

# **TOP MARKS 2000**

## **INTRODUCTION**

Welcome to the second edition of Top Marks, the road marking industry guide produced annually by the Road Safety Markings Association.

The last year has seen substantial changes in the road marking industry with the move away from British Standards and the implementation of the package of European Standards that put road-marking contracts onto a performance basis.

Delays over the publication of the last of these European Standards has meant many specifiers have been left unclear of the current position and this edition of Top Marks tries to clarify some of the issues surrounding the introduction of the new standards.

However, Top Marks is not just about new standards, it also looks at other areas impacting on road markings, from Best Value to Quality Assurance and as with last year it also gives you the contact details for RSMA members and the range of services they can provide.

RSMA members are required to be quality assured and tend to be some of the most progressive road marking organisations, seeking to provide a high standard of service that fulfils client requirements.

We hope that you find this edition of Top Marks as useful as the last edition and as ever we welcome your comments on the content of the magazine for future editions.

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## **THE ROAD SAFETY MARKINGS ASSOCIATION**

The Road Safety Markings Association will be celebrating its 25<sup>th</sup> year of representing the interests of member companies in the coming year.

With a reputation of being strong in defending its member's interests, the Association also maintains high standards in terms of the quality it expects of its members.

Because it represents companies that install in excess of an estimated 85% of all road markings in the UK, the Association is also respected amongst client side organisation and government departments and agencies for its knowledge of the industry, material standards and contractual issues.

It is this knowledge and representational strength that makes RSMA both an effective voice for the industry and a willing partner with clients. The recently launched Road Marking Forum provides for the first time an opportunity for client side specifiers to be formally a part of RSMA.

The Association also continues to produce and publish a number of Industry based publications. Many of these publications are required within quality documentation of all road-marking companies. Members obtain sizeable discounts on these documents.

Road marking companies interested in joining the RSMA should telephone George Lee on 0161 763 7711.

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## **ROAD MARKING 2000**

A new century and a new performance driven environment, bringing challenges for client and contactor.

### **BS 3262 WITHDRAWN**

“With the withdrawal of BS 3262 in August 2000 the world of road markings has changed dramatically for both specifiers and contractors – the new emphasis is on ‘performance for road users’”

After much delay and many false starts, August 2000 saw the withdrawal of BS 3262 and the full implementation of the range of new European Standards that now place emphasis on the performance of road markings rather than the constituent formula or recipe of the marking material so common in the majority of road marking tenders and contracts, issued in the UK to date.

Many specifiers have moved to address the changes and accommodate the new standards into their tender and contract documentation, however, there is evidence that many specifying authorities remain either unaware of the requirement to change or what to do or what work they need to undertake to ensure they are complying with the new standards.

In many respects the delays in the publication of the last of the European Standards that replace BS 3262 served only to confuse the picture further, leaving specifiers unsure of what to do, however, that is now behind us and action now needs to be taken by all specifiers to ensure they are up to date.

### **THE NEW STANDARDS**

Whilst under the old BS 32 62 system there was only one standard, albeit in three parts, the replacement system comprises a clutch of three different European Standards relating to different aspects of road markings and providing comprehensive coverage of all the criteria that the marking material needs to meet both ‘in the bag’ and ‘on the road’.

The new standards that specifiers and contractors require an understanding of are BSEN 1436 – Performance for Road Users, BSEN 1824 – Road Trials for road marking material and BSEN 1871 – Road marking materials Physical properties.

Each of these standards need to be called up by the specifier in order for the new system to work, furthermore they will allow the specifier greater flexibility in obtaining the marking needed for particular circumstances.

## **PERFORMANCE FOR ROAD USERS – THE PRACTICALITIES OF BSEN 1436 AND BSEN 1824**

BSEN 1436 has introduced into a standard for the first time a demanding series of performance requirements for road markings on the road and represents a fundamental change for industry and specifier. As a standard it is also closely linked to the new road trial standard BSEN 1824, the latter providing the methodology whereby products are tested against the categories laid down in BSEN 1436.

The intention of this change is to provide the highway engineer with the opportunity to determine the level of performance he wants. It is the performance categories and range of classes that will enable priorities to be given to the different aspects of performance and consequently for the class to match the type and conditions of the road.

