Protect 365™ - Road Restraint Systems

Working Width Explained

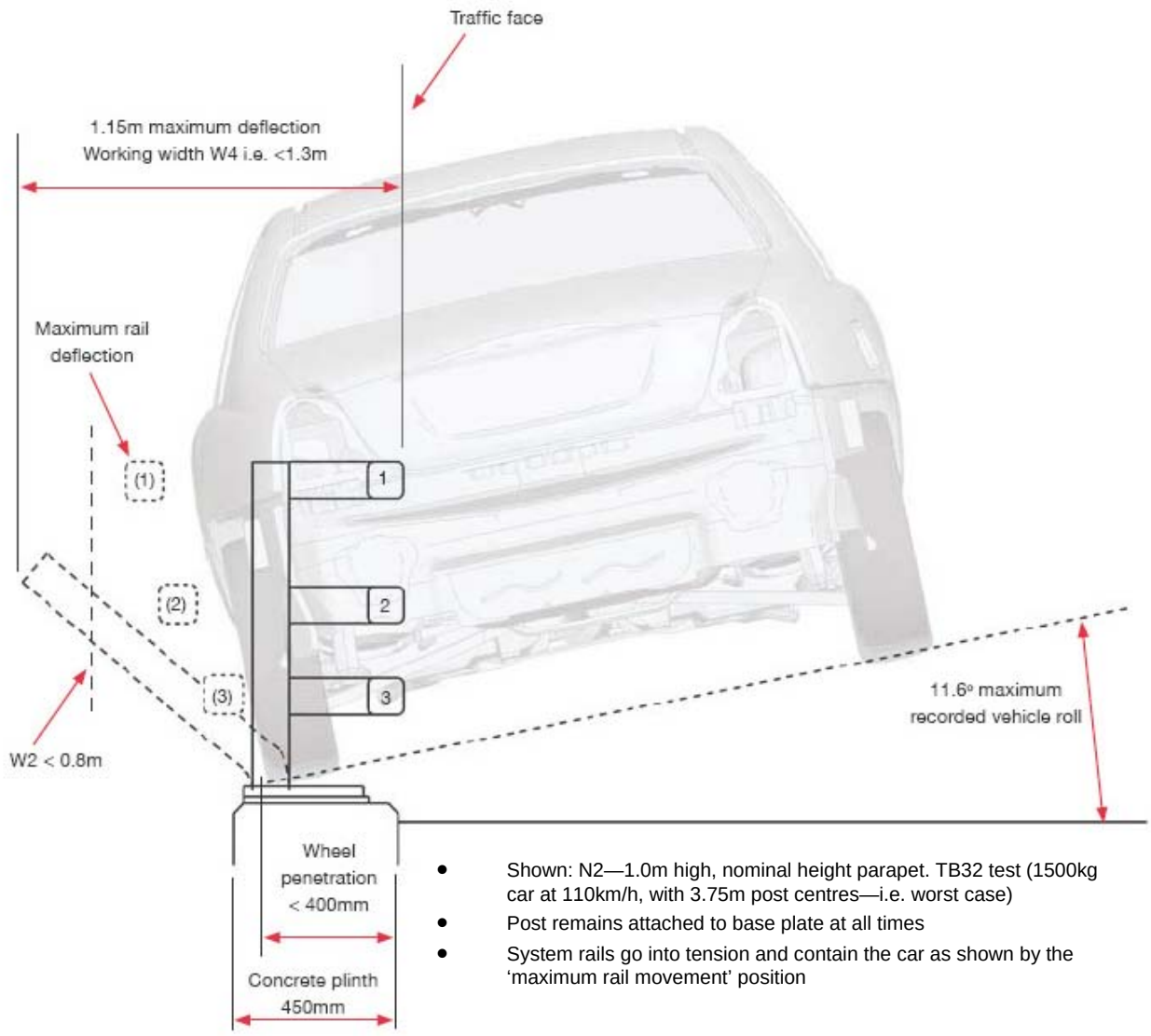
The new European standard for Road Restraint Systems, **BS EN 1317** is now in effect. This has been introduced to standardise road barriers across the EU and more importantly to improve safety for vehicle occupants in the event of a collision.

Working width categories enable a specifier to ensure a particular system will not clash with objects behind the barrier.
Working width is the distance from the traffic face to the point of maximum horizontal deflection and includes the un-impacted system width. It is not how far the vehicle penetrates, that is dynamic deflection**.**

However, working width should not be limited unless dictated by site conditions. Stiffer systems generally absorb less energy and can be less safe for vehicle occupants. Specifying a low working width unnecessarily could preclude a safer system being used, this is against the 'spirit' of EN 1317 and is not permitted under HA rules (see TD 19/06 Cl:3.9)

Working Width Summary

- **Lower working width does not mean a safer system (Stiffer systems can be less safe)**
- **Vehicle wheels never leave bridge plinth—(True for all Protect 365 systems)**
- **Working width is not important unless there are obstacles behind the barrier**
- **Limiting working width specification without reason is not permitted by the Highways Agency**



- Shown: N2—1.0m high, nominal height parapet. TB32 test (1500kg car at 110km/h, with 3.75m post centres—i.e. worst case)
- Post remains attached to base plate at all times
- System rails go into tension and contain the car as shown by the 'maximum rail movement' position

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Corus Tubes now have a full range of EN 1317 compliant road restraint systems with Highways Agency approvals.

Developed with our in house automotive department who, along with rigorous testing and a 'what if' approach to risk identification, means that we believe we have produced the safest range of systems on the market and have set the benchmark for others to follow.

Our capability to simulate any impact variation, has enabled us to model a range of vehicles and impacts beyond the requirements of the standard. This has enabled us to identify potential flaws with the current testing requirements which we have fed back to the CEN committee for inclusion in future revisions of EN 1317.

1500kg Rover 75, used in computer simulations

Protect 365—System Summary				
Containment Level	ASI Value	Working Width	Post Centre (m)	Height (m)
N1	A	W1	2.50	1.00
	A	W1	3.75	1.00
N1 Vertical Infill	A	W1	2.50	1.00
	A	W1	3.75	1.00
N2	B	W3	2.50	1.00
	B	W4	3.75	1.00
H4a	C	W4	3.75	1.60
N2 Safety Fence	B	W1	2.00	0.60 (To centreline of rail)
	A	W3	4.00	0.60 (To centreline of rail)
Transition (N2 Parapet—N2 SF)	B	W3	2.50	0.60 (To centreline of rail)

N1 and N2 parapets are also available with heights of 1.25m, 1.50m & 1.80m. And with mesh or solid sheeting infill.

Protect 365 N1 & N2 systems are approved for post centres between 2.50 & 3.75m. Some manufacturers have only tested one post centre, any post centres other than this are not EN 1317 compliant and will require a Highways Agency departure. (The BS 6779 '80% rule' does not apply)

For advice on any aspect of road restraint systems or Corus Protect 365 products please contact our technical department.

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