CASE STUDY
WILLIBRORD STREET
VERDUN, QUEBEC CANADA
PAVED ROAD REPAIR

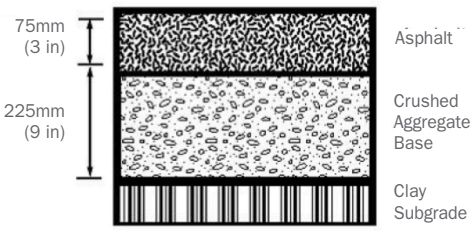
Propex® GEOSOLUTIONS

PROJECT SUMMARY

The city of Verdun, Quebec conducted a seven year study to evaluate the performance of pavements with and without overlay paving fabrics. A section of Willibrord Street was resurfaced with PETROMAT® paving fabric, and a control section on the neighboring Joseph St. was resurfaced without fabric. The two streets had similar traffic conditions and initial degree of cracking, allowing for viable comparison of the reappearance of cracks after repaving. Three key factors contributed to the advanced state of cracking on both streets:

- Poorly planned drainage of surface water, which caused infiltration and contamination of the road's foundation
- Swelling and contraction of subgrade soils due to changes in moisture
- The effects of freeze-thaw cycles that had altered the subgrade and roadbase materials and caused surface course damage

After one year and an entire freeze-thaw cycle, the degree of cracking on Willibrord was significantly reduced and the degree of cracking on the section using PETROMAT was half of what occurred on the control section. Evaluation of both streets continued for seven years. Data provided clear evidence that using a paving fabric provided pavement waterproofing and long-term benefits. The City has continued to use PETROMAT paving fabric on a number of installations with excellent results.



▲ **PROBLEM:** Initial pavement installation did not use a paving fabric for separation/stabilization

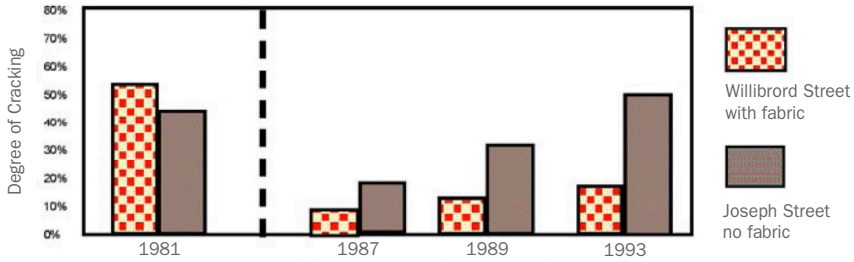


Figure 2. Paving Fabric Decreases Degree of Cracking

▲ **COMPARISON:** Data comparing degree of cracking between Willibrord and the control street

▶ **OBSERVATION:** Results of 7 year monitoring show immediate and long-term results

Table 1. Pavement Cracking Monitoring Data	1981 Before Resurfacing		1987: 1 Year After Resurfacing		1989: 3 Years After Resurfacing		1993: 7 Years After Resurfacing	
	Willibrord	Joseph	Willibrord	Joseph	Willibrord	Joseph	Willibrord	Joseph
Longitudinal Cracking	50.7%	87.8%	10.0%	45.0%	10.0%	65.0%	35.0%	70.0%
Transversal Cracking	100.0	75.8	20.0	20.0	40.0	40.0	40.0	90.0
Alligator Crack Pattern	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Degree of Cracking	58.3	49.3	10.8	20.9	18.3	34.6	20.47	55.08

FEATURES & BENEFITS

- Provides maximum protection against moisture and cracking
- Creates a stress-absorbing interlayer to slow the progress of reflective cracks
- Replaces 1.5" of asphalt, saving an average of $50/lane mile
- Doubles road service life
- Reduces need for additional maintenance

PETROMAT®

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