

Guidance Note on Types & Design of Surface Dressings

1 Introduction

- 1.1 There are 5 basic types of surface dressings plus a range of "proprietary" dressings such as high friction systems and multiple layer dressings.
- 1.2 Advice on the parameters used in the design of dressings is given in the TRL Road Note 39 Design Guide for Surface Dressing 6th edition.
- 1.3 The Road Note is available from the Transport Research Laboratory at Crowthorne, Berkshire.
- 1.4 This RSTA Guidance Note is not intended to reproduce the information in Road Note 39, but to draw attention to important information on types of dressings and their design. It also references the relevant sections to help the designer when using the Note.
- 1.5 The design parameters that should be considered are:
 - type of dressing
 - type and spread rate of binder
 - type, size and spread rate of the aggregate/s to be used.
- 1.6 Each type of dressings has different characteristics. Care needs to be taken to select the type of dressing which is appropriate for the site to be dressed.
- 1.7 It is also important that the dressing is designed to give maximum performance under the site operating conditions. This will ensure that maximum life is gained from the work.

2 Types of Dressing

2.1 The basic types of dressings are:

- single surface dressing - one layer of binder and one layer of chippings
- raked-in surface dressing - one layer of binder and two layers of chippings
- double surface dressing - two layers of chippings (the larger size in the bottom layer) and two applications of binder, the second one being placed between the layers of chippings

- inverted double dressing - as above for double dressing with the layers of larger and smaller chippings reversed.

- Sandwich surface dressing - a layer of chippings laid on the road surface prior to the application of a single surface dressing.

2.2 Reference should be made to Section 2 in Road Note 39 for full descriptions and the advantages of each of these various types.

2.3 There are also many different "proprietary" surface dressings which are specifically designed for particular circumstances.

3 Design of Dressings

3.1 As previously stated, surface dressings should be designed in order to give maximum performance under the expected working conditions on the site.

3.2 The design process is fully set out in Road Note 39 and includes determining the following: (the relevant Road Note Sections are given against each factor.)

- | | | |
|--|---------|-------|
| • Latitude in the UK | Section | 7 |
| hardness category | | --:-- |
| highway layout | | --:-- |
| (gradients/bends/junctions) | | --:-- |
| surface condition | | |
| • materials to be used | | |
| type, size, psv & shape of chippings | Section | 5 |
| type of binder | Section | 5 |
| type of dressing size(s) of aggregate(s) | Section | 2.2 |
| • rate of spread of chippings | Section | 9.1 |
| • rate of spread of binder | Section | 9.2 |

- 3.3 A summary of the Tables to be used with their relevant page numbers is set out at Fig 1 to this note.

Figure 1

**FLOW CHART FOR USE WITH
THE SIXTH EDITION OF ROAD NOTE 39**

SITE DETAILS, CHOICE OF DRESSING AND CHIPPING SIZE

TASK	TABLE OR FIGURE	PAGE
Traffic Category	Table 7.2.3	19
Total Traffic	From Client	
Traffic Speed	From Client	
Geographical Zone	Figure 7.2.1	18
Road Hardness	Figure 7.2.2	19
Road Altitude	Maps/Site Visit or Client	
Minimum Radius of Bends	Maps/Site Visit or Client	
Road Condition	Site Visit or Client	
Type of Dressing	Figure 8.3a or b	27 & 28
Type of Binder	Guidance from RN 39 Client / Contractor choice	
PSV of Chippings required	Figure 7.3.1	22
<u>Size of Chippings</u>		
single	Table 9.2.1	30
racked	Table 9.2.2	31
double	Table 9.2.3	32
sandwich	Table 9.2.4	32
N.B. Guidance on binder spray rates are incorporated into the above tables. Adjustments for secondary factors influencing the rate of spray of binders are in:		
Single dressings lightly trafficked	Table 9.2.6a	33
Other dressings	Table 9.2.6b	34

4 Training

4.1 The Road Surface Treatments Association (RSTA) runs several courses each year covering all aspects of surface dressing, including tuition on the design process outlined in this Guidance Note.

4.2 Details of these courses, together with dates and locations, can be obtained from:

**Road Surface Treatments Association
Westwood Park
London Road
Little Horkesley
Colchester
Essex CO6 4BS**

Tel: 01206 274052

Fax: 01206 274053

E-mail: enquiries@rsta-uk.org

Or visit the RSTA website at: www.rsta-uk.org/calendar

4.3 A DVD "Making Britain's Roads Safer", which sets out the design procedure, is also available on the RSTA website www.rsta-uk.org

REFERENCES

- 1 Road Note 39 6th Edition
Transport Research Laboratory
Library Services
Crowthorne House
Nine Mile Ride
Wokingham
Berkshire, RG40 3GA

Tel: 01903 746 584

RSTA PUBLICATIONS

Pocket Guide based on Road Note 39.
Operators' Guide to the Safe use of Surface Dressing Sprayers.