

# LoNoise™

## ASPHALT PRODUCTS

2018 EDITION

Unique mix design and surface texture producing a surface that can reduce the influence of traffic noise.



### THE QUIET ALTERNATIVE

A new, specially formulated hot-mix asphalt low-noise surfacing, incorporating rubber granules, has been developed to reduce traffic noise levels and to increase safety on heavily trafficked roads in urban and suburban areas.

The 'noisiness' of a road surface is influenced in the first instance by the noise from the interaction of the tyre and the road surface and secondly by the noise attenuation due to the road surface.

Improvements in asphalt technology have provided a real alternative, LoNoise™, which can deliver reduced noise pollution for urban and suburban areas.

Investigations in Western Europe have found that 75% of people in urban and suburban areas consider that they are inconvenienced by noise, particularly road traffic generated noise.<sup>(1)</sup> New residential developments and expansion of existing communities have resulted in increased traffic volume, which in turn, has contributed to higher levels of noise pollution.

### WHAT IS IT AND HOW IS IT LAID?

LoNoise™ is made up of gap-graded aggregate, filler, rubber granules and a bituminous binder. A modified binder is normally used for pavements exposed to heavy traffic which ensures cohesion and durability. The rubber plays a key role in the reduction in traffic noise and the percentage of the binder is a function of the type and properties of the rubber granules. Steel wheel rollers carry out compaction. Pneumatic tyred rollers are not used. The degree of compaction is not as important as with Dense Graded Asphalt, but the mix needs immediate rolling to ensure the asphalt is bedded down. LoNoise™ can be reopened to traffic as soon as it has cooled.

### HOW DO WE KNOW IT DELIVERS?

LoNoise™ has its origins in France where it has been available since 1994.

In 1995, LoNoise™ under the name of Colsoft, was awarded the Golden Decibel Prize by the Ministry of Environment in France.

In Australia we have undertaken major trials of LoNoise™ surfacing in Sydney and Brisbane, with great success.

Our results have been consistent with the dB(A) noise reduction expectation from France. In the Sydney trial improvement is equivalent to reducing the acoustic power by a factor of about 4,<sup>(2)</sup> which means that the rolling noise produced by 100 passenger vehicles on the LoNoise™ surface is equivalent to the rolling noise produced by 25 vehicles on the adjoining conventional asphalt surface. Put in human terms, the LoNoise™ can reduce the perception of traffic noise by about 35%.

(1) Traffic noise reduction in Europe, Schroten, den Boer, Delft, August 2007.

(2) Boral Test Results, Great Western Highway, Sydney, December 2000.

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### WHY SHOULD I USE IT?

The use of LoNoise™ makes it possible to obtain an asphalt surface that reduces tyre and pavement contact noise and enhances the comfort and safety of road users. As of 2011, LoNoise™ has performed as a thin surfacing on urban and suburban Australian roads at speeds as low as 50kph, for more than 10 years.

LoNoise™ also positively contributes to the environment by using recycled old tyres – of the order of half a tyre per square metre.

The reduction in noise and the use of recycled tyres in the production process highlights the environmental contribution made by LoNoise™. The product provides a road surface tailored to meet the demands of road users, local residents and road asset managers.

ATTRIBUTE	FEATURE	BENEFIT
<b>Environmental – Noise</b>	Thin asphalt surface that reduces traffic related noise on heavily trafficked roads	Can reduce the impact of vehicle noise in urban and suburban communities
<b>Environmental – Recycling</b>	Manufactured using recycled rubber from used tyres	Helps to preserve the environment, by reducing old tyre rubber to landfill
<b>Safety – Skid Resistance</b>	Good surface texture	Provides good skid resistance which can improve safety
<b>Safety – Visibility</b>	Dull and matt surface	Reduces light reflection and contrasts better with line marking
<b>Alternative to Open Graded Asphalt</b>	Reduced risk of clogging	Retains noise absorption properties over time
<b>Versatile</b>	Existing or new construction uses	Can be used as an overlay on structurally sound pavements (spray seal, asphalt or concrete) or for new construction
<b>Performance – deformation</b>	Good deformation or rut resistance <sup>(2)</sup>	Properties similar to Open Graded Asphalt (OGA) and Stone Mastic Asphalt (SMA)
<b>Performance – life</b>	Good life expectancy	Service life between SMA and OGFC. French experience is seven years old and continuing to perform well
<b>Thin layer</b>	Typical layer thickness of 25mm	Can reduce the volume of material used. Minimises level changes
<b>Speed of construction</b>	One pass paving process	Less disruption to traffic
<b>Other properties</b>	Hot mix asphalt product	Has many of the attributes of conventional asphalt

### Boral website:

Visit the Boral website for the full range of Boral products: [www.boral.com.au](http://www.boral.com.au)

### Asphalt information:

For asphalt news and information visit: [www.boral.com.au/asphalt](http://www.boral.com.au/asphalt)

For asphalt locations around Australia go to: [www.boral.com.au/locations](http://www.boral.com.au/locations)

### Contact us:

At Boral we are committed to excellence in service so for further information please contact:

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**SDS:** A Safety Data Sheet is available on the Boral website or by contacting Boral Asphalt customer service.

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