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Passively Safe Structures – Highways Agency ‘approval’

The Highways Agency do not require any products to be ‘type approved’. Any product will be considered suitable, provided that the structural design has been carried out to a suitable European Standard and appropriate testing has been carried out to confirm passive safety classification.

There is some confusion regarding the status of particular products. The following extracts from BS EN 12767 are relevant:

Clause 4.3.1 “The support structure shall be tested with a load corresponding to the maximum design load in respect of mass and, if critical, area or other dimensions.”

This goes on to separate individual product applications, lighting columns, sign supports, etc. The implication of this is that separate reports must be done for each different use. The Highways Agency has agreed to the use of some products based on the test reports of crash tests carried out on larger structures used in different applications. For example where a company has carried out testing on a 300mm diameter lighting column and wanted to use a similar material post (but smaller diameter/wall thickness) for say a traffic sign. These are considered on a case-by-case basis via a departure from standard.

The reason for permitting this, is to allow the development of safer solutions and gain wider market acceptance of passive safety, without imposing a significant financial outlay on manufacturers on start-up and during this period where standards are still being developed.

This is a temporary relaxation and it is my intention to cease permitting departures of this type on **1st January 2007**. This gives manufacturers sufficient time to develop their products and arrange for tests to be carried out.

Clause 6.5 “If the lower part of a vertical sign is located in such a way that it may hit the windscreen of the test vehicle, an additional high speed test at $20^{\circ} \pm 2^{\circ}$ shall be made at the point regarded as the most critical by the approved certification body”

The most common test for signs uses a mounting height around 2m. In the UK it is common practice to mount signs at 1.5m. Strictly speaking additional tests should be carried out for each possible height. There I propose the following:

- If the plate backing supports and significant obstructions, like lights, are above 1.8m I am prepared to accept the use of these without a ‘departure from standard’.
- I am prepared to consider proposals for signs below 1.8m via a ‘departure from standards’ in these circumstances the designer will have to make a risk assessment considering the specific circumstances of the proposed structure, any attachments and the hazards posed by the surrounding landscape.

Test report – minimum information required is quoted in Annex C

The basic provisions are given but to date the requirements for determining the competence of testing laboratories has not been fully developed. The General requirements are covered by BS EN ISO/IEC 17025. At the present time I am unaware of any Accreditation Bodies that will determine competence of testing laboratories carrying out testing to BS EN 12767.

Therefore ‘strictly speaking’ no product can show compliance. Before using any particular product a designer would have to satisfy himself that the product is suitable. This could be by requesting the test report and doing some investigation of the test laboratory. This would be time consuming and most designers will not be familiar with the standards making checks difficult. This would be replicated throughout the UK and would be very wasteful of resources.

I recommend that, until such time as the Accreditation Bodies are established, designers should request (from manufacturers/suppliers) an independent 3rd party check confirming that the test report is appropriate. Manufacturers could consider using another test laboratory, or say a consulting engineer familiar with the appropriate standards, to confirm compliance with BS EN 12767. (This would be a similar process to the ‘design check’ carried out when assessing the structure to BD 2/05) If this has been carried out I am prepared to accept the use of these products without a ‘formal departure from standards’.

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