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Date

23rd May 2005.

Our Ref.

Certificate No. 073/05/05

Your Ref.

National Roads Authority - Approval of Safety Barrier System

The National Roads Authority approves the use of the under mentioned safety barrier system as fit for its intended purpose when used in accordance with DMRB Standard NRA TD 19/02, the NRA Specification for Road Works and the requirements of this Certificate.

This approval is based on the information contained in the TB11 impact test report number N6016 compiled by MIRA (UK) and the TB32 impact test report number 56626 compiled by VTI (Sweden), in accordance with the requirements of IS EN 1317 Parts 1 and 2, and other documentation submitted to this Authority by the manufacturer.

1. Safety Barrier System

Brifen 3 Rope Wire Rope system.

2. Manufacturer

Brifen (Hill & Smith).
Springvale Avenue,
Bilston,
Wolverhampton.

3. Description

The total test installation length was 99.9m. At each end a concrete end anchor (2600mm X 1000mm X 1000mm) weighing 6000kg was fitted in the ground. The end anchors were fitted in compacted soil with a fraction of 0-32mm. Between the end anchors 3 steel wires were fitted and installed with a clamping force of 19.8kN on the top wire, 19.8kN and 20.3kN on the lower wires, at a temperature of 7.3 °C. The two lower wires were fitted at 480mm above ground and interwoven between alternate posts. The 100 X 32mm Z-posts are spaced at 3.2m centres and placed in sockets in 310mm square X 950mm deep concrete footings. The concrete footings were placed in 0-32mm fraction compacted soil.

Details of the system are as shown on the following manufacturer's drawings:

WR 1540	BL02 / 46	BL02 / 07
WR 1042	BL02 / 10	WR 1540 (1)
BL04 / 25	BL02 / 01-02	BL02 / 03A-04A
BL03 / 11 & 12	BL02 / 54-55	BL02 / 03-04

4. Purpose

Use only as described in standard NRA TD 19/02 (NRA DMRB 2.2.8A), for safety barriers requiring the following performance criteria:-

Containment Level	- N2
Impact Severity Level	- A
Working Width	- W5

The length of the safety barrier system shall be sufficient to demonstrate the full performance characteristic of the system.

5. Ground Conditions

The Manufacturer shall provide information on the ground conditions that existed when the system was successfully tested in accordance with IS EN 1317 Parts 1 & 2.

The Contractor/Installer shall demonstrate that the ground conditions on site are suitable for the safety barrier system to function as designed and tested. (See NRA Specification for Road Works Clause 407)

6. Installation

The safety barrier shall be installed in accordance with the manufacturer's installation requirements and in the same manner as it was installed for the initial type test.

7. Durability

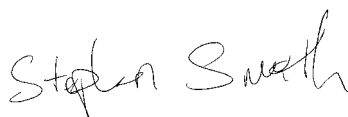
The required service life of 20 years shall be deemed to be satisfied by providing a galvanised coating to all steel components in accordance with IS EN ISO 1461 and in addition the coating weight shall comply with Table 4/1 of the NRA Specification for Road Works.

8. Period of Validity

The continuing validity of this Certificate is conditional upon an acceptable quality of materials, workmanship and performance being maintained.

The current validity of this Certificate may be checked by contacting the Specifications Section of the National Roads Authority.

Issued on behalf of the National Roads Authority by:



Stephen Smyth.
Assistant Project Manager (Specification).