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Material Processing & Handling Information

Material: **AroStruct**

Material Type: Fast Set Spray Polyurea Coating

Application: Concrete, Tile, CMU, Wood, Coating Reinforcement, and other substrates

Application Process: High pressure heated equipment with impingement gun

Process Equipment:	**Proportioner**	**Dispensing Gun**
Graco:	EXP-1 (Electric)(low output only) EXP-2 (Electric) EXP-3 (Pneumatic) H-XP2 (Hydraulic) H-XP3 (Hydraulic)	Fusion AP (Air Purge) Fusion MP (Mechanical Purge) GX-7 Standard (Mechanical Purge) GX-8 (Mechanical Purge) Probler (Air Purge) Probler P2 (Air Purge)
Gusmer:	FF 2500 (Hydraulic) FF 3500 (Hydraulic) H-20/35 (Pro Hydraulic)	GX-7 Standard (Mechanical Purge) GX-7 400 (Mechanical Purge) GX-7 DI (Mechanical Purge) GX-8 (Mechanical Purge) GAP Pro (Air Purge)
GlasCraft:	MX, MXII (Pneumatic) MH, MHII, MHIII (Hydraulic) SuperMaxi, Guardian A Series	Probler (Air Purge) Probler P2 (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:	**Pump Type**	**Continuous delivery/output at 70^0F/25^0C**
Graco:	Standard 2:1 (T1)	Up to 1.75 gpm, 9.5 lpm
	Diaphragm:	
	• 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:	160º F optimum (150ºF min., 170ºF max)	
Process Pressure:	2,000 - 2,500 psi optimum (1,700 psi min, 3,500 psi max)	
Gel Time:	10 -12 seconds	

Tack Free:	~ 2 minutes
Light Traffic:	60 minutes
Full Cure:	7 days
Moisture Content:	Calcium chloride test: 3 lb/24 hr/1,000 ft^2 5% maximum as per ASTM F2170 & ASTM F2420
Application Temperature:	-40ºF and higher. Note that **AroStruct** will cure at sub-freezing temperatures, but the effects from these conditions may impact the application in a variety of ways. It is recommended that material and equipment ambient temperatures be kept at 60ºF or above. Frozen concrete substrates with high moisture content will affect coating adhesion and long-term performance.
Dew Point:	Substrate temperature must be 5ºF 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 Sulfates - 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. Use a polymer modified resurfacing material approved by VersaFlex.
Surface Primer:	Most substrates: *VersaFlex VF 20* (6 to 10 wet mils): Two-component primer. Maximum overcoat time: 72 hours, after which a light recoat is required. Steel only (if required): *VersaFlex PW-1* (2 to 3 wet mils): Single component primer. Maximum overcoat time: 24 hours, after which a light recoat is required. PW-1 is only needed to prevent flash rust.
Adhesion Testing:	Adhesion to concrete: Minimum 150 psi. Cohesive failure of concrete is optimum. Pull values will vary depending on concrete strength. Utilize ASTM D7234.
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. 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

** Please consult the VersaFlex Spray Gun Configuration Recommendation PDF for specific modules and tips.

*** VF suggests utilizing SSPC guidelines relating to standards (PA2 for steel, Level 3 & PA9 for concrete – Level 4) as established for the appropriate environmental zone.

	Storage Temp.	Storage	Special Handling
'A' Side	60ºF min. 70ºF optimum	Keep dry. Keep from freezing. Store in covered temperature controlled environment if possible.	Use dry air desiccant for intake vent on drum.
'B' Side	60ºF min. 70ºF optimum	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.