# MOT TESTING SCHEME

## Requirements for Authorisation for a Vehicle Test Station

## (Class 3 and 4 vehicles)

### INSTALLATION AND EQUIPMENT REQUIREMENTS
### November 2009

The Vehicle & Operator Services Agency, on behalf of the Secretary of State appoints Authorised Examiners and Designated Councils to carry out inspections known generally as MOT tests. This document sets out the additional requirements that must be met for testing Class 3 and 4 vehicles.

**IMPORTANT:** THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE REQUIREMENTS FOR AUTHORISATION FOR A VEHICLE TEST STATION (COMMON TO ALL CLASSES) AND REQUIREMENTS FOR AUTHORISATION FOR AUTHORISED EXAMINERS.

**WARNING:** Applicants are advised not to proceed with alterations to buildings or purchase of equipment, etc, before receiving written approval in principle from the Vehicle & Operator Services Agency.

THE DIMENSIONS IN THIS SECTION ARE THE **MINIMUM** REQUIREMENTS FOR AUTHORISATION AS A VEHICLE TEST STATION FOR CLASS 3 AND 4 VEHICLES.

The dimensions of your test bay should take into account the requirements of your business. **When considering the contents of this document you should be aware that the equipment and/or layout selected may affect the type of vehicle able to be tested.**

**Contents**

## 1. Premises, Test Bay and Equipment Layout.

The test bay and layout dimensions stated are the **minimum** requirements measured from the inside of walls and doors, as appropriate. If there is a capability to test longer wheel based vehicles i.e. if the lift will accommodate more than 3.35m wheelbase and the headlamp standing area is at the minimum requirements then the headlamp standing area dimensions will take precedence and a 3.35m wheelbase would be the longest which could be tested. If a longer dimension is required then all other dimensions must be proportional to this, i.e. headlight standing area must be increased proportionally.

1.1 Premises, test bays and equipment will be considered suitable if they meet the requirements laid out in "Requirements for Authorisation for Vehicle Testing Station (Common to all Classes)".

1.2 **Test Bay.**

A test bay with:

a) vehicle entrances and exits at least 2.4m high by 2.4m wide (for plate brake testers see brake testing section, Para 4.5d.)

b) a width of at least 3.6m. On a side by side layout bay size may overlap providing a 600mm clearance/working space is provided between equipment

c) headroom of at least 2.4m (except over a lift - see d)

d) headroom over a lift of at least 3.8m measured from the platform surfaces when fully lowered

(i) the headroom must extend 500mm further than the outer edges of the lift platforms

(ii) extending 500mm to the front of the platforms non drive on end and 1m to the rear of the drive on end of the lift platforms.

1.3 **Equipment Layout.**

a) Example equipment layouts are shown at Annex A.

## 2. Underside Inspection.

The designated means of inspecting the underside of vehicles will be considered suitable if either a lift or a pit meeting the following is provided:

2.1 **Lift.**

A wheel supporting platform lift

a) platforms without upstands or guard rails at least 3.9m long

b) rolled edges or vertical rails for jacking equipment must not be more than 25mm higher than the platform

c) the platform length does not include access ramps

d) if a scissor lift is used, the scissors must be located underneath the platforms, allowing unobstructed access between them

e) platform surfaces capable of being raised at least 1.5m from the floor. Measured from the floor on which the lift is mounted

f) a minimum of at least 760mm (may be reduced to 600mm if testing narrow track vehicles) between the inner edges of the platforms and at least 1.9m between the outer edges

g) a safe working load (SWL) of at least 3 tonnes clearly marked on the lift

h) jacking equipment clearly marked with a minimum SWL of 1.5 tonnes, capable of simultaneously raising both front or both rear wheels. Duplicated jacking equipment is acceptable

i) captive bearing based turning plates, positively secured to the platforms, which permit the steered wheels to be turned freely from lock to lock. The turning plates must move laterally across the full platform width. When installed there must be a minimum distance of 3.35m from the centre of the turning plates to the drive on end of lift platform

j) chocks that operate automatically when the lift is raised. The 3.35m dimension for turning plates must not interfere with operation of the chocks. On non drive through layouts permanent chocks may be fitted to the non drive on end

k) confirmation in writing by the lift installer that the installation of the lift complies with BS EN 7890:2003. Vehicle lifts with CE markings and modifications to existing vehicle lifts should conform to BS EN 1493:1999 regarding safety distances for toe protection

l) Automated Test Lane (ATL) or One Person Test Lane (OPTL):

- Wheel play detectors from the VOSA list of acceptable equipment, securely fixed to the lift

- At least 3.35m from the drive on end of the lift platforms to the centre line of the wheel play detectors. The 3.35m dimension for wheel play detectors must not interfere with operation of the chocks

- Written declaration from the hoist manufacturer (not installer) that the hoist is suitable to be fitted with wheel play detectors.

