



SECTION 7: INTERNAL AND FINISHING TRADES



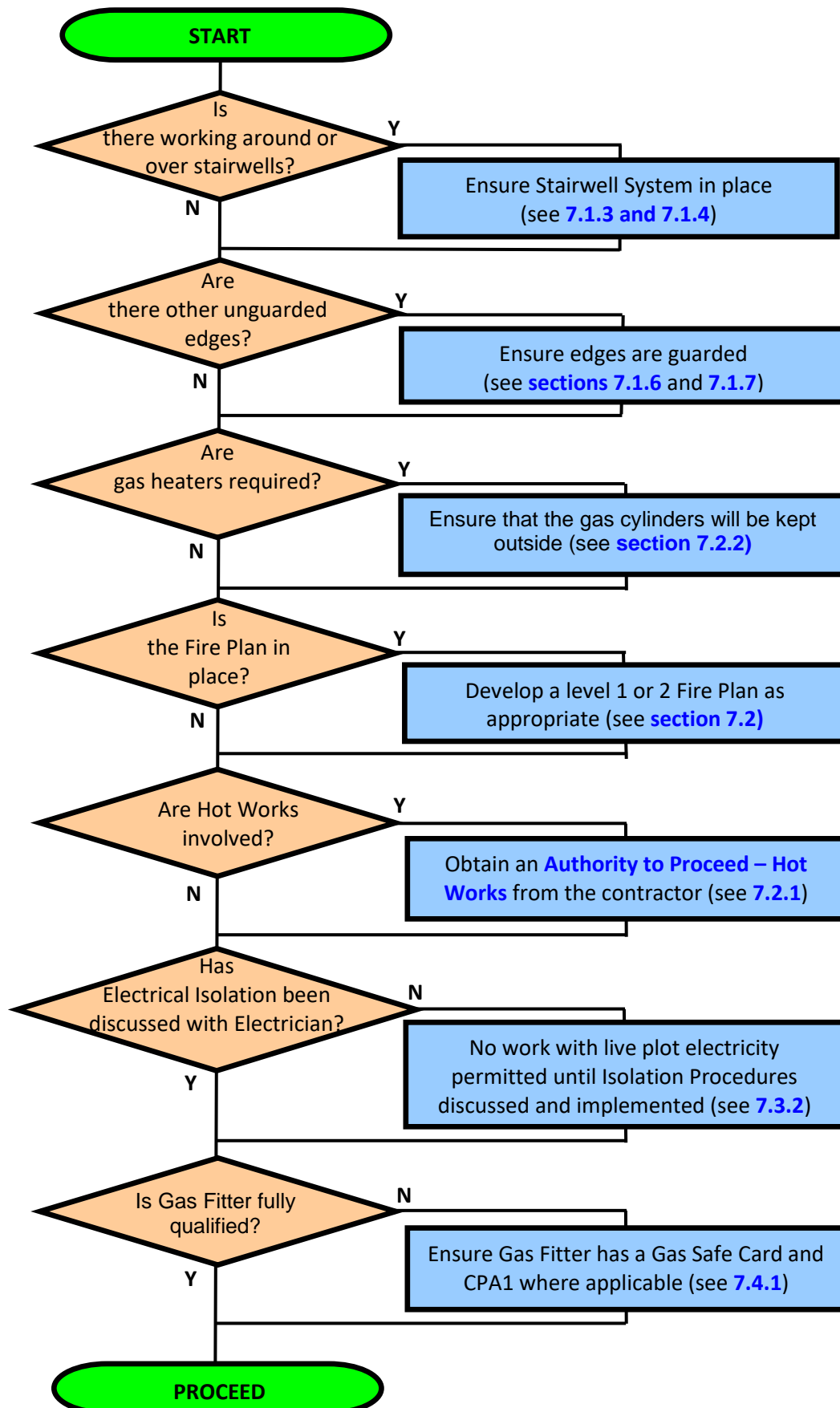
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7.1 INTERNAL AND FINISHING TRADES



7.1.1 PLOT ACCESS

When materials are taken into a plot, e.g., stair units, plasterboard sheets, etc. there must be a clear passageway via 'run-up' such as stoned-up pathway or ramp and any scaffolding arranged so that the doorway is clear – unobstructed by scaffold.



Note: stoned-up pathways or ramps are only necessary if the step/threshold height exceeds 225mm



A timber run-up must comprise:

- Minimum width three boards
- Adequately supported throughout; and
- Maximum unsupported span 1.2m.

