



**Indulin®**

Slurry seal and micro surfacing

**ingevity™**

# Preventative road with Ingevity.

Slurry seal and micro surfacing are two preventative road maintenance options used to remedy a broad range of problems on streets, highways and airfields around the world.

## Slurry seal

Slurry seals are typically applied in residential areas, parking lots and lower speed access roads. They are used to improve skid resistance and appearance as well as seal minor surface imperfections. Slurry seals can be constructed with a wide variety of aggregates and asphalts and may be latex-modified. These are seals placed in single lifts no more than one stone-depth thick (typically 9.5 millimeter or 3/8 inch). Slurry seals can be slow- or quick-setting and can be designed to provide return-to-traffic times in as little as one hour.

## Micro surfacing

Micro surfacing systems can be applied in all areas appropriate for slurry seals, as well as on highways and airfields. They require high-quality aggregates and asphalts and always contain latex or polymer. Because of the more stringent material requirements and polymer modification, they can be placed in lifts up to one inch in thickness. This makes micro surfacing systems suitable for use in rut filling applications where multiple layers can be used to provide transverse surface leveling. Micro surfacing systems are always designed for a maximum of one hour return-to-traffic time and can even be designed for nighttime applications.

## Technology offerings

### Indulin MQK-M

Indulin MQK-1M is a cationic quick-set emulsifier that provides a buffering effect of the emulsion which aids in improving adhesion to a wide variety of aggregates. Emulsions made with Indulin MQK-1M provide emulsion-to-aggregate compatibility, excellent storage stability and good mixing.

### Indulin MQ3

Indulin MQ3 is an emulsifier for cationic quick-set and micro surfacing emulsions. Indulin MQ3 is specially designed to give improved control of mixing and curing properties with a wide range of aggregates and processing conditions. Emulsions based on Indulin MQ3 give mixes that display excellent workability and flow, even with aggressive aggregates and under high-stress field conditions.

### Indulin QX1

Indulin QX1 is a cationic quick-set emulsifier that produces a stable emulsion to improve adhesion to a wide variety of aggregates. Emulsions made with Indulin QX1 provide emulsion-to-aggregate compatibility, excellent storage stability and good mixing.

### Indulin SBT-50

Indulin SBT-50 is a complex reaction product specifically formulated for cationic slow-set (CSS) emulsions. Indulin



# maintenance

SBT-50 produces an emulsion that has superior mixing, coating and adhesion. It can be used with graded or ungraded aggregates, passes the cement mix test, and is stable upon dilution.

## PC-2024

PC-2024 is an amphoteric chemistry specifically formulated for slow-set emulsions. PC-2024 produces an emulsion that offers superior mixing, coating and adhesion. It can be used with graded or ungraded aggregates, passes the cement mix test and is stable upon dilution.

## Indulin QTS

Indulin QTS is an asphalt emulsifier especially developed for micro surfacing applications. Because of its high quality and reliable performance characteristics, Indulin QTS is widely accepted in the paving industry worldwide for use in the production of micro surfacing emulsions. Emulsions made with Indulin QTS provide excellent mixing with a wide range of aggregates, controlled break, superior adhesion and reduced return-to-traffic times. This emulsifier also performs well on night work jobs and in cool temperatures.

## Indulin AMS

Indulin AMS is a micro surfacing emulsifier specially designed for cold-temperature applications and/or unreactive aggregates. Characteristics include accelerated set and cure in cold weather, controllable mixing, as well as excellent compatibility with a wide variety of latexes.

## Indulin FX

Indulin FX is a 100 percent active asphalt additive designed to improve the rapid curing properties of micro surfacing emulsions. Emulsions made with Indulin FX and non Venezuelan-based asphalts provide improved emulsion particle size, similar rapid curing properties to Venezuelan asphalt-based systems and improved early adhesion of asphalt to aggregate.

## Recommended products and formulations

Application	Emulsifier	Dosage %	Latex
Slow-set slurry	Indulin SBT-50	2.5-3.5	Possibly
	PC-2024	2.5-3.5	Possibly
Quick-set slurry	Indulin MQK-1M	1.2-2.5	Possibly
	Indulin QX1	1.2-2.5	Possibly
	Indulin MQ3	0.8-2.5	Possibly
Micro-surfacing	Indulin MQ3	1.0-2.0	Always
	Indulin QTS	1.0-2.0	Always
	Indulin AMS	1.0-2.0	Always

pH range is 1.5-2.5

### We partner with you to develop customized solutions

Pavement Technologies, a dynamic business within Ingevity, is the global leader in the development and delivery of high-performance products and technologies for the world's asphalt paving industry.

We specialize in customized solutions and support for a full range of asphalt paving demands. Ingevity partners with customers to:

- evaluate project materials
- offer plant-to-jobsite support in an effort to help ensure success
- optimize mix designs and emulsion formulations to meet project specifications

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