

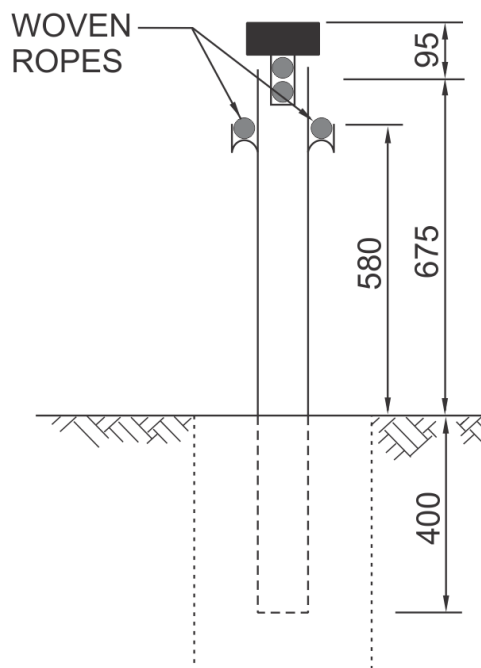
BRIFEN 4 WIRE ROPE SAFETY BARRIER

REVISION REGISTER

Revision	Description	Date
1	Issued for use.	23/2/2004
1 A	Changes to requirements of placement of barrier adjacent to kerb and general editorial modifications.	03/03/2006
1 B	Post spacing corrected under the heading 'Deflection'.	27/04/2006
1 C	European Anchor drawing amended.	06/06/2006
1 D	File number corrected under the heading 'References'.	23/09/2006
1E	Editorial changes and addition of cross reference for single carriageways to Guide to the Design of Road Safety Barriers.	11/05/2009
1F	Contact details for supplier updated. Delineator spacing increased to 25m. Cross reference for single carriageway guidance updated.	22/02/2012
1G	European Anchor deleted and replaced by TL3 terminal. Minimum length clarified.	30/5/2013
1H	Acceptance for new installations removed. Contact details for supplier updated.	18/12/2017

The Brifen four wire rope system is a flexible barrier system that is no longer accepted for use in new installations on the Main Roads network. This design sheet is provided for the purpose of maintaining existing barriers.

Images:

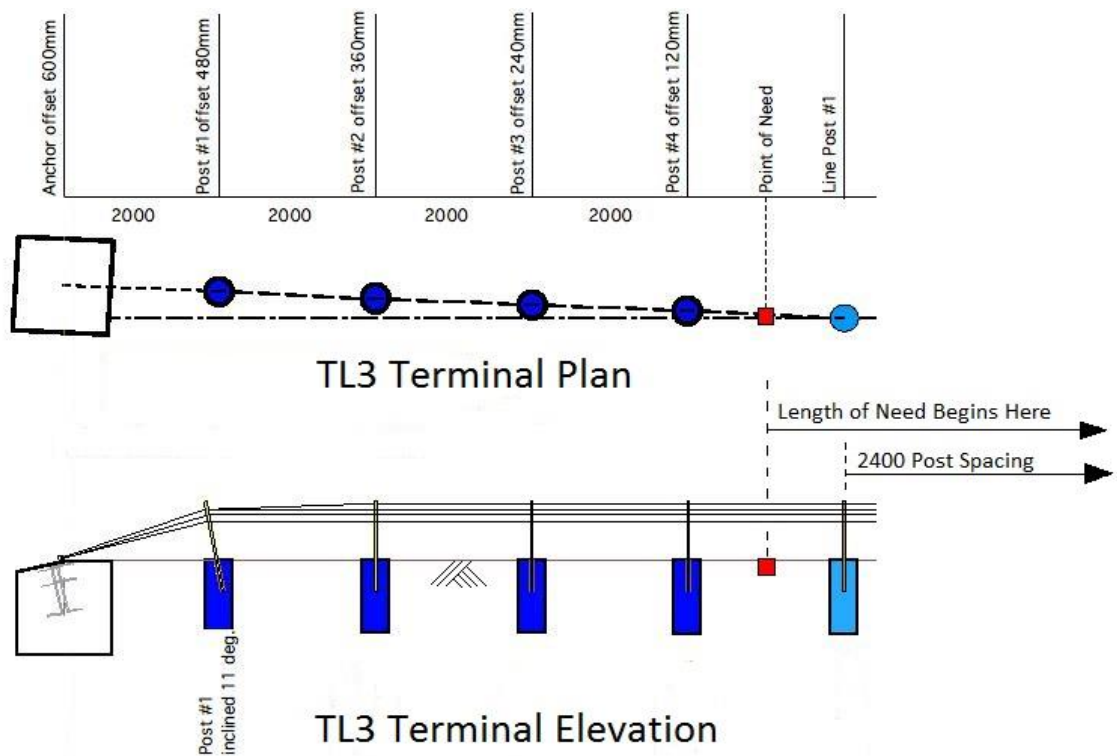


**Brifen TL3 4 Wire Rope Barrier
Typical Cross Section
(refer to Supplier for footing details)**

BRIFEN 4 WIRE ROPE SAFETY BARRIER



Photograph of installed Brifen TL3 4 Wire Rope Barrier



Brifen TL3 Terminal
(refer to Supplier for Anchor details)

Ownership: Hill & Smith UK

Supplier: Hill and Smith Pty Ltd
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Yatala Brisbane QLD 4207
Email - warwick.weeks@hsroads.com.au
Mobile - 0418 109 008

BRIFEN 4 WIRE ROPE SAFETY BARRIER

Test Level: NCHRP 350 TL3.

Accepted Configuration:

- Post spacing of 2.4 m, two upper wire ropes located at a mean height of 675 mm and the lower two ropes were located at a height of 580 mm and crossed at every post.
- Installed with concrete footings.

Design Considerations:

Design should be undertaken in accordance with relevant design manuals provided by the Supplier.

Deflection:

1.65 m under TL 3 conditions (A 2000 kg vehicle at 100 km/hr impacting at 25 degrees post spacing 2.4 m). For other speeds refer to Supplier.

Minimum Length:

24 m (between Points of Need).

Length of Need:

The beginning of the length of need of the barrier commences at the point shown in the Brifen TL3 Terminal images (refer page 2).

Offset from Kerbing:

- Only mountable type kerbing should be used and the centreline of the post placed 475 mm from the face of the kerb to minimise nuisance impacts. Locations offset further from the kerb are not preferred because of the possibility of vehicle either vaulting the barrier or not being redirected by the barrier.
- If semi-mountable kerbing is used then offset to the centreline of post is 405 mm.
- Locations offset further from the kerb are not preferred because of the possibility of vehicle either vaulting the barrier or not being redirected by the barrier.

Height Correction:

If placed within 1.5 m of the edge of carriageway the mounting height is measured from the pavement surface. At greater offsets the mounting height is measured from the adjacent finished surface levels.

End Treatments:

The barrier comes with its own gating end treatment which complies with NCHRP 350 TL 3. It is preferred if this end treatment is installed in the flared arrangement (as shown in the Brifen TL 3 terminal images). It may be installed on a straight alignment to avoid site constraints. For anchor block size refer to Supplier.

Delineators:

Where guide posts would normally be required and a Brifen system is to be installed, instead of installing guide posts either in front or behind the barrier, post caps are to be marked with a 100 mm (wide) x 50 mm (high) Class 1A reflective tape. Post caps to be marked at suitable intervals based on post spacings to approximate 25 m intervals between markings.

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Limitations:

- The cross slope shall be not greater than 10% for the area between the edge of travelled way and the barrier, and the area immediately behind the barrier for the width of the deflection.
- Refer to the MRWA Supplement to Austroads Guide to Road Design – Part 6, Section 6.3.14.1 for further guidance on the verge and permissible slopes requirements on single carriageways.
- Preferably should not be installed behind kerbs. If kerbing is required then the only acceptable kerbing is mountable Type A 100 mm in high-speed situations.
- Semi-mountable kerbs may be acceptable in lower speed environments (< 70 km/hr) but is not desirable.
- Refer to Main Roads Standard Drawing 9331-0376 for kerb types.
- Shall not be used on curves less than 200 m radius without seeking guidance from the Supplier regarding the necessary changes in post spacing. Post spacings shall be based on a 2000 kg vehicle at the appropriate design speed.
- Shall not be used on either crest or sags curves with a K value less than 30.

Parts to be Replaced after Impact:

Damaged posts.

Parts Typically Re-Useable after Impact:

Wire Rope.

References:

Item	Description
1	System tested on September 28, 1993 by the Motor Industry Research Association (MIRA) to NCHRP 350 TL 3. A copy of this testing can be found on Main Roads file 67-08-7VC.
2	Brifen Limited Wire Rope Safety Fence Standards

Drawings:

Contact the Supplier for drawings. Note rope heights and post spacings are to be in accordance with the Main Roads specified configuration.