



# **TECHNICAL STATEMENT**

## **ADDITIONAL LENGTHS WHEN INSTALLING SMV TYPE DB 65S 6M K120S WITHOUT END ANCHORING**

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### **Introduction**

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The product DB 65S 6m K120S is a precast concrete vehicle restraint system which was developed by DELTABLOC® and tested according to standard EN-1317-2 and certified according to standard EN 1317-5.

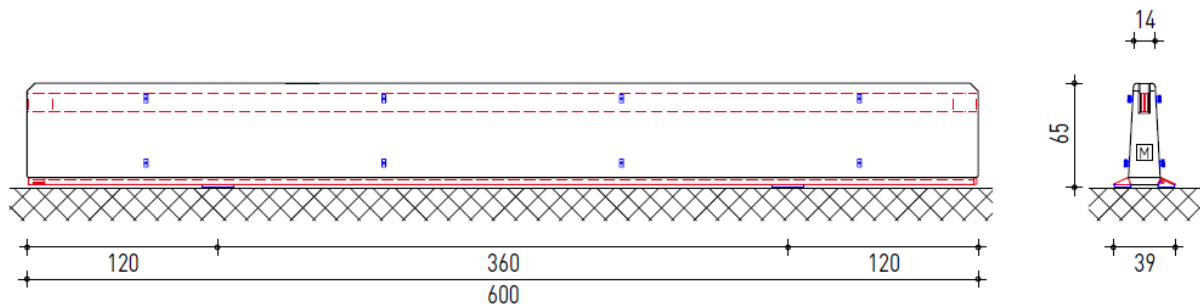
This system, tested to containment levels T3 and H1, is designed for heavy duty applications to protect and isolate construction zones from road traffic. The DB 65S system has been crash-tested with an installation length of 60 m, made up of 10 elements of 6 m plus 2 end elements of 6 m anchored to asphalt.

Because of country specific working codes and practices, it is not always possible to anchor the end elements of the temporary restraint systems. The purpose of this technical statement is to substantiate and determine the replacement of the end anchors with an additional quantity of DB 65S 6m K120S 6m elements. These additional elements must therefore be of a sufficient quantity to guarantee an identical operation and performance compared to the tested and certified installation.

### **Description of the product**

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The DB 65S 6m K120S system is made of precast reinforced concrete elements that are 600 cm long and 65 cm high with hot-dipped galvanised steel edges on the base. The weight of an element is 1,670kg and the ground contact surface is 832cm<sup>2</sup>. The elements are connected together with a patented DELTABLOC® coupling system in a continuous chain of elements. The system is certified according to containment levels T3 and H1 according to standard 1317-5.



System	Level	Working width	Crash test type	Crash test report
DB 65S 6m K120S	H1	W6	TB 42	TF-BAS <sub>t</sub> _2002 7E 04_JF-BAS <sub>t</sub> -TB42
DB 65S 6m K120S	T3	W2	TB 41	TL-Y58.01.K02- TÜV-TB41-DEEN

**Table 1 - System performances, series DB 65S**

## Calculation of the additional elements to replace the end anchoring

A method of calculation by extrapolation has been determined based on the detailed analyses of the crash tests carried out on systems similar to DB 65S, with and without end anchoring. The systems analysed had similar performance classes and dynamic deflections.

Then, an anchor weight was defined based on the impact energy, the weight of the system and the length of the installation. This anchor weight represented by additional elements replaces the end anchoring.

Finally, safety coefficients were defined and applied to the calculation method in order to take account of any uncertainties that could be linked to the extrapolation.

The results are as follows:

For the SMVs type DB 65S 6m K120S, level H1; 8 additional elements have to be installed on each end of the length tested to replace the end anchors.

For the SMVs type DB 65S 6m K120S, level T3; 4 additional elements have to be installed on each end of the length tested to replace the end anchors.

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Dipl.-Ing. (FH) Marco Pollok  
Technical Manager



Dipl. Ing. Hugh McGarry  
Product Specialist Temporary Systems