2.2 **Pit.**

A pit with

a) an uninterrupted working length of at least 3.9m

b) a width of at least 760mm and not more than 920mm over the working length measured across both pit walls (this may be extended up to 1300mm if used in combination with Class 7)

c) a depth of at least 1.5m and not more than 1.8m, over the working length. Staging may be used to meet this requirement

d) adequate access for personnel which does not intrude on the working dimensions. Access steps may encroach on the required dimensions to an entrance/exit door or wall provided there is a minimum clearance width of not less than 600mm

e) sealed to prevent the ingress of water

f) jacking equipment as required for a lift. Rolled edges and vertical rails for jacking equipment must not exceed 25mm height

g) captive bearing based turning plates, positively secured to the floor which permits the steered wheels to be turned freely from lock to lock (**See Note)**

h) if ATL or OPTL: combined steering and wheel play detectors on VOSA's list of acceptable equipment. No part of the installation should be within 1.5m of the pit working length drive on end. (**See Note**)

**Note**: The location of turning plates and play detectors must be that the tester has adequate space to safely inspect all the items required when stood in the pit.

## 3. Headlamp Aim Testing.

A headlamp aim testing facility will be considered suitable if the following is provided:

3.1 A calibrated rail mounted 2005 specification headlamp tester on VOSA's latest list of Acceptable Equipment

3.2 A headlamp tester installation with

a) a designated vehicle standing area which is certified as flat and level to within +/-6mm in any 3m and

(i) a clearly outlined area of floor 3.6m long measured from the datum line by 2.1m wide, which may

- be the lift platforms (Lift platforms must rest on positive stops when lowered)
- straddle a pit or roller brake tester
- be the plates of a plate brake tester

(ii) if during headlamp testing vehicle wheels rest on turning plates which are not longitudinally adjustable by at least 600mm, they must be within the +/- 6mm limits

(iii) additional equipment fitted in the standing area must comply with the +/- 6mm level requirements

b) rails certified as level to within +/-2mm and parallel to the standing area. The rails must be straight and the headlamp tester must not have significant rock or twist at any point along the rails

The certificate for 'a' and 'b' above must show height measurement from a level plane at all intersecting points on a 300mm (max) square grid covering the standing area and at points 300mm (max) apart on the rails

It must be signed by a competent person, such as a surveyor, manufacturer's representative or agent and include date, status, address of firm and VTS address. A copy must be provided to VOSA for the garage file

c) 600mm clearance behind the headlamp aim tester optical head. Floor mounted equipment must not be installed in this area

d) the standing area must be durably and clearly marked with a datum line (or lines) at the headlamp tester manufactures operational tolerance limits for positioning the vehicle headlamp in relation to the headlamp tester.

3.3 Headlamp aim equipment operating instructions must be available.

## 4. Brake Testing.

Brake testing equipment will be considered suitable if the following are provided

4.1 A calibrated decelerometer on VOSA's latest List of Acceptable Equipment and

4.2 A calibrated roller brake tester or a calibrated plate brake tester that is

a) on VOSA's latest List of Acceptable Equipment or

b) if an ATL lane: Approved for ATL use on VOSA's latest List of Acceptable Equipment.

4.3 Roller/plate brake tester user/operator instructions

4.4 **Roller Brake Tester.**

A roller brake tester (RBT) must be installed so that

a) it is centrally located in an unobstructed working area at least 9.0m long and at least 2.4m wide. At least 3.35m to the front and rear of the RBT centre line should be substantially level (which in good building practice is within +/- 12mm of a level plane). The remainder of the area must not exceed a 10% slope (100mm in 1m) Part of the brake testing standing area can be outside the building, providing the first part of the RBT floor plate is at least 1.5m inside the building

In the case of a 'drive-through' layout where the roller brake tester is fitted AFTER the lift or pit there shall be a clear distance of at least 3.35m between lift platforms and the RBT centre line. Lead-off ramps from floor mounted lifts shall not encroach on this area

b) any part of a roller brake tester is at least 600mm from an inspection pit, lift platform or lift recess (except cross pit rollers)

c) it is in accordance with the manufacturers instructions

d) the console is positioned to be easily read whilst performing the test

e) when a cross-pit RBT is installed there must be an isolator that prevents operation of the RBT when a person is in the pit. It must be positioned so other equipment will not interfere with brake testing. i.e. turning plates.

