



VersaFlex Incorporated
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Material Processing & Handling Information

Material: VF 350

Material Type: Fast Set Spray Polyurea Coating

Application: Concrete, Tile, Cement Block, Wood and porous substrates

Application Process: High pressure heated equipment with impingement gun

Process Equipment:	Pumps	Dispensing Gun
Graco:	EXP-1 (Electric) EXP-2 (Electric) EXP-3 (Pneumatic) H-XP2 (Hydraulic) H-XP3 (Hydraulic) H-VR (Hydraulic)	Fusion AP (Air Purge) Fusion MP (Mechanical Purge)
Gusmer:	FF 2500 (Hydraulic) FF 3500 (Hydraulic) H-20/35 (Pro Hydraulic)	GX-7 400 (Mechanical Purge) GX-7 DI (Mechanical Purge) GAP Pro (Air Purge)
GlasCraft:	MX, MXII (Pneumatic) MH, MHII, MHIII (Hydraulic)	Probler (Air Purge)
Gama:	Evolution G-250H	GDI (Mechanical)
PMC:	PMC GH-40 (Hydraulic)	PMC A-P2 (Air Purge)
Pentech USA:		PalmGun or MG Gun (low output)
WIWA:	DuoMix 460 (Pneumatic)	Pentech MG (Mechanical)
Material Supply Pumps:	<u>Pump Type</u>	<u>Continuous delivery/output at 70°F/25°C</u>
Graco:	Standard 2:1 (T1) Diaphragm:	Up to 1.75 gpm, 9.5 lpm
	• Husky 515	Up to 5 gpm, 26 lpm
	• Husky 716	Up to 11 gpm, 61 lpm
	IPM/Gusmer 2:1 (T2)	Up to 3.85 gpm, 21 lpm
	IR/ARO (2:1) (for fluids <1000 cps)	Up to 1.4 gpm, 7.6 lpm
Process Temperature:	160°F optimum (150°F min., 170°F max.)	
Process Pressure:	2,000 - 2,500 psi optimal (3,500 psi max.)	
Gel Time:	12 - 15 seconds	
Tack Free:	50 - 60 seconds	
Light Traffic:	60 - 120 minutes	
Full Cure:	7 days	

Moisture Content:	Calcium chloride test: 3 lb/24 hr/1,000 ft ² Concrete: 5% maximum as per ASTM F170 & ASTM F2420																
Application Temperature:	-40°F and higher. Note that VF 350 will cure at these temperatures, but the effects from these conditions will impact the application in a variety of ways. It is recommended that material and equipment ambient temperatures be kept at 60°F or above. Frozen concrete substrates with high moisture content will affect coating adhesion and long-term performance.																
Dew Point:	Substrate temperature must be 5°F above dew point and rising before application of coating materials.																
Surface Prep:	Abrasive blast per ICRI Technical Guideline No. 310.2-1997 or SSPC SP13. Achieve a concrete surface profile of ICRI CSP-3 to CSP-5.																
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 Sulphates: 10 immersion, 20 non-immersion																
Substrate Parging:	Formed walls with honeycombing or concrete surfaces with large exposed aggregate. Recommended that the surface is rubbed or parged to eliminate surface defects.																
Surface Primer:	Concrete and other porous substrates: VersaFlex VF 15 or VF 20 (6 to 10 wet mils): Two-component sealer and primer. Maximum overcoat time: 72 hours, after which a light recoat is required (2 to 4 wet mils). VF 30 Primer series may also be used, dependent upon ambient temperatures. Steel only, if required to hold back flash rust: VersaFlex PW-1 (2 to 3 wet mils): Single component primer. Maximum recoat window: 24 hours, after which a light recoat is required (1 to 2 wet mils).																
Adhesion Testing:	Adhesion to concrete: Minimum 150 psi. Cohesive failure of concrete is optimum. Pull values will vary depending on concrete strength.																
Coating Application:	Coating thickness will vary depending on intended use, surface roughness and profile. The International Concrete Repair Institute (ICRI) has developed a standard for Concrete Surface Profile (CSP) ranging between 1 (smoothest) and 9 (Roughest). The following chart gives approximate minimum coating thickness to achieve a continuous coating using the ICRI CSP standard.																
	<table> <tbody> <tr> <td>CSP-1 & CSP-2</td> <td>45 - 55 mils</td> </tr> <tr> <td>CSP-3</td> <td>55 - 60 mils</td> </tr> <tr> <td>CSP-4</td> <td>60 - 65 mils</td> </tr> <tr> <td>CSP-5</td> <td>65 - 70 mils</td> </tr> <tr> <td>CSP-6</td> <td>70 - 75 mils</td> </tr> <tr> <td>CSP-7</td> <td>75 - 80 mils</td> </tr> <tr> <td>CSP-8</td> <td>80 - 85 mils</td> </tr> <tr> <td>CSP-9</td> <td>85 - 90 mils</td> </tr> </tbody> </table>	CSP-1 & CSP-2	45 - 55 mils	CSP-3	55 - 60 mils	CSP-4	60 - 65 mils	CSP-5	65 - 70 mils	CSP-6	70 - 75 mils	CSP-7	75 - 80 mils	CSP-8	80 - 85 mils	CSP-9	85 - 90 mils
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	Storage Temp	Storage	Special Handling
'A' Side	60°F min. 70°F optimal	Keep dry. Keep from freezing. Store in covered temperature controlled environment if possible.	Use dry air desiccant for intake vent on drum.
'B' Side	60°F min. 70°F optimal	Keep dry. Keep from freezing. Store in covered temperature controlled environment if possible.	Mix well with mixer to re-disperse any settled pigment.

Safety: Please consult product MSDS for full details.

Safety glasses, Rubber gloves, Protective clothing, Organic vapor or fresh air respirator.
