

# Magnetic Safety Barriers

## (Operation and Installation)



### Important Notes:

All installation work must be thoroughly planned before work commences on site to identify hazards and assess risk.

These instructions form guidance for the operation and installation of Magnetic Safety Barriers. Non-standard applications should be approved by a suitably qualified engineer.

Ensure all personnel engaged in installation operations are properly briefed and adequately supervised by a competent person.

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24 HOUR HELPLINE: 0370 240 2381**

Rev	Date	Comments	Initial
1.2	29/09/20	New issue	DSW

## Introduction

The Magnetic Railway Safety Barrier supplied by TPA is a Network Rail Approved system, meeting the safety requirements of the European standard EN13374 class A.

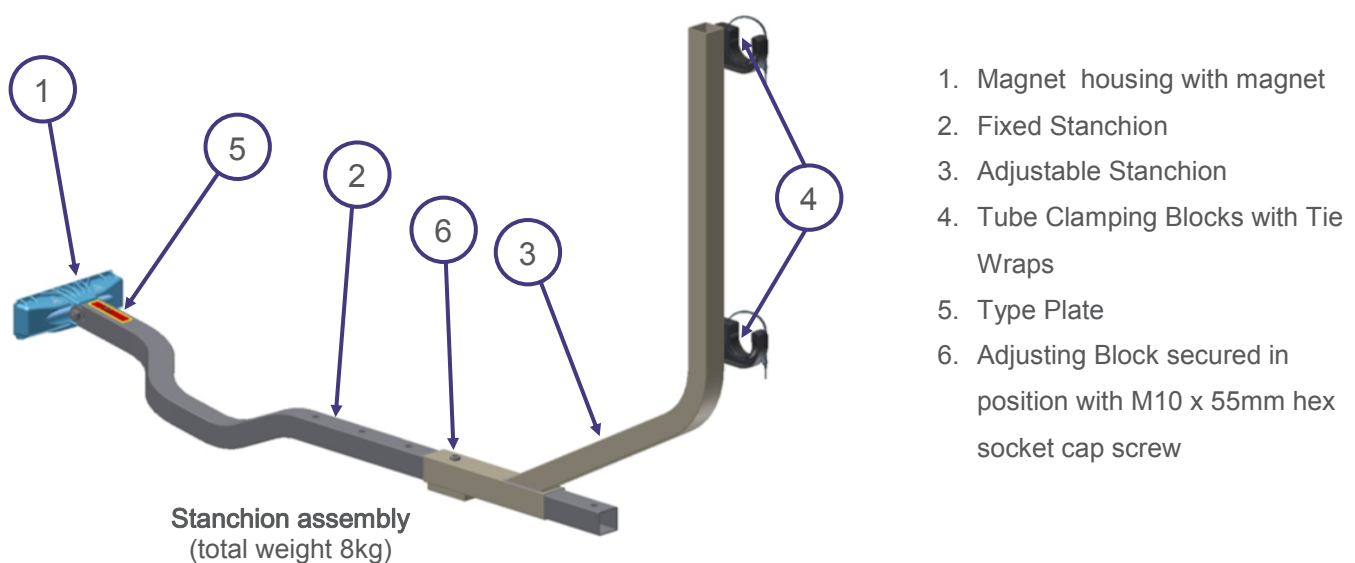
Under local and European regulations it is predominantly a legal requirement to provide safety barriers when working on or in close proximity to the rail track. This system provides an effective physical barrier which prevents operatives coming too close to any track where trains are operating.

As well as providing an effective barrier for safe work on the track, this system provides added protection in that no potentially hazardous ballast dust, containing Silica or pathogens, is disturbed which may expose operatives to infections such as Leptospirosis (Weil's disease).

