INSTALLATION GUIDELINES FOR PAVEMENT OVERLAYS USING TENCATE MIRAFI PGM-G COMPOSITE PAVING GRIDS

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Surface Preparation

- Power broom, sweep or vacuum the pavement before installing PGM-G Composite Paving Grid(s). The pavement surface should be dry, free of dirt, oil and loose stones prior to installation. Additional effort may be necessary on a milled surface to clean the milled surface of dirt and debris.
- Fill all cracks ¼" (0.63 cm) or greater with an approved material.
- If the existing pavement surface exhibits extensive faulting at joints or cracks, a thin leveling course should be placed prior to placing the fabric. If a leveling course is used, crack sealing may not be necessary
- Repair all failed pavement areas prior to installation.
- Surface must be dry prior to the composite grid placement. (Delamination between the composite grid and existing pavement surface may occur if installed over wet or damp surface conditions).
- PGM-G Composite Paving Grid must be clean and dry prior to the asphalt overlay application, otherwise delamination may result between the composite grid and new overlay due to wet and moist conditions.

Asphalt Tack

- **Always** use neat (paving grade asphalt) or polymerized asphalt tack. Emulsions or cutbacks are not recommended.
- Tack temperature in the truck should be between 325 - 400°F (163 - 204°C).

NOTE: Heating the tack coat above 400°F (204°C) in the truck will cause premature aging of the asphalt.

- AC-20, PG64-22, PG70, 60-80 penetration grade or polymerized PG70 graded asphalts should be used. For high temperature installations, high viscosity asphalt tack should be used. These include, but are not limited to; AC-30, PG67-22, 40-60 penetration grade or polymerized PG70 graded asphalts. (See Asphalt Binder Table 1 for recommended grades to be used when installing *PGM-G Composite Paving Grids*)

- Tack coat application rates are based on the specific *PGM-G Composite Paving Grid* used. Table 2 provides the recommended optimum rate of tack to be used based on material type and surface conditions. Adjusting the tack rate may be made based on existing surface conditions.

- The width of the asphalt tack shall be sprayed sufficiently to include the mat width, plus a minimum of 4" (10.16cm) longitudinally and transversely on the overlap side(s).

Material Installation

- *PGM-G Composite Paving Grids* must be installed with glass fibers placed into the asphalt tack coat.
- Any wrinkle that occurs during installation, 1" (2.54cm) and larger, shall be slit and lapped in the direction of paving and pressed down into the tack coat. Every effort should be made to pull wrinkles out by hand in lieu of cutting the continuous fiberglass filaments.

NOTE: Burning or torching of PGM-G Composite Paving Grids to remove wrinkles or folds shall never be done.

- To ease installations around curves, it may be necessary to place shortened lengths by mechanical equipment or by hand.
- To alleviate the pickup of fabric by vehicle tires, caused by the exposure to high ambient temperatures or overspray of tack causing bleed-through, clean blotting sand or hot mix asphalt may be required to be spread over the affected area. Excess blotting sand shall be removed before the installation of the final hot mix asphalt placement over the *PGM-G Composite Paving Grid.*

- After installing the *PGM-G Composite Paving Grid*, the pavement may be opened to traffic at the contractors/engineers discretion.
- *PGM-G Composite Paving Grid* can be installed using a tractor, truck-mounted frame or by hand. Brooms should be used to seat the *PGM-G Composite Paving Grid* into the tack and remove air bubbles to ensure complete contact.
- Rolling equipment may be used to "seat" the fabric in cooler weather where tack coat tends to harden and stiffen and winds tend to displace the fabric.
- Typical material overlaps may range from a minimum of 1” to no more than 4”. It is recommended that transverse overlaps run in the direction of the paving operation to avoid material from folding over under the paver. All overlaps must be tacked together.
- Turning paving equipment, trucks or other vehicles on PGM-G Composite Paving Grid should be gradual, and shall be kept to a minimum to avoid damage to the material.

General Construction Notes

- The recommended minimum hot mix asphalt overlay thickness for *PGM-G Composite Paving Grids* is 1.5”.
- Care must be taken when handling *PGM-G Composite Paving Grids.* Do not drop or bend rolls as this may damage the core and material.
- *PGM-G Composite Paving Grid* should be protected from getting wet during storage and transportation. This can be accomplished by elevating the product off the ground and ensuring that it is adequately covered and protected from ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, fire or flames including welding sparks, and human or animal destruction.
- During construction, do not allow vehicles to park on *PGM-G Composite Paving Grid* for extended periods of time. This could cause damage to the fabric and cause bleed through of the tack caused by tire and motor temperatures of asphalt trucks and support equipment.
- There are three grades of *PGM-G Composite Paving Grids*. Refer to the TenCate Mirafi Technical Data Sheets for specific physical properties of each material.
- High speed mechanical cutting *PGM-G Composite Paving Grid* may cause the ends of the material to melt and bind together making unrolling of the material difficult. Hand cutting is recommended if necessary.

Table 1: Recommended Asphalt Binders For Mirafi® *PGM-G Composite Paving Grids*

	Penetration Grade					AC Grades	PG Grades	Polymer Modified
	40					AC 40		
Asphalts for Mirafi® PGM-G	50	60					PG 70- 22	SBSPG 76-22
						AC 20	PG 67- 22	SBSPG 70-22
			85				PG 64-22	
		70	100			AC10	PG 58-10	
				120			PG 58-28	
						AC 5		HPSPG76-10
				150			PG 52-28	
					200	AC 2.5		
					300			

Table 1 is prepared for use as a guide for liquid asphalt binders to be used as tack coats when installing Mirafi® *PGM-G Composite Paving Grid*s. It is not intended to be an exact comparison of liquid asphalt rate or specific properties of individual grades for use in specific applications. The region of the country and ambient temperatures at the project can influence asphalt binder preference and selection.

The amount (gallons/Square Yard) of tack asphalt placed should be sufficient to:

1) Bond the fabric to the old pavement (or leveling course).
2) Saturate the fabric.
3) Provide enough residual to bond the new overlay to the fabric.

Too light of an application of tack coat could preclude any of the above. Too heavy a tack coat could result in slippage problems at higher temperatures. Therefore, it is of the utmost importance that the proper amount of tack coat be applied. The condition of the existing pavement is one of the determining factors for the proper application rate.

Table 2: Recommended Asphalt Application Rates

Mirafi® *PGM-G Composite Paving Grids*	**PGM-G 50/50**	**PGM-G 100/100**	**PGM-G[4]**
Normal Application Rates			
Gallons/Square Yard	0.27	0.27	0.19
Liters/Square Meters	1.2	1.2	0.86
Heavy Application Rates			
Gallons/Square Yard	0.29	0.29	0.21
Liters/Square Meters	1.3	1.3	0.95

Application rates should be adjusted based on pavement conditions, (milled, irregular or porous, oxidized and cracked-distressed) pavement conditions.

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