

## Specifications for Paving Grade Bitumens

### INTRODUCTION

BS EN 12591 was originally published in 2000 as part of a programme of harmonisation of European Standards for bituminous binders. The standard has been reviewed and updated to include Annex ZA, which allows CE marking to be attached.

The new standard BS EN 12591: 2009 will be published on 1 September and will be implemented immediately.

### WHAT WILL CHANGE

- The main changes in BS EN 12591: 2009 are further harmonisation of the original Standard, inclusion of Evaluation of Conformity and CE marking (currently voluntary in the UK).
- The properties of paving grade bitumens 20/30 pen through to 160/220 pen are now specified in Table 1A, and paving grade bitumen 250/330 pen is now specified in Table 2A of the Standard. The Standard also contains a Table 3A for soft bitumens; however, these grades are not used in the UK.
- There is a subdivision of properties into two groups in the tables;
  - The properties in Table 1A, Table 2A and Table 3A are specified for all paving grade bitumens listed in each table. They are associated with regulatory or safety requirements. Furthermore, two severity levels for resistance to hardening are stated as alternatives in Table 1A.
  - The properties in Table 1B, Table 2B and Table 3B are required to meet specific regional requirements. They are associated with regulatory or other regional requirements.
- Possible poor selection of properties has been recognised by the UK industry. Guidance for users on the implementation of BS EN 12591:2009 for paving grade bitumens, for use in the construction and maintenance of roads and airfields in the UK, is included in National Annex NA (informative).
- National Annex NA (informative) contains two tables. Paving grade bitumen specifications should be in accordance with either Table NA 1 for grades from 20/30 to 160/220 or Table NA 2 for 250/330.
- The recommended properties and values in national Annex NA are the same as those previously specified in BS EN 12591: 2000 for paving grade bitumens used in the UK.
- Evaluation of Conformity:
  - The Standard contains requirements for 'Evaluation of Conformity'. These detail the steps which paving grade bitumen manufacturers must take in order to demonstrate conformity with the specification.
  - Paving grade bitumen manufacturers will operate ISO 9001 systems for quality management. Initial Type Testing and Factory Production Control will be included, and the scope of UK National Highways Sector Scheme 15 includes testing frequencies and reporting of data for paving grade bitumens.
  - All the characteristics given in Table NA.1 or Table NA.2 as appropriate shall be subject to initial type testing. For those characteristics in Table 1B or Table 2B of the Standard which are not listed in Table NA.1 or Table NA.2, NR shall be chosen and initial type testing is not required.
- Declaration of Conformity:
  - Annex ZA of the Standard states that manufacturers are entitled to affix CE marking. This is not a legal requirement at the present time in the UK, and manufacturers may therefore choose not to apply CE marking.
  - Examples of CE marking suitable for use in the UK are given in figures ZA.1a and ZA.1b of the Standard.

### HOW WILL IT WORK

- The Standard is applicable to paving grade bitumens for use in asphalts for the construction and maintenance of roads and airfields in the UK.
- In the UK, paving grade bitumens have previously been specified to BS EN 12591: 2000, which is withdrawn.
- A suggested specification clause that a Client, e.g. a highway authority, could use in a contract, is as follows:-  
***"Paving Grade Bitumens shall conform to the requirements of BS EN 12591: 2009, National Annex NA (informative), Table NA.1 or Table NA.2 as appropriate".***