Note: scaffold not obstructing the doorway


To prevent significant slip, trip and fall hazards when accessing plots, it's good practice for the Groundwork Contractor to install 'stoned-up' access points early when they are stoning-up around the plot in preparation for the external scaffolding.



7.1.2 INSTALLING TIMBER STAIRS

When fitting stairs, there are critical steps in the installation process which must be taken before the stair may be used, even for temporary access.

These critical steps are:

- Install 'Airtec' edge protection on mid-floor
- Remove sacrificial floor
- Install stairs - for Stair Installation Guidance see 
- Install 'Airtec' handrails to side of stairs



All timber staircase packages must have the stair weights label clearly displayed, identifying the weight of the load and the manual handling arrangements. Further guidance can be found on the Manual Handling Safety Guide

(See [Section 3.8.7](#)).

Critical Step 1 (Winding Flights Only): Prop the Stair Unit



Prop the stairs so they can be levelled and fixed into place using either sacrificial or permanent timber stud work which is secured to the floor and stringer.

Critical Step 2: Secure the Base (All Stairs)

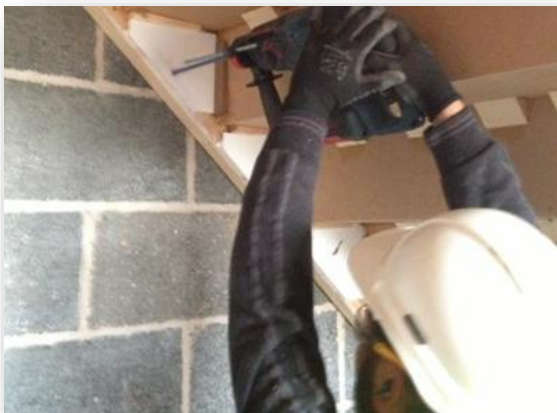


Screw fix 50x38 timber runner against the first riser using 4 no 75x10 screws and plugs.

Critical Step 3: Fix Supporting Stair Stringers

In situations where there is no block work or timber studding to fix the timber stairs to, then sacrificial timber stud (goal posts) is to be secured to the string and floor.

Straight Flight Stair Unit



The stair stringer is to be fixed to either block work or timber stud (beneath the top and bottom tread first, working from the top and bottom fixings inwards at 600mm (to block work) or 300mm (to timber vertical studs) centres using 100mm x 12 screws. (Note when working towards the centre, a horizontal timber noggin/dwang may be required to secure the final string centre fixing).

Winder Stair Unit



Critical Step 4: Secure the Stair Head (All Stairs)



Working from below, fix lower end of newel post using 90mm x 6 twin threaded screws, skew fixed.

7.1.3 INTERNAL FALL PROTECTION

STAIRWELL EDGE PROTECTION

Stairwells and stair access must be protected with a proprietary edge protection system or scaffolding edge protection to prevent falls from height, e.g.:



Proprietary Edge Protection System:

- Operatives to be briefed/ instructed on installation of specific system
- Handrails fitted
- Toe board fitted
- Correct fittings used;
- All uprights to be fully screw fixed (not nailed); and
- Secured into solid material
- Site Management and operatives to monitor during use.

Airtek Ltd, Camberley, Surrey (01252 360550)



When partition walls or balustrades are installed around a stairwell, Proprietary Edge Protection can be fixed 200mm-150mm away from the leading edge as allows the operatives to safely install any partitioning without the need to remove the edge protection.

Compco Safety Solutions, Worcester (01905 428943)



Note: the 'Airtex' can be removed if intermediate noggins have been installed at 500mm above floor level



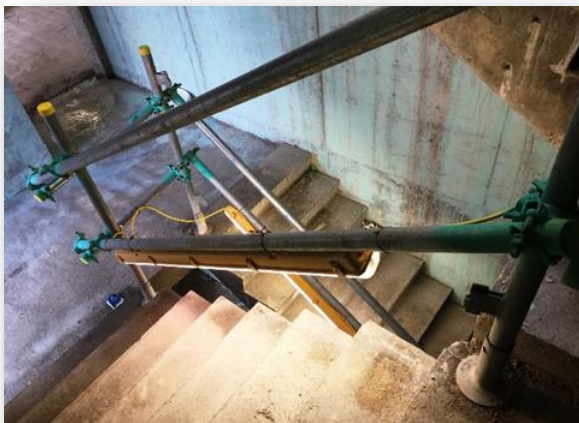
In areas where the surrounding walls provide fall prevention, a temporary handrail must still be fitted to provide a suitable handhold in case someone slips or trips on the stairs.