4.5 **Plate Brake Tester.**

A plate brake tester (PBT) must be installed so that

a) it is certified as installed in accordance with the manufacturers instructions

b) the plates are centrally located in a substantially level test area which (including approach and run-off area) is at least 3.0m wide

c) a clear area of 4.5m shall be provided in advance of the plate brake tester. This area must be substantially level and any gradient must not exceed 5% (50mm in 1m) nor have other equipment positioned within it. All or part of the 4.5m can be outside the building

Where it is perceived that there may be a safety risk, barriers and/or warning signs may be required along the approach area and/or the run off area

d) doorways positioned within the 4.5m approach area must be at least 3m wide

e) where the plate surface is not flush with the surrounding floor, lead on and off ramps must be located at least 600mm from any doorway

f) a clear run off distance of 3.0m shall be provided after the PBT working surface (this must not include any part of the lift or lead on ramps)

g) in the case of a 'drive-through' layout where the plate tester is fitted AFTER the lift or pit there shall be a clear distance of 4.5m between them. Lead-off ramps from floor mounted lifts shall not encroach on this area

h) the console is positioned to be easily read whilst performing the test.

## 5. Emissions Testing.

**All** class 4 testing stations must have the following emissions testing equipment.

### 5.1 **Spark Ignition Engine Emissions**.

Exhaust gas analysis equipment will be considered suitable for all spark ignition engined vehicles if the following is provided

a) a calibrated exhaust gas analyser on VOSA's latest List of Acceptable Equipment suitable for all spark ignition vehicles

b) gas analyser user/operator instructions

c) confirmation that the analyser contains the current up to date database.

### 5.2 **Diesel Engine Emissions.**

Diesel smoke test equipment will be considered suitable if the following is provided

a) a calibrated diesel smoke meter on VOSA's latest List of Acceptable Equipment

b) smoke meter user/operator instructions.

## 6. Class 3 Only Testing.

Where only Class 3 testing is conducted the requirements for Class 4 are varied as follows

### 6.1 **Premises, Test Bay and Equipment Layout.**

a) Premises: (No variations)

b) Test Bay

- Vehicle entrances and exits at least 2.3m wide and 2.0m high
- Bay width at least 3.2m
- Bay headroom at least 2.1m
- Headroom over a lift of at least 3.2m

c) Equipment layout

- With a clearance of at least 900mm to the front and rear of a lift or pit to any entrance/exit door or wall.

6.2 **Underside Inspection.**

a) **Lift**

- Platforms at least 3.00m long
- A safe working load (SWL) of at least 1.5 tonnes clearly marked on the lift
- A suitable method of supporting the ‘single wheel’ of any three wheeled vehicle on a firm surface with a captive bearing based turning plate. A SWL of at least 500kg must be clearly marked on the support
- Jacking equipment clearly marked with a minimum SWL of 500kg
- Captive bearing based turning plates, positively secured to the platforms, which permit the steered wheels to be turned freely from lock to lock. The turning plates must move laterally across the full platform width
- When installed there must be a minimum distance of 2.35m from the centre of the turning plates to the drive on end of lift platforms.

b) **Pit:**

- An uninterrupted working length of at least 3.0m with a single bridge and turning plate
- A suitable method of supporting the ‘single wheel’ of any three wheeled vehicle on a firm surface with a captive bearing based turning plate. A safe working load SWL of at least 500kg must be clearly marked on the support
- Jacking equipment clearly marked with a minimum SWL of 500kg.

6.3 **Headlamp Aim Testing.**

A designated vehicle standing area at least 3.0m long and 1.8m wide

6.4 **Brake Testing.**

a) A calibrated Category A decelerometer on VOSA’s latest List of Acceptable Equipment

b) A roller brake tester must be installed so that It is centrally located in an unobstructed working area at least 7m long and 3.2m wide

c) A plate brake tester must be installed so that

- The PBT is located in a substantially level test area which (including the approach and run-off area) is at least 3.6m wide. The PBT must be situated with at least 2.0m clear space, on the side of the measuring plate, from the PBT centre line

- Doorways positioned within the 4.5m approach to the plate brake tester must be at least 3.6m in width (to enable vehicles to be off-set to test the single wheeled axle).

