

Whitemountain Quarries Ltd. is a market leader in the Northern Ireland quarry materials and surfacing sectors, and represents the Quarry Materials division of Lagan Holdings, one of Ireland's most successful construction-related groups of companies.

We operate asphalt production plants at Blackmountain, Temple and Coleraine, enabling us to provide asphalt products, surface dressing, site works and civil engineering services to the benefit of customers at a range of locations. Our diverse experience spans the entire scale from walkways to car parks to major roads and airfields. As part of our established ISO 9001 Quality Management System, we consistently implement the highest industry standards:

- Asphalt is laid in accordance with National Highway Sector Scheme 16
- Asphalt is produced in accordance with National Highway Sector Scheme 14
- Surface dressing is carried out in accordance with National Highway Sector Scheme 13A

Our commitment to research and product innovation has led to the development and use of environmentally friendly, quality surfacing materials, such as our BBA approved *Texsurf* thin surfacing system. In addition, our Special Products division continues to launch leading edge surfacing products.



Whitemountain

A LAGAN COMPANY

ASPHALT & SURFACING

- Asphalt Production
- Asphalt Surfacing
- Surface Dressing

AGGREGATES

- Gritstone Aggregates (+68 PSV)
- Gritstone Aggregates (+65 PSV)
- Basalt Aggregates
- Sub-Bases

HIGHWAY MAINTENANCE

- Road Marking
- Road Studs
- Road Planing
- Vehicle Restraint Systems

CIVIL ENGINEERING

- Siteworks
- Substructures
- Streetscapes
- Road Construction
- Enabling Works
- Airfield & Apron Works
- Environmental Improvements
- Urban Regeneration

SPECIAL PRODUCTS

- Treesurf
- Coloured Surfacing
- Anti-Slip Surfacing
- Glasgrid Asphalt Reinforcement
- Recycled Aggregates
- Fuel Resistant Surfacing
- Foam Mix Macadam



Whitemountain Quarries Ltd:
11 Sheepwalk Road, Lisburn,
Co. Antrim, BT28 3RD
TEL: 028 9250 1000 FAX: 028 9250 1100

1 Letterloan Road, Macosquin,
Coleraine, BT51 4PP
TEL: 028 7035 2131 FAX: 028 7035 7608

Temple Quarry, 26 Ballycarnannon Road,
Temple, Lisburn, BT27 6YA
TEL: 028 9263 9750 FAX: 028 9263 9751

wmq@lagan-group.com
www.whitemountain.co.uk

New European Standards for Asphalt 2008



European Specifications and Test Methods for Asphalt, together with the National Guidance Documents and revised standard for asphalt laying were implemented on 1 January 2008.

However, the implementation process will result in a number of changes to the way in which asphalt materials are specified and, more specifically, in the way in which the materials are described and designated.

The aim of the implementation process is to ensure that, as far as possible, traditional UK asphalt mixtures are retained unchanged.

The Standards

British Standards BS 594 for Hot Rolled Asphalt, BS 4987 for Coated Macadam and BS 1447 for Mastic Asphalt will be withdrawn in favour of the BS EN 13108 series. This series currently incorporates seven material specifications, one constituent specification and two standards relating to Evaluation of Conformity.

Table 1 highlights the relevant BS EN 13108 standards.

Table 1

EN 13108 Part	Relates to	Relevance to UK
1	Asphalt Concrete	Major importance includes coated macadams, DBM, HDM etc.
2	Asphalt Concrete for very thin layers	Important but in practice thin surfacings will be dealt with by BBA HAPAS system certification
3	Soft Asphalt	No relevance soft asphalts not used in UK
4	Hot Rolled Asphalt	Major importance covers all HRA
5	Stone Mastic Asphalt	Important for "specified" SMA although most SMA type thin surfacings will be covered by BBA HAPAS certification
6	Mastic Asphalt	Important but guidance to be provided by Mastic Asphalt Council
7	Porous Asphalt	Limited relevance because of dwindling use of porous asphalt on highways
8	Reclaimed Asphalt	Important for classification of reclaimed asphalt when used as a constituent material in fresh asphalt
20	Initial Type Testing	Very important in relation to determination of material properties and declaration of compliance
21	Factory Production Control	Very important in relation to quality assurance and declaration of conformity

The National Guidance Document on the use of BS EN 13108 is published by BSI as Published Document PD 6691 and has been drafted to contain all the relevant information required for specifying and producing asphalt materials. This includes guidance on constituent materials, performance classes for specified mixture characteristics, as well as a series of Appendices containing example specifications for 'traditionally' specified UK asphalt materials. The materials which are explicitly considered in PD 6691 in view of their importance in the UK are: Asphalt Concrete, Hot Rolled Asphalt, and Stone Mastic Asphalt.

The Materials

While the implementation of the EN 13108 series does not significantly change the mixtures themselves, there are some changes in product descriptions and mixture classification. Product descriptions are broken down to identify the mixture type, maximum (nominal) aggregate size, the pavement layer in which it is used, and the binder grade used in the mixture, as indicated in Table 2 below.

