

Technical Direction

for Operations and Services Practitioners



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Design of Geotextile Seals and Reseals

This Technical Direction (TD) makes clear the Authority's position on geotextile sealing and resealing. It is to be implemented from the date of issue. This technical direction will be reviewed when a national geotextile seal design procedure has been agreed by Austroads.

Background

A high percentage of single/single application geotextile seals and reseals, placed with cutback class 170 binder do not perform well. Some remain hungry in texture, others strip of aggregates, and in some binder is drawn to the surface by traffic and picked up by vehicles. Single/single means a single application of binder followed by a single application of aggregates on top of the geotextile fabric. In geotextile reinforced sealing the aggregates are either a nominal sized 10mm or 14mm. The problems referred to above generally occur in the early stages of geotextile seal life. Where binder mobility is the problem it normally settles within the first 12 months of the seal life.

Restoration of geotextile reinforced seals is expensive and causes inconvenience to the public.

Double/double geotextile reinforced seals have been used successfully by the RTA and VicRoads with both cutback class 170 and polymer binders. A double/double is an application of binder followed by an application of aggregate and a second application of binder followed by a second application of aggregate on top of the geotextile fabric. Double/double seals are designed so that the second aggregate layer fits and locks into the first aggregate layer. To achieve the interlock, the nominal size of the second aggregate is half that of the first, for example 14/7mm.

The design procedure for geotextile sealing and resealing is currently being reviewed by Austroads.

Direction

Until further notice, geotextile reinforced seals placed in NSW for RTA must be designed as double/double applications.

The geotextile seal designs are to be designed in accordance with RTA Seal and Reseal Design Form 395K. The following additional conditions are to apply:

- The binder retention by fabric allowances must be determined using RTA Test Method T654, Fabric Retention of Bituminous Binder (Empirical Calculation).
- Where C170 binder is used the total volume of binder must not exceed 3.0L/m² for the two seal layers. If the design exceeds 3.0L/m², adjust the rate to equal 3.0L/m². Binder adjustment is to be made to the first seal application and not the second seal coat.
- Cutter is not to be used in the tackcoat.

For: Directors RTA, Engineers, Works Supervisors, Surveillance Officers and Councils

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Page 1 of 2

The RTA's policy of applying a correction seal applies where the binder allowance for measured surface texture is greater than the recommended rates in the design tables for the existing seal and proposed reseal (geotextile seal). RTA seal design procedures are detailed in RTA Form 395K and Section 4 of RTA Sprayed Sealing Guide.

(Signed)
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Page 2 of 2