**Note:** The brake testing facility must be able to cater with either a single front or rear wheel configuration.

6.5 **Emissions Testing.**

Not required for Class 3 testing.

## 7. Dual Class Premises (Class 3 and 4)

7.1 Premises and equipment considered suitable for Class 4 testing will also be accepted for Class 3, and 3-wheeled Class 4 testing if the underside inspection facility has the following

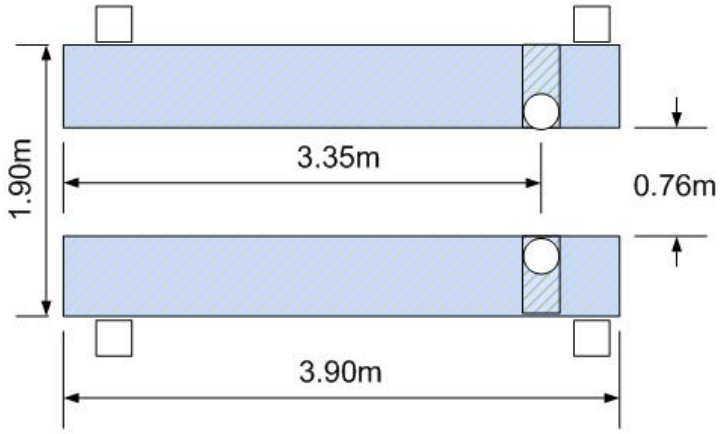
a) A suitable method of supporting the 'single wheel' of any three wheeled vehicle on a firm surface and on a turning plate. A single wheel support must cater for single front or rear wheel configuration and there must be acceptable arrangements for testing headlamp aim, if applicable, for both wheel layouts

b) Suitable jacking arrangements. If the jacking equipment is unsuitable for raising a 3 wheeler single wheel there must be suitable additional equipment of 500kg capacity.

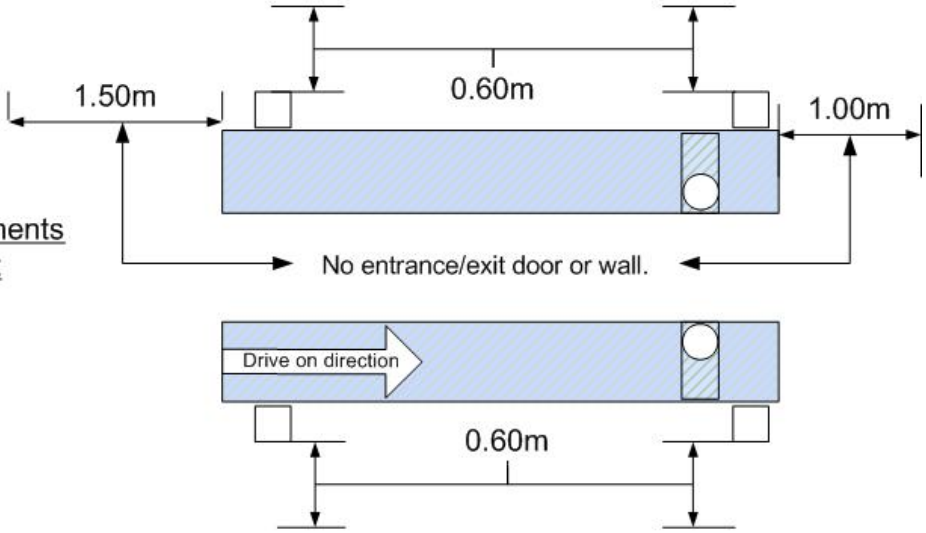
## Annex A Layout Drawings

### Class 4 Critical Lift Dimensions

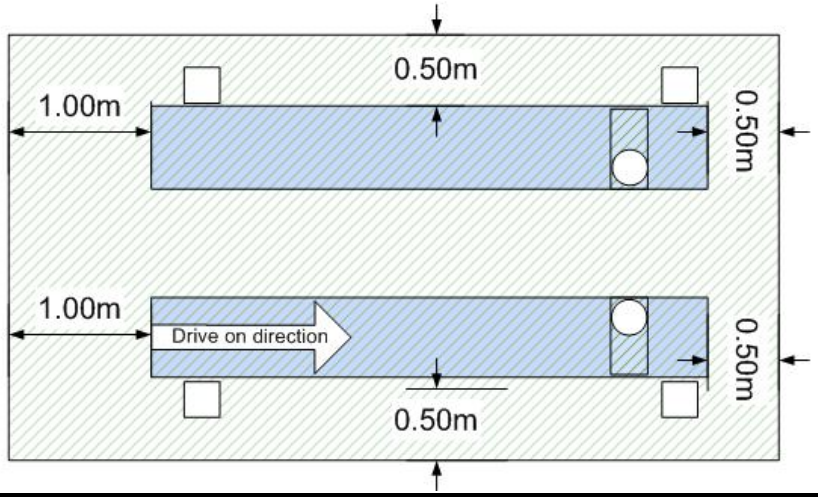
Platforms and Wheel Play Detectors/Turning Plates