Table 2

Mixture Type	Size	Pavement Layer	Bitumen Grade e.g. 40/60
AC	D	base/bin/surf	binder (xx/yy)
HRA	grading designation	base/bin/reg/surf	binder (xx/yy)
SMA	D	base/bin/reg/surf	binder (xx/yy)
Key			
AC	denotes	Asphalt Concrete	
HRA	denotes	Hot Rolled Asphalt	
SMA	denotes	Stone Mastic Asphalt	
D	denotes	aggregate size	
base	denotes	base (course)	
bin	denotes	binder course	
reg	denotes	regulating course (for HRA and SMA)	
surf	denotes	surface course	
binder	denotes	full bitumen grade designation	

PD 6691 retains some of the traditional BS nomenclature including additional mixture descriptors for Asphalt Concrete that better describe the grading or texture of many of those (macadam-type) materials i.e. dense, open, medium (graded), heavy duty etc. and in the case of HRA, the mixture designations have reverted to those used in BS 594 before the 2003 revision, removing the % descriptor. For all materials, the "bottom-end" sieve has been removed from material descriptions.

The full range of material options recommended in PD 6691 is shown in Table 3 below.

Materials shown in bold are preferred mixtures as highlighted in BS 4987 & 594.

Table 3

Material description (pre 2008)	EN 13108 designation	Bitumen Grade options
Asphalt Concrete mixtures complying with EN 13108-1		
4mm Fine graded surface course	AC 4 fine surf	160/220 , 250/330
6mm Medium graded surface course	AC 6 med surf	160/220 , 250/330
6mm Dense surface course	AC 6 dense surf	70/100, 100/150 , 160/220 , 250/330
10mm Open graded surface course	AC 10 open surf	160/220 , 250/330
10mm Close graded surface course	AC 10 close surf	70/100, 100/150 , 160/220 , 250/330
14mm Open graded surface course	AC 14 open surf	160/220 , 250/330
14mm Close graded surface course	AC 14 close surf	70/100, 100/150 , 160/220 , 250/330
20mm Open graded binder course	AC 20 open bin	160/220 , 250/330
20mm Dense, heavy duty and high modulus binder course	AC 20 dense bin AC 20 HDM bin AC 20 HMB bin	40/60, 70/100, 100/150 , 160/220 40/60 30/45
32mm Dense, heavy duty and high modulus binder course	AC 32 dense bin AC 32 HDM bin AC 32 HMB bin	40/60, 70/100, 100/150 , 160/220 40/60 30/45
32mm Dense, heavy duty and high modulus base	AC 32 dense bin AC 32 HDM bin AC 32HMB bin	40/60, 70/100, 100/150 , 160/220 40/60 30/45
Hot Rolled Asphalt mixtures complying with EN 13108-4		
HRA 50%/10mm for regulating or binder course	HRA 50/10 reg, HRA 50/10 bin	$\left. \begin{array}{l} 30/45 \\ 40/60 \\ 70/100 \\ 100/150 \end{array} \right\}$
HRA 50%/14mm for regulating or binder course	HRA 50/14 reg , HRA 50/14 bin	
HRA 60%/20mm for base or binder course	HRA 60/20 base, HRA 60/20 bin	
HRA 60%/32mm for base or binder course	HRA 60/20 base, HRA 60/20 bin HRA 60/32 base, HRA 60/32 bin	
HRA 0%/2mm Type F Surface Course (Sand Carpet)	HRA 0/2 F surf	$\left. \begin{array}{l} 30/45 \\ 40/60 \\ 70/100 \\ 100/150 \end{array} \right\}$
HRA 15%/10mm Type F Surface Course	HRA 15/10 F surf	
HRA 30%/10mm Type F Surface Course	HRA 30/10 F surf	
HRA 55%/10mm Type F Surface Course	HRA 55/10 F surf	
HRA 30%/14mm Type F Surface Course	HRA 30/14 F surf	
HRA 35%/14mm Type F Surface Course	HRA 35/14 F surf	
HRA 55%/14mm Type F Surface Course	HRA 55/14 F surf	
HRA 0%/2mm Type C Surface Course (Sand Carpet)	HRA 0/2 C surf	$\left. \begin{array}{l} 30/45 \\ 40/60 \\ 70/100 \\ 100/150 \end{array} \right\}$
HRA 55%/10mm Type C Surface Course	HRA 55/10 C surf	
HRA 30%/14mm Type C Surface Course	HRA 30/14 C surf	
HRA 35%/14mm Type C Surface Course	HRA 35/14 C surf	
HRA 55%/14mm Type C Surface Course	HRA 55/14 C surf	
Stone Mastic Asphalt surface course mixtures complying with EN 13108-5		
6mm SMA Surface Course	SMA 6 surf	$\left. \begin{array}{l} 40/60 \\ 70/100 \\ 100/150 \end{array} \right\}$
10mm SMA Surface Course	SMA 10 surf	
14mm SMA Surface Course	SMA 14 surf	

Source & Disclaimer: The information contained in this document is based on our interpretation of BS EN 13108 and relevant Guidance Notes. Whitemountain Quarries Ltd does not accept any liability for pavement or material design based on this information.