Note: Enough sets of proprietary edge protection must be available on site to meet work programme requirements and provide suitable edge protection when working at height.



Proprietary edge protection fitted to concrete stairs.

MK Stairsafe from MK Engineering Services Ltd, Gosport (Tel: 07850 078819).



Scaffolding (to Concrete Stairs):

- Installers must be trained scaffolders
- Protection to be regularly monitored; and
- Scaffold edge protection to be inspected before first use then weekly thereafter. The findings to be recorded in the Working Platform/Scaffold Inspection Record Sheet ([Construction HSE Plan – Folder 2 - F2.6](#)) – (see section 1.4.2.2)

7.1.4 STAIRWELL OPENING (Fall Protection)

Where there is a need to work over or near a stairwell opening, a suitable working platform must be provided e.g. either a propriety system or birdcage scaffold to provide fall protection and access.



Stairwell Proprietary system (SPS Oxford System illustrated)

Installers to:

- Be briefed / instructed on installation
- Have system instructions available
- Inspect before use; and
- Site Management and operatives to monitor during use.

Once in position, the frame is designed to easily take the weight of one operative and materials. Ensure stabilisers are positioned correctly. Mat must be closed once access gained.

The SPS safety mat easily slides back to allow access to the stairs for operatives and materials.

Note: the mat must not be overloaded with materials. Maximum spread load is 150 Kg.

Oxford Safety Components Ltd, 59 Murdock Road Bicester. Oxfordshire OX26 4PP, Tel: 01869 3232892



A Site Safe Briefing should be given to operative, using the prepared Site Safe Briefing 'Safe Use of Oxford Safety Platform Systems' See Site Safe Briefing folder.

7.1.5 VAULTED CEILINGS (Work Over Stairwell Openings)

Where there is a need to undertake works over a stairwell with a high-level ceiling e.g. vaulted ceiling, a suitable working platform must be provided. A propriety system (preferred method) or birdcage scaffold must be provided to provide fall protection and access

Vaulted Ceiling Propriety Access platform

The Propriety access platform allows safe access to the area of the vaulted ceiling over the stairwell and allows access to remain open on a section of the stairs.

Supplier Details:

George Roberts (North West) Limited

Unit D, Wakefield Road

Netherton, Liverpool

L30 6TZ

- • Tel: +44 (0) 151 524 2434
- • Email Sales@scaffoldingsales.co.uk

For purchase only use the following product codes:

Design Number	Description
TW01	Straight Staircase (Straight Flight Landing)
TW02	Kite Winder Staircase (Kite Winder Landing)
TW03	TW Tower Legs (Straight Flight) Product Code Long Stair Leg 1030005S, Product Code Short Stair Leg 103006S
TW04	TW Tower Legs (Kite Winder) Product Code Long Stair Leg 1030011S, Product Code Short Stair Leg 1030012S



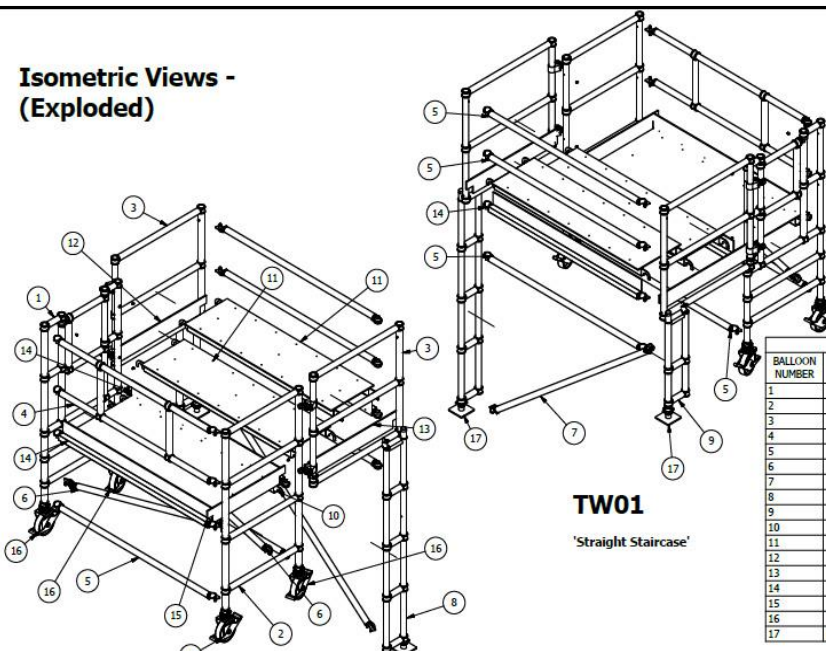
A proprietary access system [vaulted ceiling] installation and user guide must be available.

