

CASE STUDY

Open Graded Asphalt

EASTERN FREEWAY

2018 EDITION



Project Impact Statement

The first stage of the Eastern Freeway was constructed in the early 1970s. In late 1997, it was extended by an additional 3.3km from Middleborough Road to Springvale Road in Donvale and was constructed under green field conditions.

As part of the EastLink Project commencing in 2005, the Eastern Freeway has been extended to Ringwood to become the northern leg of the Mitcham-Frankston Freeway. The extension to Donvale was one of Victoria's major infrastructure development initiatives at the time.

Client/Construction Team:

Client: **VicRoads, Eastern Freeway**

Contractor: **Boral Asphalt**

Project Scope

To provide a pavement surface that will reduce road-tyre noise while withstanding traffic volumes in excess of 119,000 AADT (two-way) (2005) experienced on the Eastern Freeway.

As part of the EastLink Project commenced in 2005, the Eastern Freeway has been extended to Ringwood to become the northern leg of the Mitcham-Frankston Freeway.

The extension to Donvale was one of Victoria's major infrastructure development initiatives at the time and is composed of a deep strength asphalt pavement primarily at natural level or in cut. The placement of open graded asphalt was a requirement of new pavement construction on all freeway facilities of this type.

Existing Conditions

The extension of the EastLink Freeway to Donvale is composed of a deep strength asphalt pavement primarily at natural level or in cut. The placement of open graded asphalt was a requirement of new pavement construction on all freeway facilities of this type.

Open graded asphalt is now an industry and community accepted surface treatment used on major metropolitan facilities for its noise attenuating properties.

The Boral mix design aims to improve textured finish, ease of compaction and cold joint integrity. It is advocated that the workability of the mix together with the use of computer controlled levelling methods during selected phases of asphalt placement may contribute to improved rideability.

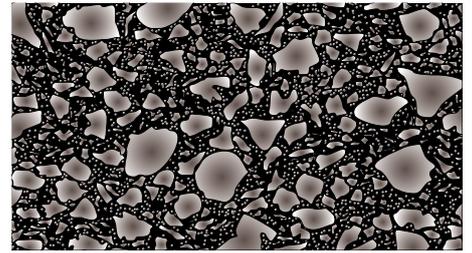
Design

A size 10mm, AOG polymer modified binder, open graded asphalt with Boral designed volumetric properties, was used. This mix increases the tenacity of the mix and is expected to increase both the functional and structural life of the open graded asphalt.

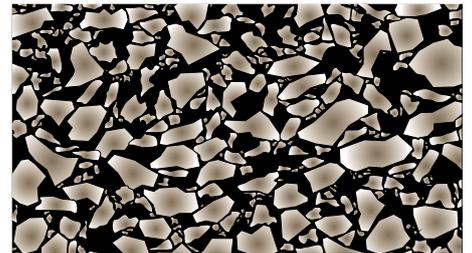
Performance

Approximately 8,500 tonnes of Boral AOG Open Graded Asphalt was supplied and placed on 170,000m² of pavement between April and December 1997, and has performed satisfactorily to date.

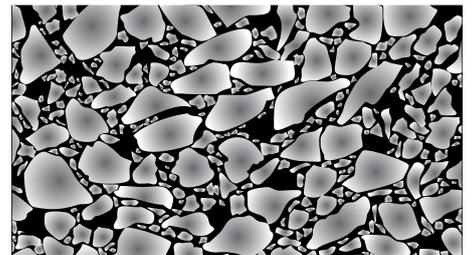
A Blow Knox PF 3200 paver performed the application of this open graded asphalt, which was laid at a nominal thickness of 30mm. Afterwards, tandem steel drum rollers were used in static mode.



Dense Graded



Open Graded



Stone Mastic

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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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