



DELATABLOC® Pre-fabricated concrete vehicle restraint systems for increasing road safety

Authorized by the Inter-Ministerial Committee for Traffic and Safety Standards



Restraint systems for bridges



Restraint systems integrated with a noise barrier



Restraint systems with peripheral units for connecting to steel and concrete barriers

Pre-fabricated concrete restraint systems are an exclusive development of the Austrian DELTABLOC® Company.

The system is in use in 34 countries in Europe and is manufactured by leading companies under terms of know-how agreements with the DELTABLOC® Company.

In Israel the system is represented and marketed by the Wolfman Industries Company Ltd.

The DELTABLOC® system serves for both permanent installation. For example – in the center of an inter-urban highway, as well as a temporary installation, for example – at road paving sites.

The models are modular in design and installation and can be combined with transition units and peripheral units.

There is a special model for protecting bridge pillars and light poles.

DELATABLOC® has developed and markets temporary and permanent barriers, systems for bridges, systems integrated with an acoustic wall and connecting units that have successfully passed crash tests.

The basis for decision making in Israel and for selection of traffic standards

The barriers presented in this catalog are barriers that have been tested and found to comply with the requirements of the European Standard EN 1317 parts 1 and 2, and Israel Standard IS 5175. Every barrier has been tested according to the standard and has received approval for a certain level of functioning, as well as having received authorization of the Inter-Ministerial Committee for Examination of Traffic

and Safety Standards for use on the roads in Israel. In collision tests a number of parameters were determined and which serve the planners dealing with road infrastructure planning in Israel as a key consideration during the planning. The main and most important parameters specified in the following summarize the functioning of the barrier as follows:

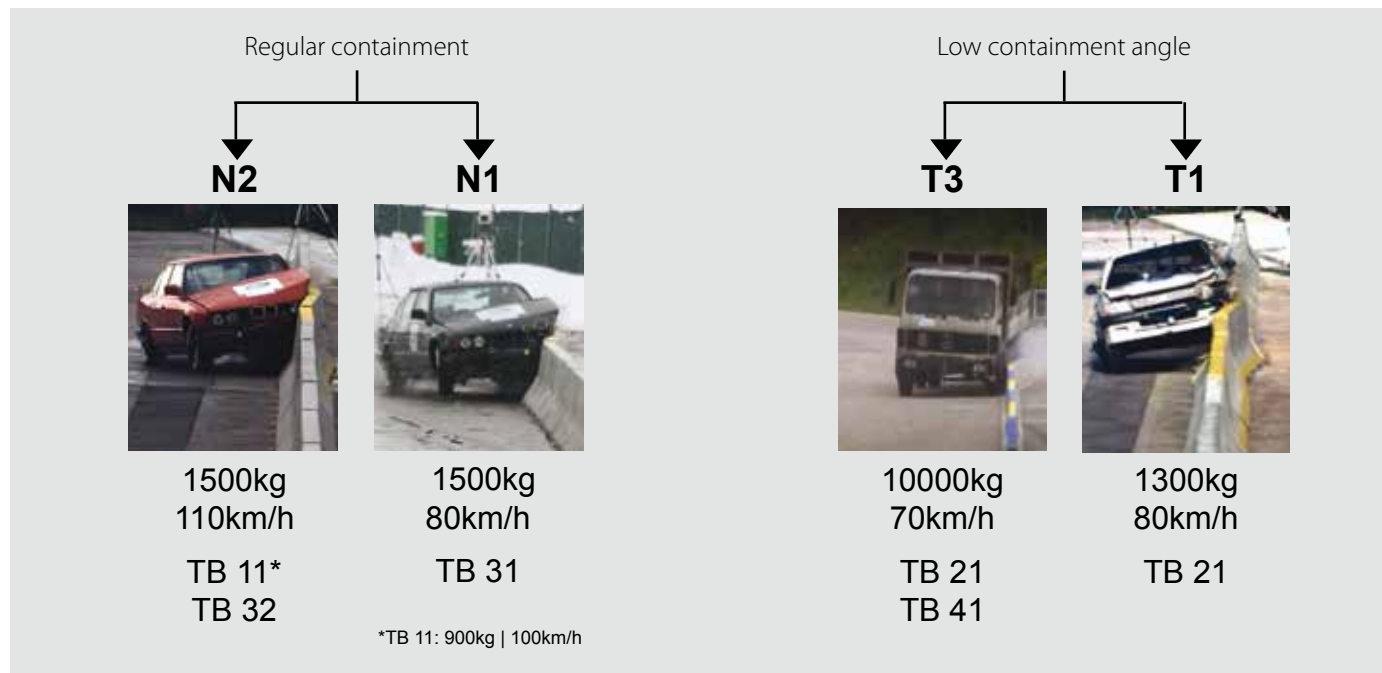
1) The containment and functioning level, 2)

