

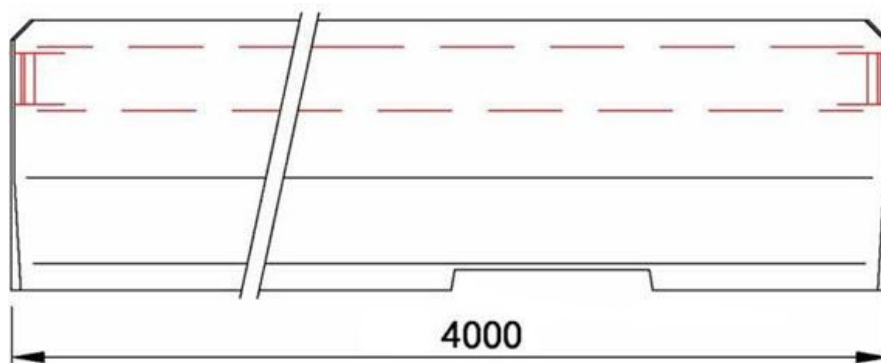
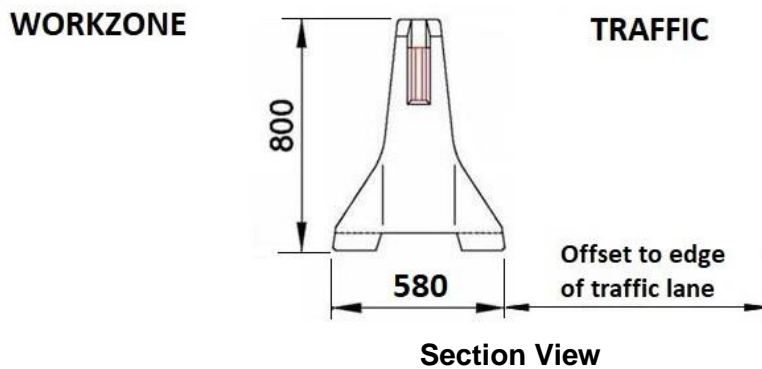
# DB80 K150 CONCRETE SAFETY BARRIER - TEMPORARY

## REVISION REGISTER

Revision	Description	Date
1	Issued for use.	16/01/2020
1A	Acceptance for connection to Quadguard CZ, TAU-II and SMART crash cushions added.	22/10/2020
1B	Update terminals, conditions and manual.	9/08/2021

DB80 K150 is a freestanding temporary concrete barrier (2, 4 and 6 metre long units) consisting of Type F shape steel reinforced concrete barrier units with a tension bar coupling system, joint rotation limiting wedges and without intermediate ground attachment.

### Drawings:



**Elevation View (4m long unit shown)**

## DB80 K150 CONCRETE SAFETY BARRIER - TEMPORARY



Section and Joint Photographs



Photographs of joint wedges

### Ownership:

Delta Bloc International GmbH

[www.deltabloc.com](http://www.deltabloc.com)

### Supplier:

Orange Precast Industries:

13 Penelope Crescent, Arndell Park, NSW 2148.

Ph 1800 769 121

[www.orangehire.com.au](http://www.orangehire.com.au)

**Test Level:** Approved to MASH TL3.

Test Level	Test Description	Deflection	Working Width
MASH - TL3	2270 kg vehicle at 100km/h 25° impact angle	1.44 m	2.04 m

Note that while the DB80 K150 Concrete Safety Barrier – Temporary has passed crash testing to MASH TL 3, the barrier system when connected to approved terminals are not accepted at 100km/h

### Configuration:

- Units must be interconnected using patented couplings and requires a sufficient length to resist impact.

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### Design Considerations:

- Design to be in accordance with the DB 80 F-Shape Installation Manual – Orange Hire – Rev02c, dated 25 June 2021. Note that the length of need methodology and calculations detailed in the Installation Manual are not accepted.
- The length of need shall be determined in accordance with the methodology detailed in the Austroads Guide to Road Design, Part 6 and the relevant Main Roads WA supplement.
- The barrier is designed to resist loadings by deflection, so the units should be free to move. The barrier shall not be placed onto a mortar or a concrete blinding as this may overload the connections between the units.
- It is recommended that the barrier should as a minimum be offset from the edge of traffic lane by:
  - traffic speed 40 km/h or less - 0.2 m;
  - traffic speed 41 to 60 km/h - 0.3 m;
  - traffic speed 61 to 80 km/h - 0.5m.
- Barrier length must be sufficient to protect the hazard.
- Kerbing is not to be placed in front of the barrier.
- Kerbing should not be placed behind the barrier within the deflection limits of the system.
- Barrier shall not be placed on top of kerbing as this negates the effects of the profile.
- The approach to the barrier should be a trafficable running surface at a slope of 7% or flatter clear of objects and grade changes to allow an errant vehicle to hit the barrier at an appropriate height.
- When designing a DB80 K150 barrier the flare rates used shall be those for a rigid barrier, to minimise impact angles.