## Design Features

- Purpose designed for trackside delineation and safety
- The system is suitable for rails of all types 85-95lb, UIC 54 (113A) and UIC 60 (CEN 60 113A) Flat Bottomed and Bullhead Rail
- Strong magnet (tensile force up to 600 Kg/N)
- Removed manually with one anti-clockwise movement of the Stanchion assembly
- No ballast is removed and operatives are not required to go into the 4 foot zone (within the track)
- No danger of damaging underground signalling cables
- Does not affect track circuits or axle counters
- Can be used in areas with signals and crossings
- Consists of two components - No loose parts - No tools needed
- Certified to EN 13374 (Class A), World Patented, approved by Network Rail: PA05 05085

## Equipment Identification



## Equipment Specification

Description	Dimensions	Weight (kg)
Handrail (GRP tube)	3m long, 48.5mm Dia	4
Stanchion assembly	-	8

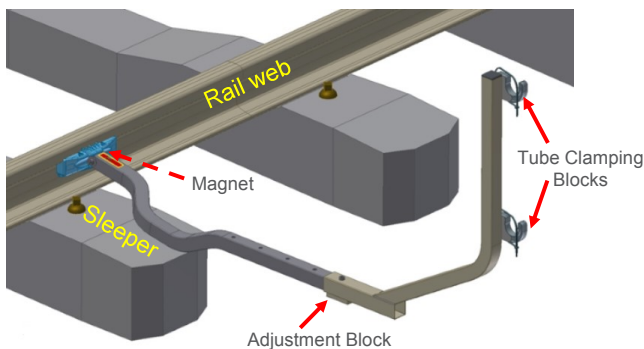
## Pre-installation Guidance

- Speed up the installation process by placing the barrier components near the middle of the area to be protected: this allows the build to progress in both directions.
- Set all the adjustable stanchions to the required distance defined by the COSS for the appropriate line speed of trains. The distance is adjustable between 1.25 and 2.0m metres in steps of 0.1 metres.
- Check that all components of the RSS system to be used are free of damage or any defects.
- Check beforehand that the rails are not fitted with noise-dampening rubber in the web of the rail. If noise-dampening rubber is present in the web of the rail, the magnetic barrier guardrail system cannot be used.
- Check that the sleepers on which the stanchions are supported are free of obstacles or debris on the top surface. It is not essential to use a sleeper for support; the barrier can rest on the ballast if necessary.
- If the system is used between two tracks, check the centre to centre distance between two tracks. If the centre to centre distance is less than 4 metres, also check the position of the stanchions and handrail tube position relative to both tracks.

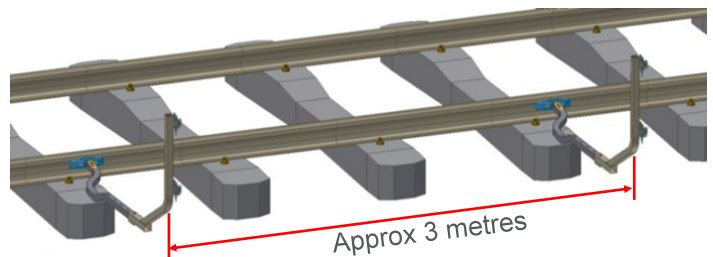
## Installation Instructions

### Safety Notes:

The magnet is very powerful with a force up to 600kg/N and can suddenly attract objects when items of steel are in the area. Wear gloves during installation and stay clear of the magnet as it is being applied to the track. Take extra care to avoid trapping fingers between the track and the magnet.



1. Remove any soil or debris from the web of the rail before clicking the magnet into place. Rest the stanchion on top of the sleeper if possible to ensure the stanchion is vertical.



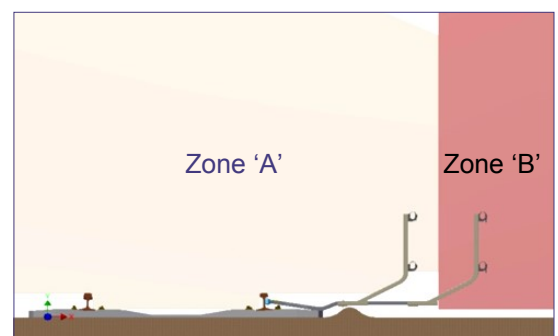
2. Fit the next stanchion, as left, at a distance of approximately 3 metres, but not more than 3 metres. **Note:** the handrail tubes are 3 metres in length.

## Stanchion Adjustment

### Notes:

The stanchion is adjustable between the hazard areas zone 'A' and zone 'B': these two areas are shown in the right hand diagram.

The distance from the centre of the track to the barrier is adjustable from 1.25 metres to 2.00 metres in 0.1 metre increments by sliding and securing the Adjustment Block.