Installer must:

- be PASMA Trained
- be briefed / instructed on installation by the manufacturer
- Have system instructions available
- be Inspected by the trained installer before first use, then every seven days on the [Working platform/ Scaffold Inspection Record Sheet, Folder2 F2.06](#); and
- Site Management and Operatives to monitor during use.

(Note: Evidence of all training must be made available to the site management team)

Isometric Views - (Exploded)




TW01
'Straight Staircase'

Material Grades Used			
Aluminium		Steel	
Part/Ref No.	Part/Ref No.	Part/Ref No.	Part/Ref No.
6082 T6 BS EN 755	6082 T6 BS EN 485	S235-JRH	S275JR

BALLOON NUMBER	ITEM	PART NAME	LABEL COLOUR
5	Brace	Horizontal Brace	Red
6	Brace	Diagonal Brace (Platform)	Blue
7	Brace	Diagonal Brace (Stabilisers)	Green

PARTS LIST			
BALLOON NUMBER	ITEM	PART NAME	QTY
1	Frame	Gated Frame	1
2	Frame	Standard Frame	1
3	Frame	Frame	2
4	Frame	Guardrail Frame	1
5	Brace	Horizontal Brace	5
6	Brace	Diagonal Brace (Platform)	2
7	Brace	Diagonal Brace (Stabilisers)	1
8	Stabiliser	TW01- Long Stair Leg Frame	1
9	Stabiliser	TW01- Short Stair Leg Frame	1
10	Platform	Main Platform	1
11	Platform	Platform	2
12	Toe Board	Side Toe Board LH	1
13	Toe Board	Side Toe Board RH	1
14	Toe Board	Rear Toe Board	3
15	Toe Board	End Toe Board	1
16	Legs + Castors	Adjustable Leg and Swivel Braking Castor	4
17	Legs + Baseplates	Adjustable Leg and Baseplate Foot	2



Certificate number 14470
"The design, manufacture, modification and Management of onsite activities including repair and installation of bespoke platforms in aluminium, mild steel and glass fibre reinforced plastic. The sales of outsourced working at height equipment".

George Roberts
Total Reliability of Supply

Taylor Wimpey

Drawn by Michael H	Checked by DH	Client Approval by	Date 14/03/18	Issue Date 14/03/18
Description TW01 Platform (Straight Staircase)		Safe Working Load 250Kg		Status For Information
Client George Roberts/Taylor Wimpey		Drawing Number GP/GR/5282 (TW01Straight'S'Case) Pg2 F.L.		Revision B

NOTE: The Platform can also be used as an independent Aluminium Access Tower once the over-stair section has been removed.

7.1.6 BALCONY OPENINGS / WINDOWS WITH LOW CILLS (Fall Protection)

Where there is a risk of falling from a balcony opening or window opening i.e., window with a low sill, then suitable fall protection must be in place.



Fall protection e.g., scaffolding must be fitted externally to allow the safe installation of the balcony doors i.e., doors / windows fitted before the scaffold is struck.

If the external scaffold is removed prior to the balcony door/window being installed, then suitable fall protection must be in place e.g., scaffolding or tower.



Where balcony doors are fitted and balcony with full (edge protection) not installed:

- Door must be kept locked; and
- Keys must be kept securely by Site Management Team in a small lockable 'key safe' and only issued when fall / edge protection measures in place.



7.1.7 FLOOR OPENINGS (Fall Protection)

Where there is a risk of falling through a floor opening, e.g., lift shaft, smoke or service risers, etc. suitable fall protection must be provided.



Lift shaft protected with proprietary full height safety gates



Service risers: fall protection provided e.g. by a secured cover placed over the opening

7.1.8 LOW LEVEL ACCESS EQUIPMENT

Where low-level access equipment is required, it must be suitable for the task, e.g.:

- Proprietary hop-up platform/podium steps
- Mobile towers
- Step ladders, or
- Stilts

PROPRIETARY HOP-UP PLATFORMS AND PODIUM STEPS



Proprietary hop-up platforms or podium steps can provide a suitable and safe low-level platform for working at height and for short term tasks e.g. electrical and mechanical installations from first fix to testing and commissioning.