The working width and dynamic deviation, 3) Impact severity level, ASI.

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1. Level of restraint/containment and function



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Very high containment		High containment		
H4b	H4a	H3	H2	H1
				
38000kg 65km/h	30000kg 65km/h	16000kg 80km/h	13000kg 70km/h	10000kg 70km/h
TB 11* TB 81	TB 11* TB 71	TB 11* TB 61	TB 11* TB 51	TB 11* TB42
	*TB 11: 900kg 100km/h			*TB 11: 900kg 100km/h

Working width	Maximum displacement (m)
W1	$W \leq 0.6$
W2	$W \leq 0.8$
W3	$W \leq 1.0$
W4	$W \leq 1.3$
W5	$W \leq 1.7$
W6	$W \leq 2.1$
W7	$W \leq 2.5$
W8	$W \leq 3.5$

Remarks concerning the table:

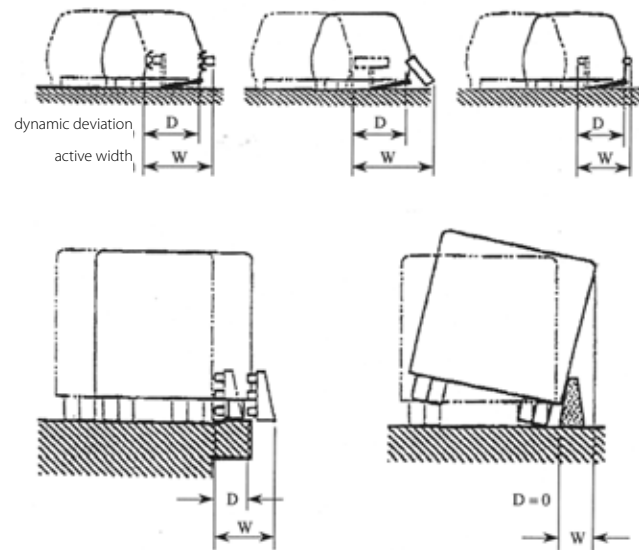
It is possible to specify a working width of less than W1

- the dynamic deviation and working width facilitate specification of requirements for regulatory conditions for each barrier, including specification of the minimal distance beyond the barrier and before obstacles required for proper functioning of the system.
- The displacement depends on the type of system and the crash test characteristics.



2. Working width and dynamic deviation

The Active width (W) and dynamic deviation (D), examples:
The dynamic deviation is always part of the active width
















3. Impact severity level ASI

The impact severity level specifies the effect of the damage to the passenger at the time of collision.