The fundamental change introduced within BSEN 1436 is that the specifier calling up the standard will no longer be able to call up specific minimum values outside the classes designated within the standards.

The possible permutations across the road performance parameters are many, however, it is likely that the preferred options will quickly 'narrow down'.

It is worth remembering at this point, in respect to BSEN 1436, that classes of high performance cannot always be achieved for two or more of the road performance parameters simultaneously. This is particularly the case in respect to retro-reflectivity and skid resistance, where a gain in one of these areas is often achieved at the expense of the other.

### **Figure 1: BSEN 1436 Road Marking materials – road performance for users**

- Luminance Coefficient under diffuse illumination –  $Q_d$
- Coefficient of retro-reflected luminance –  
RL for dry road markings  
RL in conditions of wetness  
RL in conditions of rain
- Luminance factor  $\beta$  for dry road markings
- Corner points of chromaticity regions for white and yellow road markings
- Skid resistance

As indicated above, products are tested by methods laid out in BSEN 1824 and are categorised against the performance classes contained within BSEN 1436, as shown in Figure 2.

## **Figure 2: BSEN 1824 Road marking materials: road trials**

- Luminance factor – performance classes
- Retro-reflectivity – performance classes
- Skid resistance – performance classes
- Erosion – rating system
- Colour co-ordinates – colour bob

Because of the use of performance categories, each with a number of classes, there will no longer be straightforward pass or fail criteria for road trials. Performance will instead fall into one class or another. The only exception to this is the category for colour co-ordinated, in which the colour will lay either inside or outside the box.

The new system marks the end of the old ‘Class A’ Certificate, with its replacement by a Road Trial Report. The report will show the performance class at the outset and at the end of the trial period, it will also show other details such as application rate for materials and drop on materials, the type of application, type of road surface etc.

At a practical ‘on the road’ level, the new road trial regime differs substantially from BS 3262, the changes being summarised in Figure 3.

## **Figure 3: Road trial differences**

- Trial duration – BS 3262 – 2 years
- BS EN 1824 – 12 month minimum then determined by the number of wheel passages
- Reports replace certificates
- Reports apply to single product
- Some changes to test parameters

Changes in test parameters should also afford the specifier greater flexibility in obtaining the marking closest to need. Changes such as testing for retro-reflectivity in wet conditions and colour co-ordinates underline this.

Overall the new trail regime and report structure are more comprehensive and should work in favour of the specifier who has a clear idea of his requirements.

## **QUALITY ISSUES, KITE MARK AND BSEN 1871**

The Kite Mark is the sign of quality and this will continue for the foreseeable future albeit to a different standard. At the time of writing Bsi are working towards a new Kite Mark Scheme that accommodates the changes from the old standard to the new.

The differences between the old system and the new are quite marked in that; the new system removes restrictions on constituent materials and mixtures. The EN Standards have looser gradation requirements, which allow for greater experimentation, for instance with beads of a more uniform size. The changes also mean that thermoplastics will no longer have to contain a minimum of 18% binder or 20 % glass beads.

In terms of the physical properties of materials the new standard covers a wider variety, although not all will necessarily be applied in each country e.g. The Troger test was specifically included for countries with studded tyres. Within the UK we are likely to retain the following parameters within the Kite Mark scheme: -

- Luminance Factor
- Heat Stability
- Softening Point

Along with an additional requirement for

- Tri-chromatic colour co-ordinates

## **SEEKING PRACTICAL SOLUTIONS TO PRACTICAL PROBLEMS**

This article focuses on the technical difference that specifiers will face when dealing with the new standards. The RSMA and member companies have spent some time working with clients to try and address some of the very real and practical issues that are related to the changes.

Our annual seminar last year attended by 180 delegates from private and public sectors helped advise on the new Standard Specification Document (**STANSPEC 2000/01**) now available from the Association. This kind of document has been proven to be very useful for both sides of the industry in defining the performance levels expected in a contract.