Users to:

- Be briefed/instructed on their correct use and assembly
- Use only on stable and level floors or platforms, such as concrete/timber floors
- Carry out a daily pre-use check (including feet, locking devices and gates); and
- Inspect and record the Hop-up in the [Work Equipment and Lifting Equipment Folder 2 F2.7](#) (see [section 1.4.2.3](#))

NOTE: Hop ups must not be used adjacent to stairwells or other protected leading edge if no integrated handrail fitted as this would place the user at risk of falling over the edge protection

MOBILE TOWERS

Alloy mobile scaffolding towers can provide a suitable platform for working at a height and for short-term tasks e.g. plaster-boarding or taping ceilings.



Familiarisation briefing / instruction / training must be provided to users on safe installation, use and inspection

e.g.:

- Any operative assembling, modifying or dismantling mobile towers must be PASMA trained and have manufacturer's instructions on systems being used. In addition, any operative working on the mobile tower must be briefed on its safe use including:
- Method of access/egress
- Locking of wheels when in use
- Any restrictions on the loading of materials/tools
- How to move the mobile tower as work progresses

User Checks:

- Situated on a stable and level floor or platform i.e. internal floor or external hardstanding
- Before first use and during use; and
- Inspected and recorded in the [Working Platform/Scaffold Inspection Record Sheet \(Construction HSE Plan – Folder 2 - F2.6\)](#) – (see [section 1.4.3](#)). Note: each tower must have an identification mark to assist with inspection records.
- Site Management and operatives to monitor during use

Delta Deck [height adjustable]

Systems available from:

Safety Platforms Ltd

Unit V4, Carlinghow Mills

501 Bradford Road

Batley,

WF17 8LN.

Tel: 01924 420820

Fax: 01924 420830

www.safetyplatforms.co.uk

STEP LADDERS



Short term work (up to 30 minutes);

Light work (e.g. materials or tools up to 10kg and of manageable size and length); and

Inspected and recorded in the [Work Equipment and Lifting Equipment Folder 2 F2.7 \(Construction HSE Plan – Folder 2 - F2.7\)](#) – (see [section 1.4.3](#))

Note: if multiple sets, each set must have an identification mark to assist the inspection records.

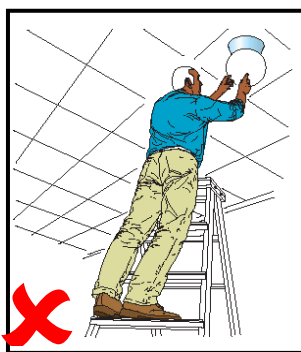
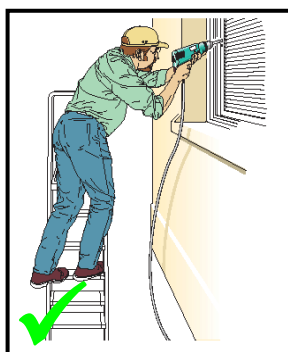
Only the following may be used on Taylor Wimpey sites

Metal steps	EN 131	(150kg duty)
Wooden steps	EN 131	(150kg duty)
Fibreglass steps	EN 131	(150kg duty)
Non-Professional (i.e. Domestic use) Stepladders are not allowed on Taylor Wimpey sites		

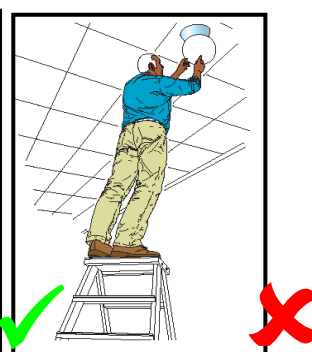
Basic precautions are shown below:



Avoid side-on working



Do not work off the top two steps
you have a safe handhold



STILTS



Users to:

- Be briefed on their use
- Have a suitable Risk Assessment for their use and maintenance
- Regularly check that the work area is clear of trip hazards and openings
- Check the stilts before use and regularly during use to ensure all straps and moving parts are in good order and the stilts are generally fit for the task **(If not, they must be taken out of use immediately);** and
- Inspect and record in the [Work Equipment and Lifting Equipment Folder 2 F2.7 \(Construction HSE Plan – Folder 2 - F2.7\)](#) – (see [section 1.4.2.3](#)). Note: if multiple sets, each set must have an identification mark to assist the inspection records.

