

GLASPHALT®

»» COMPLETING A VIRTUOUS CIRCLE

- › *Conserves natural resources*
- › *Reduces energy use*
- › *BBA HPAS approved*
- › *Flexibility of application*
- › *Cost effective*

Glasphalt® is a designed asphalt concrete containing up to 30% recycled glass. The material provides the same high level of performance and durability as CEMEX's other designed asphalt concretes, but with a high content of recycled material. It can be used as a base or binder course. Note that glass does not provide the necessary skid resistance for Glasphalt® to be used as a surface course.

As the need to conserve vital natural resources becomes more apparent, the identification and development of alternatives has assumed increased importance. This programme has successfully identified a range of materials that are providing practical and viable solutions and the introduction of Glasphalt® by CEMEX exemplifies this process.

The collection and disposal of waste has become a significant problem and although large quantities are deposited in bottle banks, much of this is now taken to landfill. The recycling of glass is not limited not least for the reason that the UK tends to import green glass in the form of wine and beer bottles but manufactures mainly clear glass for foodstuffs, milk bottles and Scotch whisky industry. As considerable volumes of home produced clear glass are then exported, the imbalance in demand and supply becomes apparent.

The development of Glasphalt® is thus able to provide an effective route for large quantities of waste glass of any colour to be recycled.

Nevertheless, and although Glasphalt® is able to make a significant contribution to conserving natural aggregates, it is important that the material is able to meet the levels of performance of its conventional counterparts.

To assess the ability of Glasphalt® to meet this criteria, the material has been subject to the Highways Agency five stage testing and approval regime. This exacting process is overseen by the Transport Research Laboratory (TRL) throughout. Glasphalt® is also being assessed in accordance with the Highway Authorities Product Approval Scheme (HAPAS).

Glasphalt® represents an important opportunity to conserve natural resources, recycle a waste that would otherwise find no beneficial use and to complete a virtuous circle. This is a circle that begins with local authorities having an alternative and beneficial disposal route for glass deposited in their bottle banks and ends with glass being included in asphalt for the construction and maintenance of our streets and roads.

- PERFORMANCE
- INNOVATION
- QUALITY
- DURABILITY
- TECHNOLOGY
- ASSURANCE
- SUPPORT
- PROFESSIONALISM
- SERVICE
- EFFICIENCY
- SUSTAINABILITY



MANUFACTURE

Glass is crushed and screened to produce the desired particle range and to remove contaminants – corks and other detritus. The glass and other components – aggregate and bitumen – are mixed in a conventional asphalt plant in accordance with BS 4987.

PERFORMANCE

Glasphalt® has undergone a rigorous and independent testing programme and this has concluded that the material can be manufactured with up to 30% of the aggregate being replaced by crushed glass without any detrimental effect on the properties of the mix. Indeed the structural results are very positive in terms of the absence of any indication that the inclusion of glass has any such effect on the material.

The properties of glass – low absorption of moisture, relatively hard and relatively non- variable – make it particularly suitable for inclusion in mixes of this type.

In all the relevant performances areas, Glasphalt® has proven to be on par with conventional mixes.

APPROVAL

The Highways Agency approval consists of five discrete stages:-

- › **Stage 1** Desk study
- › **Stage 2** Laboratory study
- › **Stage 3** Pilot scale trials
- › **Stage 4** Full scale trials
- › **Stage 5** Highways Agency

In all cases, the material under trial is compared with its conventional counterparts to obtain comparative performance data.

Glasphalt® has undergone this process through to Stage 4 and has done so to the satisfaction of the Transport Research Laboratory.

As with all materials, evaluation continues in order to establish the ongoing performance of the material.

HEALTH AND SAFETY

A complete asphalt or glass cullet COSHH health and safety datasheet is available on request or to download from our website www.cemex.co.uk/asphalt.

SUSTAINABILITY

As one of the UK's largest suppliers of building material solutions, CEMEX is committed to sustainable development across the business. The principal operations of our business are raw materials extraction, processing, re-using, recycling and distribution of building materials.

CEMEX embraces the challenges of sustainable development, in striving to be socially, economically and environmentally responsible in everything we do to safeguard the needs of future generations. And from a commercial perspective, a sustainable approach will allow CEMEX to continue as a preferred supplier to the industry, to drive further efficiencies and ensure long term resources. To deliver this promise we track the following indicators:

1. Reducing emissions
2. Improving efficiency of production and logistics
3. Developing innovative new products and services
4. Engaging employees
5. Increasing transparent dialogue with stakeholders
6. Measuring and controlling impacts
7. Contributing to sustainable communities

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