



The Benefits of Road Safety Markings

■ THE BENEFITS OF ROAD SAFETY MARKINGS

Road safety markings provide the road user with continuous guidance and information about the general direction and layout of a road system.

During daytime, the driver gets guidance from the white or yellow road markings, which contrast, with the darker road surface, and also from the many other "visual cues" such as buildings, pavements and hedges.

At night, the driver loses many of these visual cues and also would lose much of the effectiveness of the road safety markings, if they were not filled with **Glass Beads**, that reflect the light from the headlights of the vehicle, back to the driver



For the Highway Authorities who maintain the road network, road safety markings provide a cost effective method of guiding the road user with simple lines, which delineate the edges, centre and lane divisions on our road networks. They can also be very effective at highlighting potential problems at places on the road network, which have higher than average incidences of accidents. This may take the form of 'hatched' areas of the road, or thicker and longer dotted lines

The importance of road safety markings has long been accepted and acknowledged by Highway Authorities, and European Norms have been developed which

provide guidance for specifying bodies concerning the visibility and colour under diffuse illumination, retroreflectivity, skid resistance and durability of road safety markings.

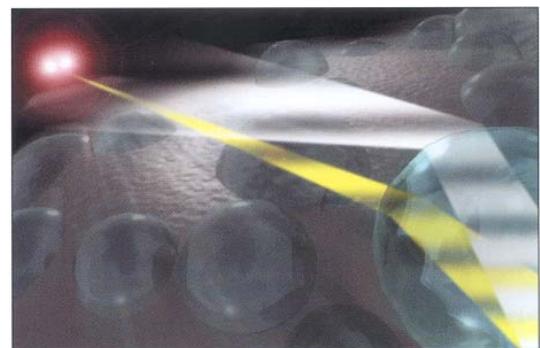
When a road safety marking no longer meets the performance requirements of the particular norm, then it no longer provides effective guidance for the road user, and it should be replaced.

■ GLASS BEADS IN ROAD SAFETY MARKINGS

Glass Beads are an important part of the road safety marking material and not only make it reflective, but also improve the durability.

The basic marking material ranges from solvent and water-based paints to thermoplastic and cold plastic systems. In all of these different binder systems the beads work in exactly the same way and reflect the light from the vehicle back to the driver.

The process is called 'Retroreflectivity' and is shown in the following diagram: -



The glass beads have to be partly exposed in order to work properly. The optimum embedment level of the beads in the binder material is 60%. At this level the beads reflect the optimum amount of light back to the driver.

Glass beads should always be applied to the surface of a newly applied road safety marking to make it instantly reflective. These are normally called 'Drop-on' glass beads. Beads can also be premixed into the marking material to provide long term retroreflectivity as the road marking is eroded by traffic wear. These 'premix' beads are mostly used in the thicker binder systems such as thermoplastic and cold plastic.

■ GLASS BEAD APPLICATION METHODS

Glass beads can be applied to the surface of the marking materials using various methods. These include compressed air assisted bead guns and mechanical ground speed related devices.

Whichever method is used to apply the beads to the surface of the marking material, it is important to ensure the following:

- The beads are applied immediately after the material has been applied. This is particularly important in the case of thermoplastic, which once it has cooled, will not allow the beads to embed effectively in the binder material.
- The beads are applied evenly over the length and breadth of the marking.
- The beads have an average embedment level of 60%.

Potters supplies a complete range of glass beads for use with road safety markings, including standard beads in all sizes and specifications, glass beads / anti skid mixtures to improve the skid resistance of applied markings, and Starlitebead® Safety Marking Spheres for improved 'wet-night' retroreflectivity.

Further information on these products is contained in additional data sheets.

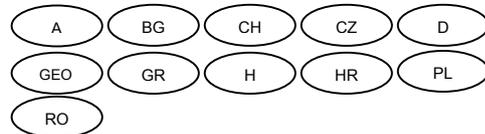
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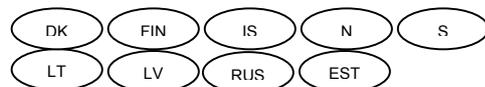
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