Note: Stilts must only be used on a flat even surface, never on stairs slopes or adjacent to stairs or leading edges.

7.1.9 GENERAL HOUSEKEEPING – SLIP AND TRIP PREVENTION



Work areas must be kept clear of excessive debris and surplus material:

- To prevent slips trips and falls; and
- Minimise the risk of fire Operatives are to:
- Keep access routes clear
- Clear up materials and tools regularly
- Store materials and tools away from access routes; and Secure cables, radiator tails and leads to prevent trip hazards.



Site Management teams, as part of their regular site inspections / walkabouts, must check to ensure that trades are leaving their work areas clear of debris and safe for others following. If not, ask the contractors to clean up or alternatively arrange for the General Site Operative to clear the area before other trades follow.

7.1.10 SAFE HANDLING AND STORAGE OF DOORS

To prevent injury from either the manual handling or storage of doors, the following controls are to be adopted:



All doors delivered to site must have the required 'weight warning sticker' attached

- No 'weight warning sticker' – delivery of items/s not to be accepted
- Maximise use of mechanical lifting (telehandler) when off-loading and transporting doors around site
- Manual handling to be restricted to:
- Placing doors in storage containers
- 'Loading out' into houses and apartments
- Ensure adequate number of operatives available to safely handle the doors; and
- Doors to be stored safely by laying flat, or if stored vertically, be placed at correct angle. Do not store on smooth surfaces.



7.1.11 TEMPORARY ACCESS AND TASK LIGHTING E.G. APARTMENT BLOCKS

Access and Emergency Lighting

Taylor Wimpey is responsible for providing temporary access and emergency escape lighting in all communal areas of apartment buildings, e.g., corridors, stairwells, lobbies, and basements, etc.

When providing temporary lighting, consider the following:

- Include an emergency back-up system where power failure would present a hazard, i.e., poor visibility
- Avoid trailing cables (trip hazards);
- Avoid obstructions from equipment e.g. transformer boxes;
- Installed by a trained and certified electrical contractor; and
- Tested and checked weekly with records held on site by the Site Manager.



Good positioning of transformer to avoid obstruction in access route.



No trailing cables in the stair core.



Examples of good cable management:

Cables suspended using proprietary hooks to prevent trailing cables on floor area.

Task Lighting



Contractors are responsible for providing task lighting to enable them to carry out their tasks/activities

Taylor Wimpey is responsible for providing suitable power outlets adjacent to apartments for the Contractors to use

Power outlets to be located to avoid trailing cables/leads in the corridors, etc.

7.2 FIRE ARRANGEMENTS

7.2.1 INTRODUCTION

The potential for an accidental fire for traditional construction is greatest during the fit-out and finishing stages (for Timber Frame see [section 11.5](#)). The following controls must be in place:

COMPANY NAME:		
FIRE SAFETY PLAN AND CHECKLIST		
SITE NAME:		
Before work starts, Site Manager to complete this plan/checklist and attach a site layout plan showing position of fire points and assembly points.		
Fire Precautions		
LEVEL 1: for detached, semi-detached and terraced housing	Details	Action / Review
Access for Emergency Services		
Assembly points and signs		
Fire extinguishers in office, welfare, compound and fuel storage areas		
Fire points in each build area		
Register of fire equipment and test certificates completed		
Site fire hydrants marked clearly, painted and kept accessible		
Authority to Proceed for Hot Works		
Liaison with Emergency Services		
Smoking banned within units		
Rubbish control (good housekeeping)		
Emergency telephone procedure		
LPG and flammable security stored		
No burning of any waste materials on site		
If Timber frame:		
Fire points for every 6 plots under construction (until internal/external cladding completed)		
Fire resistant scaffolding bases		
Early fitting of doors and windows (or 'blocked off')		
For LEVEL 2 (higher risk situations: e.g. multi-storey and apartments) also include:		
Push button (linked horn / 'howler' alarm – audible in all parts of building)		
Clearly signed exit and escape routes		
Fire points on each floor of each stair case		
Consider:		
Fire Drills / Liaison with Fire Authorities		
Fire exits signs and emergency lighting		
Storage of flammable materials		
Additional training requirements		
Fire HSE Co-ordinator		
Additional Security		
If Timber frame:		
Additional fire points along long corridors to be considered		
A minimum of 2 emergency escape routes per floor e.g. the main stairwells and a designated opening onto the scaffold		
Enhanced boundary fencing		
Enhanced on-site security (personnel), particularly when frame is under construction and unclad		
Consider security supported with Infra-Red Beam systems, etc.		
Sacrificial fire breaks in long blocks (e.g. tack on plasterboard)		
Consider alternatives to hot works		

Fire Safety Plan and Checklist (Construction HSE Plan – Folder 2, F2.12):

- This outlines what you need and where
- Is completed before work starts; and
- Reviewed to include changes on site e.g., new build phase or apartment block.

