - 170°F

Spray Gun

Fusion Air Purge Chamber	AF2929 w/ 838 or 848 tip
Fusion Mechanical Purge	Many
Probler P2	01 Round

Viscosity Profile	A side (cps)	B side (cps)
41°F	1669	10556
59°F	738	2869
77°F	366	1160
95°F	197	558
113°F	113	300
131°F	69	175
149°F	44.6	115
167°F	29	80

Component and Mix Ratio

Mix Ratio

The volume mix ratio is 1A:1B by volume. Proper equipment, gun, and hose set-up are required to process GelFlex M at the correct ratio.

Mixing

B Side must be mixed prior to use. Mix using a 3-tier, collapsible blade power mixer for at least 30 minutes before processing. The mixer element should be one-third of the diameter of the container.

Application and Service Conditions

Environmental & Substrate Conditions

Substrate temperatures must be kept at 60°F or above. Lower substrate and ambient temperatures will increase the cure time.

Temperature Resistance	
Dry (Continuous)	-40°F to 150°F
Maximum Surge	150°F
Immersion (Max)	120°F

The substrate must be 5°F above the dew point and rising before the application of coating materials.

If the substrate is below freezing, traditional methods of determining moisture content are not effective. Additional steps should be taken to ensure moisture content is less than 5%. Refer to the Installation Guide for more information.



GelFlex M

Technical Data Sheet

Curing Schedule, Re-Coat Windows, and Top Coats	
<p>Cure Time</p> <p>Cure to service time is eight (8) hours @72°F. Full cure is achieved in 14 days at 72°F.</p> <p>Top Coating</p> <p>If touch-up is required, GelFlex M can be top-coated immediately.</p>	<p>Recoat Time (Maximum)</p> <p>GelFlex M can be recoated up to three (3) hours after the initial application. If the recoat window is exceeded, additional preparation is required. Before recoating over GelFlex S, the surface shall be clean, dry, and free of all dirt, dust, debris, contamination, or deleterious material. Mechanical scarification and the use of VersaFlex TackCoat or VF-161 as a re-activating primer is recommended.</p>
Application	
<p>Clean Up</p> <p>If the spray equipment is to be stored, it is highly recommended that the applicator thoroughly purges the product from the machine, hoses, and drum pumps. The A-Side (isocyanate) will react with moisture or humidity and set up in the filters, hoses, pump balls, and drum pumps as early as twelve (12) hours if left unattended. Therefore, it is recommended to flush the equipment with a minimum of 2-gallons of MEK for each side and then run several gallons of VersaFlush through the spray equipment. VersaFlush may be left in the machine when not in use.</p>	<p>Safety</p> <p>SDS's are available on the website, (www.versaflex.com) or upon request. Consult the Safety Data Sheet for this product concerning health and safety information before using. Strictly follow all notices on the Safety Data Sheet and container label. If you do not fully understand the notices and procedures provided on the SDS or if you cannot strictly comply with them, do not use this product. Actual safety measures are dependent on application methods and work environment. Keep uncured product away from children at all times.</p>
Packaging, Shelf Life, and Storage	
<p>Available Packaging</p> <p>VersaFlex GelFlex M is available in 10-gallon, 110-gallon and 550-gallon kits. Containers are filled by weight.</p>	<p>Shelf Life</p> <p>GelFlex M can be stored for one year in factory delivered, unopened drums. Keep away from extreme heat, freezing, and moisture. DO NOT FREEZE. Proper storage temperature is between 60°F and 90°F. Ideal material storage temperature is between 60°F and 80°F. It is recommended to warm material to 85°F and mix the B-side prior to spraying to prevent pigment settling.</p>
Warranty	
<p>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.</p> <p>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.</p>	