Early indications are that in many cases the new standards are changing the approach of clients and contractors with a more constructive partner driven approach of clients and contractors with a more constructive partner driven approach being adopted. Indeed the RSMA Seminar in November 2000 will focus not just on the technical aspects of the changing standards but also the approach of clients and contractors to both defining and fulfilling performance criteria.

*For further information on seminars and the standards contact the RSMA on 0161 763 7711 or [rsma@dial.pipex.com](mailto:rsma@dial.pipex.com)*

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## **Working Together for Road Safety ...RSMA LAUNCHES ROAD MARKING FORUM**

In a move designed to strengthen the relationship between the industry and client side the RSMA has launched a new category of membership open to public and private sector specifiers, laboratories and consultancies.

The Road Marking Forum (RMF) is a subscription based organisation providing members with access to up to the minute information and guidance along with opportunities to hear first hand news on latest development and to obtain a range of discounts on industry seminars and publications.

RSMA National Director, George Lee sees the launch of the RMF as a major step forward in the on going development of a constructive dialogue between client and industry.

“At a time of changing standards, tendering procedures and contracts the establishment of the RMF will provide an opportunity for clients and industry to share information and best practice and to liaise on the implementation of new standards and methods of working. For those involved it could provide real opportunities to utilise the new standards to improve safety on our roads.”

Interest in membership of the RMF has been brisk in the first few months since the launch of the organisation and it is hoped that the partnership approach it promotes will become commonplace in the industry.

Forum membership costs £200 per annum and entitles members to benefits such as discounts on RSMA publications and also on a range of marking monitoring equipment. More details are available from Joyce Bury at the RSMA on 0161 763 7711.

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## **Quality a key factor in underwriting performance**

***‘The increase in performance specifying makes it increasingly important that contractors are quality assured and operatives have relevant qualifications’***

There has already been much said about the introduction of the new European Standards for road markings and the technical issues that are raised for specifiers and contractors regarding setting performance criteria and monitoring the consequent challenges that they raise.

One area seemingly left on the sidelines throughout the debate is that of quality assurance and the role – if any – that it has to play in helping client and contractor to achieve the performance outputs required in a contract. Yet ironically once the technical issues have been ‘resolved’ and performance parameters have been established it will be down to the quality of the workmanship and the contractors systems that will for the best part determine the outputs on the road.

Indeed there can be little or no doubt that the increase in performance specifying makes it increasingly important that contractors are quality assured and operatives have relevant qualifications to enable them to fulfil contractual requirements.

Quality Assurance has of course been around for many years and there is frequently disagreement regarding its value as a measure efficiency or ability, however, it is one of the few measures that there is and a great deal of effort goes into ensuring that the requirements remain current and valid.

The continuing development of National Highways Sector Schemes in general and Sector Scheme No.7, that relating to road markings, in particular, is a case in point with industry and client representatives committed to developing a scheme that is practical, deliverable and of value to all those involved in the industry.

Sector Scheme No.7 in common with others in the National Highways Sector Scheme series is updated frequently to respond to changes in the industry sector. In the case of road markings a new updated scheme document is scheduled for publication towards the end of year 2000 to accommodate the changes resulting from the introduction of the new European Standards and the broader availability of enhanced qualifications such as the NVQ Level 2 in Pavement Marking. The updated document will also reference the publications required to be held by contractors many of which have been comprehensively updated during the course of the year 2000.

Whilst initially designed as a tool for Highways Agency contracts, the Sector Scheme is proving increasingly invaluable for Local Authorities responsible for specifying road markings, however, this is only the case where its requirements are taken seriously and its implementation adequately monitored by specifiers.

Frequent failures by specifying authorities to adequately check operatives' skill cards or ensure that companies are quality assured and are not 'hiding' behind a principal contractors qualifications bring the system into disrepute with those investing money in establishing effective quality systems.

The increase in performance specifying resulting from the implementation of the New European Standards should give the Sector Scheme a boost as clients seek assurances that their contractor is capable of delivering contractual requirements.

In addition contractors that can show that their operatives have attained a practical competence based qualification such as an NVQ, rather than merely completed a training course are also likely to be in a stronger position to secure work in this new environment of performance and Best Value; consequently the quality of operatives is likely to rise across the industry.