Notes:

- Level 1: detached, semi-detached and terraced housing.
- Level 2: higher risk situations, e.g., multi storey and apartments.
- See section 2.9 Fire Precautions on Site.



Information and Fire Fighting Equipment to be provided that includes:

- Site layout / escape plan (where necessary);
- Fire Action Notice
- Means of raising the alarm
- If Level 2: Push button alarm / air horn / 'howler';
- Linked alarms for apartments
- Water and CO² Extinguishers; and
- If equipment located outdoors, a weatherproof cabinet, 500mm raised off the ground.

Control of Hot Works

See [section 2.9.5 - Authority to Proceed – Hot Works](#) (Construction HSE Plan – Folder 2, F2.13).

7.2.2 PORTABLE HEATERS

Use of portable heaters, for drying out properties during construction, must be:

- Used in accordance with the manufacturer's instructions;
- Used in areas free of debris and flammable material;
- Checked before use;
- Inspected once per week, e.g. gas valve connections, etc., and recorded in the [Work Equipment and Lifting Equipment Folder 2 F2.7 \(Construction HSE Plan – Folder 2 - F2.7\)](#) – (see [section 1.4.3](#));



Torpedo: Powered by LPG or electricity.

Requires good ventilation to prevent carbon monoxide build up.

High heat output - contact risk to be controlled by segregation from equipment.



Bin Heater: Powered by LPG.

Requires good ventilation to prevent carbon monoxide build up.

High heat output - contact risk to be controlled by segregation.



Red Rad: Powered by 110-volt electricity.



Radiant Cabinet: Powered by LPG.

Must have an integrated oxygen depletion sensor which triggers shutdown before carbon monoxide can build up.



Catalytic Cabinet: Powered by LPG but no naked flame.

Must have an integrated oxygen depletion sensor which triggers shutdown before carbon monoxide can build up.



Note: If an appliance is fuelled by LPG via a tube i.e. not an integrated part of the appliance such as a radiant cabinet, the gas cylinder must be kept outside as any damage to the cylinder, hose or regulator valve could cause a leak and build-up of gas. Long feed pipes are to be specified with the heater order.

7.3 ELECTRICITY IN PLOTS

The mains power supply to a plot should not be energised and commissioned until all the related 'final fix' work has been completed. However, it may be required to energise specific circuits before final fix e.g. for heating and lighting (wet/dark weather conditions).

7.3.1 PARTIAL ENERGISATION PROCEDURE

Where early energisation of heating and / or lighting is required, the Site Manager requests the electrical contractor to energise the specific circuits using the [Energise a Circuit Request Form \(Construction HSE Plan - Folder 2, F2.28\)](#).

COMPANY NAME:									
ENERGISE A CIRCUIT REQUEST									
SITE NAME:									
<i>(limited to the lighting circuit or, in the case limited to the lighting circuit or, in the case limited to the lighting circuit, in the case)</i>									
PART A: ENERGISE A CIRCUIT REQUEST To be completed by Site Management Team									
Plot Number	<input type="text"/>								
Circuit(s):	<input type="text"/>								
<i>*This must be limited to the lighting circuit or, in the case of heating, to the boiler circuit and only if on a separate circuit.</i>									
Site Manager:	<input type="text"/>								
Signature:	<input type="text"/> Date: <input type="text"/>								
PART B: DECLARATION OF INITIAL VERIFICATION To be completed by Site Electrician									
Electrical Contractor:	<input type="text"/>								
Action taken:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%; padding: 5px;">1. Circuit/s requested switched on</td> <td style="width: 30%;"></td> </tr> <tr> <td style="padding: 5px;">2. All other circuit switched off</td> <td></td> </tr> <tr> <td style="padding: 5px;">3. Consumer unit box locked off</td> <td></td> </tr> <tr> <td style="padding: 5px;">4. Signs displayed</td> <td></td> </tr> </table>	1. Circuit/s requested switched on		2. All other circuit switched off		3. Consumer unit box locked off		4. Signs displayed	
1. Circuit/s requested switched on									
2. All other circuit switched off									
3. Consumer unit box locked off									
4. Signs displayed									
Comments:	<input style="height: 100px;" type="text"/>								
Name:	<input type="text"/>								
Signature:	<input type="text"/> Date: <input type="text"/>								

Part A: - request completed by the Site Manager.

