

Specifications for Hard Paving Grade Bitumens

INTRODUCTION

As part of a programme of harmonisation of European Standards for bituminous binders, a new Standard for Hard Paving Grade Bitumens has been produced and is being introduced in all EC member countries.

The Standard was originally published in the UK in May 2006 as BS EN 13924:2006 and the associated binder test methods have been published by the UK Energy Institute. An amendment was published in December 2007 which provides guidance to users in National Annex NA (informative) on the implementation of BS EN 13924:2006 for hard paving grade bitumens, for use in high stiffness modulus asphalt for the construction and maintenance of roads and airfields in the UK.

WHAT WILL CHANGE

- BS EN 13924:2006 introduces specifications for two hard paving grade bitumens designated by their penetration range at 25°C, i.e. 10/20 pen and 15/25 pen, which replace hard grades in BS 3690 Part 1.
- BS EN 13924:2006 is not a performance related specification but contains options (classes) for various properties allowing the selection of the most suitable specification for the bitumen taking account of its use, national requirements and of the local climate.
- The Standard contains two tables of properties:
 - Table 1 – Mandated/essential properties
 - Table B1 – Informative properties
- Possible poor selection of properties/classes has been recognised by UK industry and therefore the Standard contains National Annex NA (informative) to address these issues.
- National Annex NA (informative) contains two tables:
 - Table NA.1, which details the mandated/essential properties and their associated classes recommended for use in the UK and
 - Table NA.2, which details the informative properties that are additional properties, determined using new test methods currently under development.
- The recommended choice of properties in Table NA.1 is based on the use of hard paving grade bitumens in high stiffness modulus asphalts, and includes the properties specified in France where high stiffness modulus asphalt (known in France as EME 2, Enrobé à Module Élevé) was originally developed and where there are many years experience of successful use.
- It is anticipated the experience gained with the “informative properties” detailed in Table NA.2 could eventually lead to the development of performance-related hard grade bitumen specifications in the future.
- Evaluation of Conformity:
 - The Standard contains requirements for ‘Evaluation of Conformity’. These detail the steps which producers must take in order to demonstrate conformity with the specification.
 - Hard paving grade bitumen suppliers will operate ISO 9001 systems for quality management. Initial Type Testing and Factory Production Control will be included and also the scope of UK National Highways Sector Scheme 15 has been extended so that testing frequencies and reporting of data for hard paving grade bitumens are covered.
- Declaration of Conformity:
 - Annex ZA of the Standard states that suppliers shall affix CE marking. This is not a legal requirement at the present time in the UK and suppliers may therefore choose not to apply CE marking.

HOW WILL IT WORK

- The Standard is applicable to hard paving grade bitumens for use in high stiffness modulus asphalt.
- In the UK, hard paving grade bitumens have previously been specified to BS 3690 Part 1 which is partially withdrawn.
- A suggested specification clause that a Client, e.g. a highway authority, could use in a contract, is as follows:-

“Hard Paving Grade Bitumens shall conform to the requirements of BS EN 13924, National Annex NA (informative), Table NA.1 and the informative properties in Table NA.2 shall be reported”.