It is clear that Quality Assurance where enforced by clients can and does have an increased role to play throughout the ongoing changes in the road marking industry.

**Increased emphasis on road safety and an increasingly litigious society is making quality a more important issue.**

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## **Meeting the Challenge of Best Value**

*The concept of Best Value is now familiar to all those involved with local authorities, as are the challenges for local authorities raised by the initiative.*

*Whilst markings and signs do not have specific Best Value Performance Indicators attached to them, there is an increasing body of opinion that both marking and signage use can assist local authorities to meet many of the challenges raised by Best*

*Value, especially in areas such as road safety, integrated transport planning and in the broader concept of service provision across a range of public service providers.*

*In an attempt to clearly identify the relationship between Best Value and the provision of effective road marking and signage, and also help local authority clients, the RSMA and fellow trade body ARTSM have commissioned a report on the issue.*

*The report titled Best Value – A Marked Sign of Improvement is due to be launched at the RSMA Annual Conference on 30<sup>th</sup> November in Northampton and looks at the principles behind Best Value and the role of markings and signs on highways maintenance, transport planning and the broader range of public service provision from road safety to health care.*

This article whilst not pre-judging or summarising the findings of the RSMA/ARTSM report looks at the background to Best Value and those areas that inspired the commissioning of the Marked Sign of Improvement Report.

Best Value requires that local authorities secure continuous improvement and that services are responsive to the needs of the community. Evidence clearly demonstrates that road markings are an economic, efficient and effective means of solving traffic issues, are valued by road users and that they enable savings to be made across various public services.

AA research demonstrates that scheme appraisals and post project reviews show that forecast and actual rates of return from road and transport schemes are very high with major economies coming from savings in time, fuel, vehicle operating costs and deaths and injuries. The experience of the private sector suggests, according to the AA, that higher expenditure on capital maintenance reduces whole life costs; Red routes, for example, are cost effective with improvements for buses, drivers, pedestrians, amenities and businesses.

Rational investment in roads, by defining carriageway lanes and edges, providing warnings of impending hazards, informing of parking and waiting restrictions and conveying give way and other instructions, clearly by night and day, are proven to reduce deaths and casualties on our roads, it seems clear therefore that system enhancement can generate best value solutions for public service providers.

The Government White Paper ‘A New Deal For Transport – better for everyone’ focuses on maintaining existing roads to get them to work better by listening to transport users.

In practical terms this places a focus on preventative maintenance, which not only meets this government requirement but also makes social and financial sense, as witnessed by the fact that repairs can cost up to nine times as much if they are delayed. Cyclical and preventative maintenance also clearly improves safety on the roads, reducing the levels of worn out skid resistant surfacing, road markings and signs that can become hazardous without an effective maintenance regime.

The advent of new European Performance Standards provides additional opportunities for Best Value solutions, with potential for enhanced scheme design and maintenance

contracts to be structured around needs highlighted by Best Value reviews; especially with a flexible approach now financially acceptable and viable for local authorities.

Similarly changes in contract requirements within local authorities allow the client to take greater account of measures that may enhance outputs, rather than just price, whether this is a level of operative training provided by a contractor or health and safety issues or any number of other issues, the prime driver need not be price (within resource constraints).

The potential also for the awarding of longer-term contracts provides options for the specifier to build mutual understanding and so find increasingly economic, efficient and effective solutions to road safety and transport issues.

Best Value will require a culture change and the controls introduced mean that local authorities will have to comply. With the emphasis now on end results local authorities will need sufficient information to enable them to select the best value option, consequently client and contractor will need to work together, striving for improvements to ensure that best value is achieved and maintained.

It is this need for information and guidance in setting the context for the relationship between Best Value and road marking and signage that promoted the commissioning of the Marked Sign of Improvement Report due for publication in November.

With the advent of the Road Marking Forum the RSMA also hopes to develop the inter relationship between markings, signs and integrated transport planning and Best Value through work with public sector specifiers. On going initiatives such as the RSMA two yearly survey of the road-marking network on English and Welsh trunk roads will also help to keep the need for a network of high quality road markings to the fore of policy makers at local and national level.

Copies of the report will be available at the RSMA Conference on November 30<sup>th</sup>.