BORAL ASPHALT
Build something great™

Durapave

HIGH PERFORMANCE ASPHALT SURFACING

2018 EDITION

Durapave is a thin durable high textured asphalt surfacing which has been designed specifically to provide a long service life and enhance the skid resistance of an existing pavement

Description

Durapave has been specially designed to render an asphalt wearing course with enhanced fatigue performance properties for use when overlaying existing surfaces requiring high resistance to reflective cracking.

Durapave is most suitable for restoring the ride and functional surface characteristics of existing sound pavements carrying all vehicle loading types from light to heavy traffic1.

Durapave is manufactured from high quality aggregates and a specially modified binder to ensure the long term performance of the surfacing.

Durapave can be paved in layer thicknesses between 20 and 30 mm using a 7 mm nominal maximum aggregate size (NMAS) with an asphalt paver.

(1) According to AUSTROADS Guide to Selection & Design of Asphalt Mixes, Heavy Traffic is defined as:

- 5×10^6 to 2×10^7 or 500 commercial vehicles/lane/day generally travelling at >25km/h; or
- 5×10^5 to 5×10^6 or 100 to 500 commercial vehicles/lane/day involving stop/start, in climbing lanes or generally travelling at ≤25km/ h.

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Application

Durapave is essentially a thin asphalt surfacing and is therefore not normally used to provide structural strength to the existing pavement. The highly modified binder in the mix will help retard reflecting cracking and provide a highly fatigue resistant surface. However it is still necessary to repair areas where the cracks have occurred as a result of base or sub base failures prior to overlaying.

It is important that the existing pavement conditions are such that the rut depth is less than 15 mm. Where the rut depth is >15 mm and/or the traffic is very heavy consideration should be given to profiling and replacing the existing asphalt with a larger sized aggregate mix especially at busy intersections and climbing lanes.

Should you want to increase the thickness of the overlay to between 30 and 40 mm then a 10 mm NMAS graded Durapave mix can be used.
These ratios of layer thicknesses to NMAS are recommended in order to ensure that the optimum densification and impermeability of the thin wearing course is achieved during compaction.

Materials

Durapave combines the use of a high performance polymer modified binder and high quality aggregates to provide a mix with a strong stone-on-stone interlock and a surfacing with high fatigue and rut resistance.

The binder used in Durapave has been formulated so that the asphalt mix can achieve a high fatigue life. The mix is further reinforced with fibres to increase the binder viscosity.

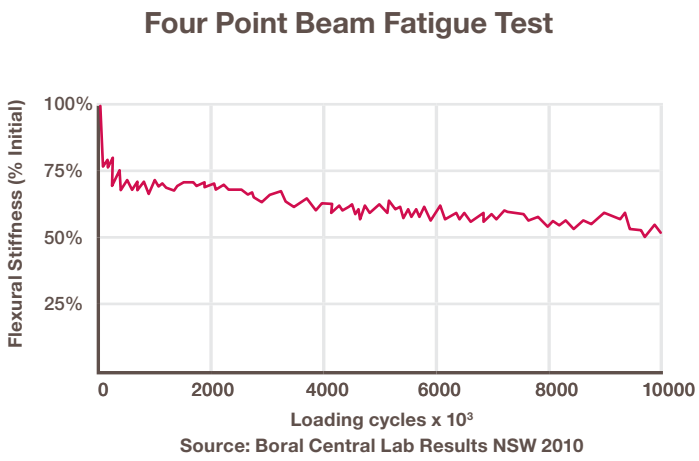
The use of hard wearing aggregates with good micro texture in conjunction with the macro surface texture, which is achieved via the aggregate gradation, provides good skid resistance performance of the surfacing during its expected service life. The aggregates used in Durapave conform to aggregate standards, which include limits on Flakiness Index, Polished Aggregate Friction Value, 10% Fines Value and Wet/Dry strength ratio of source aggregates.

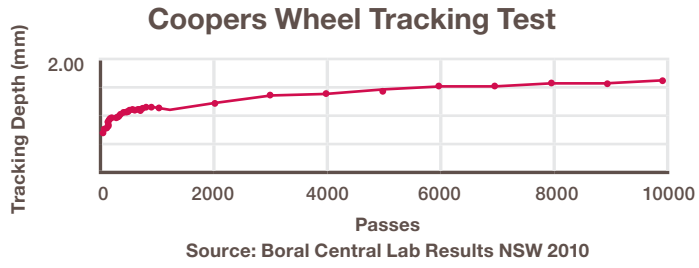
Performance properties

Durapave is designed to provide the following performance properties:

PROPERTY	UNIT	TYPICAL VALUE
Wheel Tracking Test rut depth	mm	< 2.0
Fatigue @ 400 micro strain	Cycles to failure condition	> 8 million
Permeability	µm/s	< 10

Performance properties continued





Durapave complies with the following State Road Authorities performance specifications for thin asphalt surfacings:

- **RMS QA Maintenance Specification RPB125: Thin High Textured Asphalt Surfacing (draft) published 2007; and**
- **Queensland Government Main Roads: Standard Specification MRSS10D Performance procurement of thin asphalt overlays for programmed maintenance Type B1 and B2 asphalt (interim) issued October 2009.**

Use of Durapave

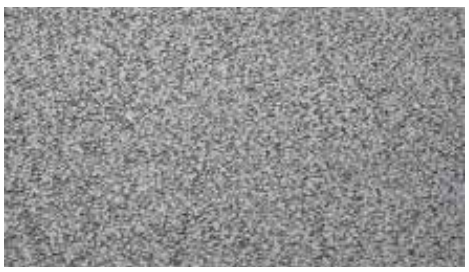
Durapave has been used successfully on numerous urban highways and arterial roads across Australia. The design of Durapave is based on Boral's experience with thin layer high performance asphalt surfacings and has been optimised to render a high performance textured asphalt surfacing.

Some of the original work was done using unmodified bitumen but the most recent mixes have been manufactured with polymer modified bitumen. The earlier work includes:

- The red coloured 7mm SMA wearing courses paved on the Sydney bus transit lanes and Melbourne bus priority lanes;
- The high performance asphalt surfacings on the orthotropic steel deck of the Westgate Bridge in Melbourne; and
- Various Councils in New South Wales and Western Australia.

Coloured Durapave on bus lanes

Durapave on Stafford Road, Gordon Park, QLD



Durapave wearing course

Technical & Quality

A mix design will be done for each project in order to ensure that the materials selected will result in the final performance properties of the Durapave being achieved.

This will also involve samples being taken during production for testing to monitor compliance.

Boral is committed to the ongoing development of Durapave by monitoring its in-service performance over time to ensure its optimal performance in the longer term.

Benefits & Advantages

Durapave offers the road user and the road authority a host of benefits over other asphalt products, namely:

Cost Competitive

- Durable overlay that can improve the service life of asphalt

Performance

- Can improve the life cycle costs of asphalt through longer service life
- Enhanced fatigue life
- Enhanced skid resistance vis-à-vis dense graded asphalt over the life of the surfacing
- Ability to withstand heavy traffic and high stresses.

Sustainability and environmental benefits

- Improved life span of the asphalt road can mean less raw materials that would be required for new work
- Can be profiled and recycled
- Less traffic disruptions due to longer service life
- May contribute to a lower rock surface.

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For asphalt news and information visit: **www.boral.com.au/products/asphalt**

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