Space requirements around Lift

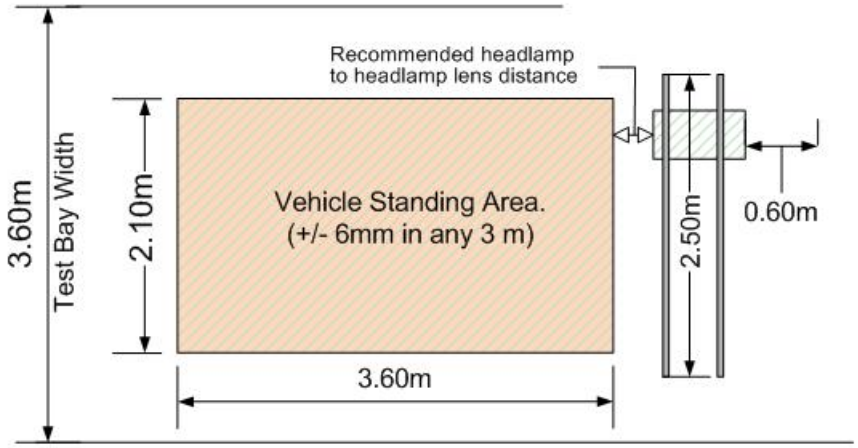



Headroom of 3.8m Required

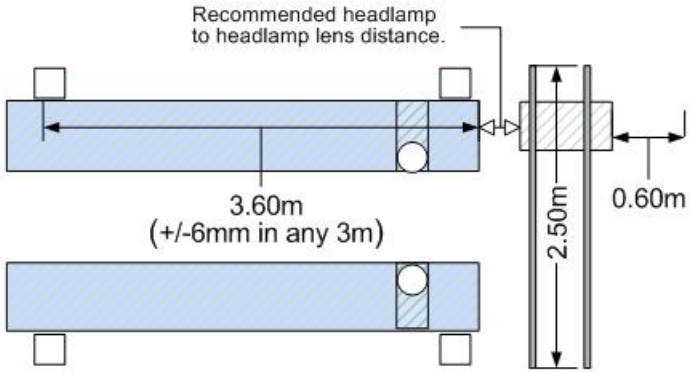


## Headlamp Aim
## Dimensions
## Class 4

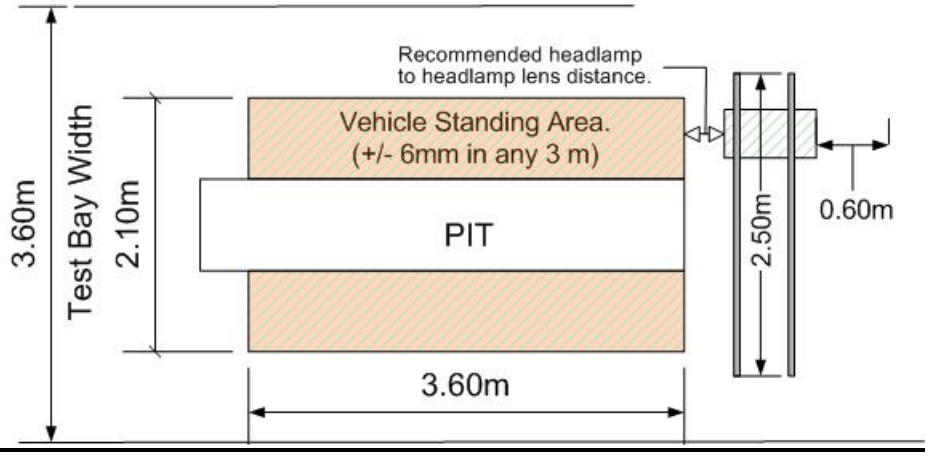
### Headlamp Aim Area




### Using Lift Platforms

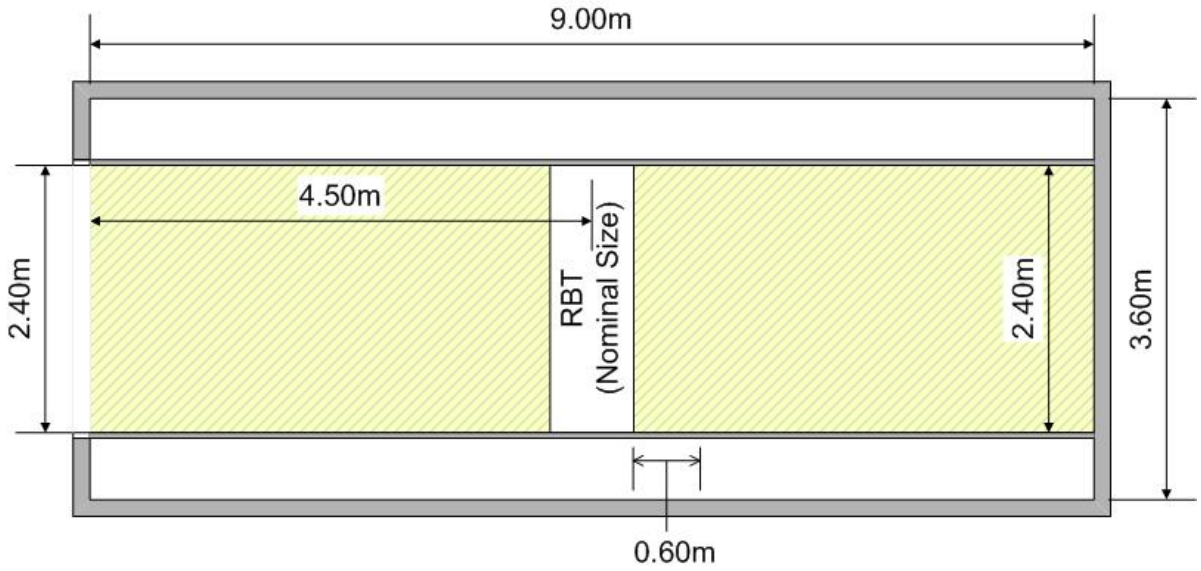



### Straddling a Pit

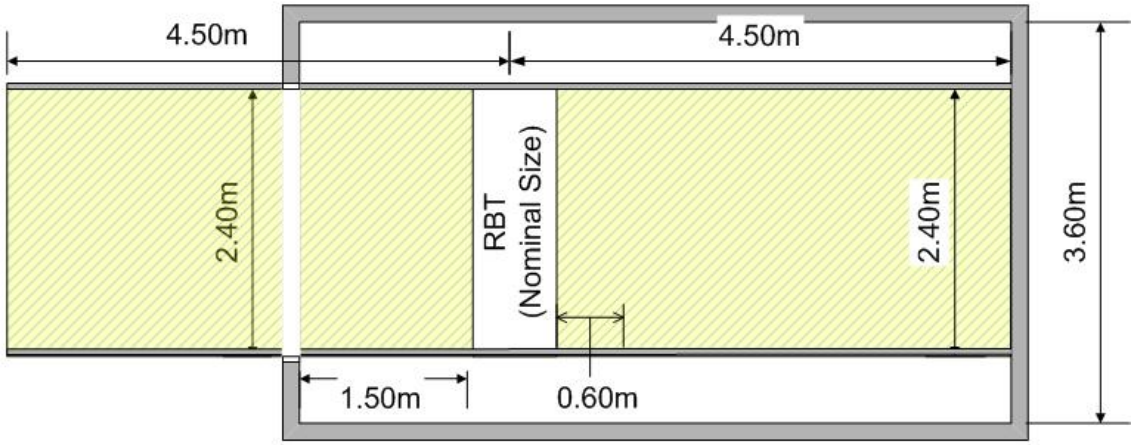


# Brake Standing Area Class 4

**RBT Standing Area Totally Enclosed**




**RBT Standing Area Partially External**




Brake Standing Area information

1. 3.35m either side of RBT centre line +/- 12mm. Remainder must be no more than a 10% slope (100mm in 1 m)
2. bay width must still be 3.60m. The Brake test standing area dimensions have a higher tolerance within the general bay.
3. any part of a RBT must be at least 600mm from an inspection pit, lift platform or lift recess.

**Side by Side Bays**
**(Class 4 for example)**