Impact severity level	Parameter value	
A	$ASI \leq 1.0$	THIV $\leq 33\text{KP/H}$
B	$ASI \leq 1.4$	
C	$ASI > 1.4$	Not for use except in exceptional cases

Table of dimensions and weights

Type of barrier		Geometric dimensions (cm)				PERFORMANCE			Delivery data	
		Length	Base width	Height	Top width	Containment level	Working width and dynamic displacement	Impact severity level	Unit weight in kg	Average no. of units per truck
		L	W1	H	W2					
DB 50SL/6M		600	32	50	12	T3	W2	ASI A	1090	28
DB 50S/6M		600	36	50	12	T1	W1	ASI A	1160	20
						T3	W5	ASI A		
DB 80/4M		400	60	80	15	T1	W2	ASI A	2240	12
						T3	W3	ASI A		
						N1	W4	ASI A		
						H1	W6	ASI B		
DB 80/6M		600	60	80	15	N2	W3	ASI B	3115	11
						H1	W4	ASI B		
DB 80/6M		600	60	80	15	H2	W5	ASI B	3115	11
DB 80AS/6M		600	48	80	15	H2	W7	ASI B	3280	11
DB 80AS-E/6M		600	48	80+12	15	T1	W1	ASI A	4080	9
						T3	W2	ASI A		
						H2*	W2	ASI B		
						H2	W1	ASI B		
DB 80E/6M		600	62	80+5	15	H2	W1	ASI B	3940	9
DB 80F/6M		600	60	80	15	H2	W3	ASI B	3120	11
DB 100/2M		200	70	100	21	H2	W7	ASI B	1760	20
DB 100/4M		400	70	100	21	H1	W5	ASI B	3125	11
						H2	W6	ASI B		
						H4b	W7	ASI B		
DB 100S/6M		600	64	100	15	H2	W5	ASI A	4150	9
DB 80 LSW-R/6M		600	105	300	-	H2	W5	ASI B	9440	11

* With no reinforcement at the barrier back.

Cast in situ restraining barriers

Model	Length	Base width	Height	Top width	Containment level	Working width and dynamic deviation	Impact severity level
	L	W1	H	W2			
EP 80B-E	By the planning	70	80	25		W2	ASI B
EP 80Ba	By the planning	70	80	25		W2	ASI B
EP 80Bs	By the planning	70	80	25		W3	ASI B

DELTA BLOCK EP-80, cast in situ systems.

	Model	Functioning	Performance class			
			Type			
Installed into the pavement	EP80B-E	H2-W2-ASI B	EP 80B-E	H2	W2	ASI B
	EP80Ba	H2-W2-ASI B	EP 80Ba	H2	W2	ASI B
Installed above the pavement	EP80Ba	H2-W2-ASI B	EP 80Bs	H2	W3	ASI B
	EP80Bs	H2-W3-ASI B				

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▶ Greater Safety

The system prevents moving into the oncoming lane by means of a continuous tension rod built in to the concrete barrier. In an emergency it is possible to open a passageway rapidly and at any location. The ASI values are always within the range of the Standard (1.4>).

▶ Maintenance

The restraint system is not sensitive to small to medium damage and therefore the cost of maintenance in relation to other barriers is lower. In the case of severe damage individual units can be rapidly replaced. The period of interference with traffic after an accident is brief.

▶ Flexibility

There is no anchoring to the ground, the barriers are placed on the pavement and can be moved at any time as required. Therefore, the system is economically worthwhile. Short units 2.0 m long are available in order to create a small radius.

▶ Installation

Installation and dismantling are simple and quick thanks to the special connections.

Projects:



Highway no. 75 Haifa Bay
Combination of greenery and an avenue of trees in a double restraint system.
Model: DB80AS/6M Double Row



Haifa southern approach. Temporary mobile restraint system for the purpose of bridge construction work. Model: DB80/4M k180



Highway no. 70. Model: DB100S/6M.



Freud Road, Haifa. End unit. Model: DB100S/6M.



Road no. 70, model: DB100S/6M



Highway no. 5.
Double restraint system.
Model: DB80AS/6M Double Row



Highway no. 411, Rehovot. Model: DB80/6M.



Highway no. 66, Yokneam - Megiddo. Model: DB80/6M.