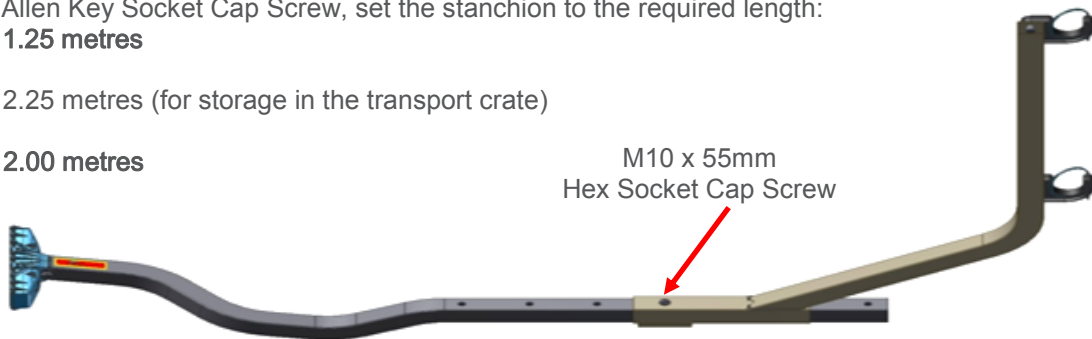


## Stanchion Adjustment Cont...

Using the Allen Key Socket Cap Screw, set the stanchion to the required length:  
**1<sup>st</sup> hole is 1.25 metres**

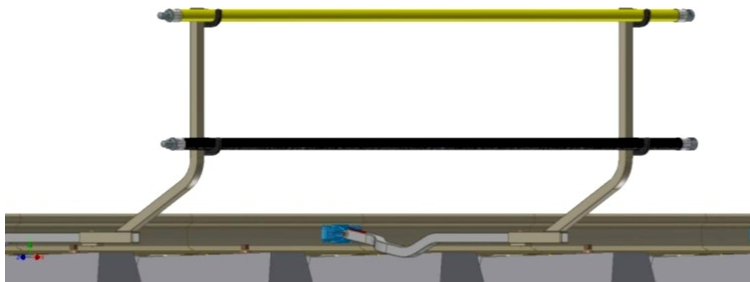
**4<sup>th</sup> hole is 2.25 metres** (for storage in the transport crate)

**7<sup>th</sup> hole is 2.00 metres**

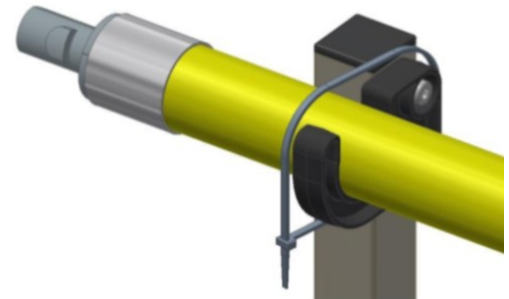


## Fitting the Handrail Tubes

**Safety Note:** Do not carry the handrails in a vertical position when operating in areas where there is an overhead line with 25Kva as you are likely to come within the recommended 3 metre contact zone.



1. Secure the upper and lower Handrail Tubes by snapping them into the Tube Clamping Blocks.

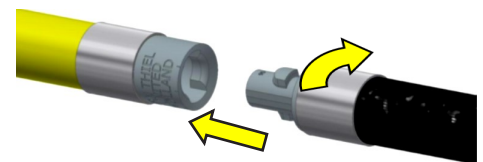


2. The Clamping Blocks are robust enough to firmly hold the tubes in place. However, for long term use, it is advisable to secure the tubes with tie-wraps as shown above.

**Note:** Do not use any jointing compound between the Clamping Block and tube or within the bayonet fitting



3. Connect the tubes at the stanchions placed approx 3 metres apart using the bayonet connection shown right.



4. The tubes are connected by pressing in and turning clockwise by a one quarter turn. To disconnect, turn anti-clockwise one turn and pull.

## Dismantling

Dismantling generally takes place in reverse order:

1. Remove any tie-wraps and lift the tubes to remove them from the Clamping Blocks

2. As shown right, remove the stanchion by lifting it vertically towards the rail until the magnet releases, then withdraw it.

3. Store carefully in the containers provided for re-use or collection.

