pavement work tips

Preparing Pavements for Resealing

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INTRODUCTION

Maintenance works need to be planned and carried out well in advance to ensure that newly resealed pavements have a surfacing that is:

- waterproof and durable
- uniform in appearance
- of suitable width
- of adequate ride quality.

An initial assessment must be made to determine whether defects can be corrected with the selection of seal type, for example the use of a SAM seal to correct cracking, or whether pretreatment is required.

PREPARATION OF A PAVEMENT FOR RESEALING

General

The following pavement preparation activities should always be carried out in advance of resealing:

- repair any defects such as wide cracks, pot holes and structural deficiencies;
- repair any shoved, rutted or depressed areas that will affect the shape and ride quality of the reseal;
- repair any edge breaks to re-establish the width of the pavement;
- avoid other concurrent maintenance activity that may adversely affect the early life of the reseal, such as linemarking, repairing shoulders, trenching or reinstating any surface drainage.

A pavement that is well prepared for resealing should have a uniformly textured surface, a smooth ride where practical, and contain only minor defects that can be corrected by the reseal.

The texture of the repaired surface should match the adjoining surface texture as far as practicable. Any variations in the existing surface are likely to be reflected into the texture of the new surface.

Preparation Activities

Cracking

Areas of severe crocodile cracking should be removed and replaced.

Cracks wider than 2 mm should be repaired by sealing with:

- hot or cold pour crack sealants
- binder and grit systems
- overbanding (striping) techniques
- application of a geostrip.

Cracks less than 2 mm wide, and minor crocodile cracking, can generally be successfully treated with a reseal or SAM seal using polymer modified binder, geotextile reinforced seal or fibre reinforced seal.

A further alternative, for particular application, is use of a slurry surfacing to repair shape and lock in cracked segments, followed by a SAM seal for waterproofing.

Crack sealing treatments are further described in Pavement Work Tip No 8 and skin patching techniques in Pavement Work Tip No 45.

Structural Defects/Pot Holes

Structural defects should be repaired by patching. The materials used for the repairs should be given sufficient time to settle in before further treatment. Pot holes should be squared and tack coated prior to filling with asphalt.

Ruts and Depressions

Where ruts and depressions exceed about 20 mm in depth, they should be repaired by regulating with an asphalt overlay, slurry surfacing or granular resheet.

Flushing

Flushed or "fatty" surfaces should be treated. For possible treatment types, refer to Pavement Work Tip No 7.

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Key Summary

This issue of "pavement work tips" provides guidelines for the timing and correction of pavement defects prior to resealing

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OTHER MAINTENANCE ACTIVITIES

Regrading to repair shoulders or reinstating longitudinal surface drainage should be undertaken well in advance of resealing work. Similarly, shoulder repairs should not be undertaken too soon after sealing as the surfacing, which may be tender, is easily damaged.

PREPLANNING

To ensure satisfactory performance of the reseal, it is necessary to carry out the repairs

- using the appropriate materials
- well in advance of the reseal.

Advance preparation is essential. Uncured bituminous maintenance treatments and embedment of aggregate into patching materials can lead to bleeding and adversely affect the quality of the subsequent reseal.

Table 1 provides desirable guidelines for the preplanning and undertaking of other maintenance treatments.

OTHER FACTORS

Treating Pavements with Non-Uniform Surface Texture: Desirably, large variations in surface texture between wheel paths and other non-trafficked areas should be corrected to provide a more uniform surface texture prior to resealing.

Techniques for treatment of flushed seals and non-uniform surface texture are further described in Pavement Work Tip No 7.

Excessive Crack Sealing: Excessive binder used in crack sealing and overbanding can reflect through the reseal, causing binder pick-up and unsightly appearance. Where there is extensive cracking, it may be preferable to use binder and grit, or apply a SAM seal as referred to above.

Extent of repairs: It is often not economical or practical to return the pavement to an "as new" condition. The extent of repairs will depend on the type of road, but should be sufficient to repair the major defects, and waterproof the pavement surface.

Where preparation works are extensive, it may be appropriate to use a polymer modified binder or geotextile reinforced seal rather than carry out extensive crack sealing.

REFERENCES

Pavement Work Tip No 7, Treatment of bleeding and flushed surfaces.

Pavement Work Tip No 8, Treatment of cracks in flexible pavements.

Pavement Work Tip No 45, Skin Patching.

*For more information on any of the construction practices discussed in "**pavement work tips**", please contact either your local AUSTROADS representative or AAPA:*
tel (03) 9853 3595; fax (03) 9853 3484; e-mail: info@aapa.asn.au.

A complete list of "pavement work tips" issues is available on AAPA's website: www.aapa.asn.au

Issues may be downloaded using Adobe Acrobat Reader. Copies may also be obtained from AAPA.

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Maintenance treatment	Desirable time for maintenance activity to be completed before resealing[1]
Repair of edge breaks, patching and regulating with:	
• Premixed/cold mix asphalt made with cutback bitumen	6 months
• Premixed/cold mixed asphalt made with bitumen emulsion	4 months
• Hot mix asphalt	2 months
• Slurry surfacing	3 months
Patrol reseals using:	
• Cutback bitumen and grit	6 months
• Emulsion and grit	1 months
Crack sealing using:	
• Emulsion	2 months
• Cutback products	6 months
• Hot bitumen products	2 months
Treatment of flushed areas by asphalt patching or using solvents *(refer to Pavement Work Tip No 7)*	2 months
Maintenance of shoulders and longitudinal drains	2 weeks (and 2 weeks after)
Linemarking before resealing	3 to 6 months (if required)

1. May vary depending on climatic and trafficking conditions.