### Minimum Length:

66 m excluding terminals.

### Terminal permitted:

#### 1. SMART crash cushion

- The installation is restricted to a posted speed of 80 km/h or less.
- May only be installed where reverse impacts are highly improbable and a risk assessment has been completed and steps undertaken to mitigate any risks identified.
- Terminal must be anchored by pins in accordance with the installation instructions in the product manual.
- The DB80 K150 barrier units adjacent to the crash cushion must be anchored to the pavement as required by the product manual.
- An accepted transition must be used to connect the terminal to the barrier.

#### 2. TAU-M crash cushion

- The installation is restricted to a posted speed of 80 km/h or less.
- May only be installed where reverse impacts are highly improbable and a risk assessment has been completed and steps undertaken to mitigate any risks identified.
- Terminal must be anchored by pins in accordance with the installation instructions in the product manual.
- The DB80 K150 barrier units adjacent to the crash cushion must be anchored to the pavement as required by the product manual.
- An accepted transition must be used to connect the terminal to the barrier.

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### 3. ABSORB-M

- The installation is restricted to a design speed of 80km/h or less (posted at 70 km/h or less).
- The ABSORB-M transition to DB80 K150 Barrier must be used to connect the terminal to the barrier.
- Permitted as a terminal on a flare.

### 4. SLED End Terminal

- The installation is restricted to a design speed of 80km/h or less (posted at 70 km/h or less).
- The SLED transition to DB80 K150 Barrier must be used to connect the terminal to the barrier.
- Permitted as a terminal on a flare.

The following terminals will not be accepted for temporary installations on Main Roads WA contracts awarded after 1 January 2022.

### 5. Quadguard CZ

- The installation is restricted to a posted speed of 80 km/h or less.
- May only be installed where reverse impacts are highly improbable and a risk assessment has been completed and steps undertaken to mitigate any risks identified.
- Terminal must be anchored by pins in accordance with the installation instructions in the product manual.
- The DB80 K150 barrier units adjacent to the Quadguard CZ must be anchored to the pavement as required by the product manual.
- An accepted transition must be used to connect the terminal to the barrier.

### 6. TAU-II crash cushion

- The installation is restricted to a posted speed of 80 km/h or less.
- May only be installed where reverse impacts are highly improbable and a risk assessment has been completed and steps undertaken to mitigate any risks identified.
- Terminal must be anchored by pins in accordance with the installation instructions in the product manual.
- The DB80 K150 barrier units adjacent to the crash cushion must be anchored to the pavement as required by the product manual.
- An accepted transition must be used to connect the terminal to the barrier.

### 7. ABSORB 350

- The installation is restricted to a design speed of 70km/h or less (posted at 60 km/h or less).
- The ABSORB 350 transition to DB80 K150 Barrier must be used to connect the terminal to the barrier.
- Permitted as a terminal on a flare.

### **Point of Redirection:**

The point of redirection shall be at the nose of the pinned crash cushion, at both ends; or if the trailing end doesn't form a hazard and does not include a pinned crash cushion, then 29.2 m upstream of the trailing end.

If an Absorb or SLED End Terminal is used then the point of redirection shall be 29.2 m from the leading or trailing end, not including the terminals.

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### **Limitations:**

- The use of DB80 K150 barrier is limited to work site situations and units shall be interconnected using the patented coupling.
- Objects should not be placed on top of the barrier as they are designed to move under impact. "Gawk" screens are not acceptable.
- The minimum radius that the DB80 K150 barrier can be installed on is 40 m using 2 m units, 80 m using 4 m units, and 120 m using the 6 m units. The use of 2 m units is restricted to tight radius curves and emergency openings.

### **Installation and Maintenance Requirements:**

In accordance with the DB 80 F-Shape Installation Manual – Orange Hire – Rev02c, dated 25 June 2021.

### **Parts to be Replaced after Impact:**

Units may need to be repaired after impact or replaced depending on the extent of damage.

### **Parts Typically Re-Useable after Impact:**

Undamaged units.

### **References:**

Refer to Main Roads file 09/518.