Part B: - initial verification and confirmation completed by the Electrical Contractor

Note: Only the circuit(s) requested to be energised is to be switched on and the consumer unit must be 'locked-out' during the work.

7.3.2 ISOLATION PROCEDURE

The two situations where the consumer unit must be locked and tagged to prevent unauthorised access are:

- Where the unit is partially energised for heating and lighting and all other circuits isolated; and
- For remedial work e.g., replacing tiles adjacent to a power socket which must be isolated at the consumer unit.



Note: Where the consumer unit is 'final fixed' and the electrical installation is fully tested and certificated and all remedial work is complete and home ready for the final inspection, there is no requirement to lock the consumer unit. (The lock must be removed before the home is passed over to the customer.)

7.3.3 ELECTRICAL CUPBOARDS AND RISERS IN APARTMENT BUILDINGS

All electrical cupboards risers in apartment blocks must be secured to prevent unauthorised access



Cupboard/Riser Security

Cupboard/Riser to be secured with a temporary or permanent access door that is kept locked when electrical operatives are not working in these areas

A suitable warning sign must be displayed

Keys are retained by the Electrical Contractor

Electrical Security

Once energised the main distribution board must be locked-off as well as the supplies to individual apartments, with the keys retained by the Electrical Contractor

For partial energisation, see [Section 7.3.1](#)



Isolation Procedure

The appropriate circuits/apartments must be isolated prior to working on or near these services, such as to remove face plates or hardwiring electrical appliances.

The Electrical Contractor must detail in their safe system of work of how they manage and control any electrical isolation



7.3.4 LIGHTING

ACCESS TO LIGHTING (Changing Bulbs)

To reduce the risk of customers slipping or falling during routine bulb replacement, light fittings are not generally installed above 2.8m from finished floor level. This includes:

- Pendant lights
- Recessed downlights; and
- Surface mounted lights.

If the floor to ceiling height exceeds 2.8m, an assessment of lighting (and replacing bulbs, etc.) must be made by the Technical Team (with input from a Technical Manager / Production Director / Manager if necessary) and recorded in the design risk reviews.



Downlighters

May only be installed to a design provided by Technical. This must show location to avoid downlighters being placed adjacent to floor timbers.



Recessed Downlighters

In all cases a 'Recessed Downlighter Layout Design and Specification' for the plot must be available to the installer and the Site Management team.

Note: insulation separator in TW specified recessed downlighter (Deta 4.5 W Lamp) must be used.

Uplighters on a vaulted ceiling

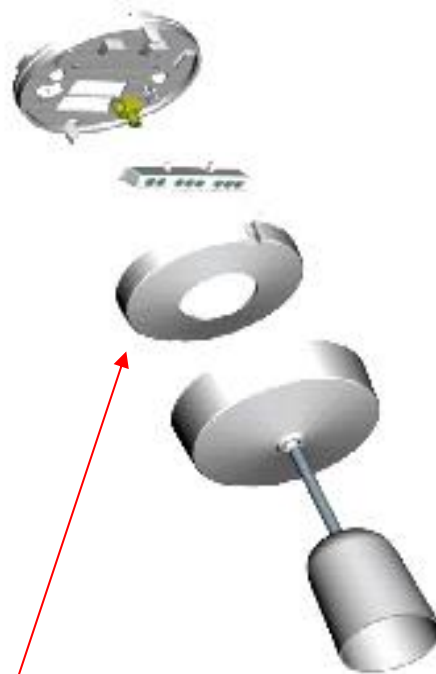
To avoid customer access issues, uplighters to vaulted ceilings must be fixed at low level.

Long pendant from vaulted ceiling

Ensure suitable access is provided for the electrician to install e.g., podium step or mobile towers (**not** step ladders).

7.3.5 THE DETA CEILING PENDANT

The DETA Ceiling Pendant, incorporating an additional 'paint cover' over the live terminals, must be used. The light switches must have been fitted before painting and the painters are to cut in the paintwork around them without loosening the fittings from the wall surface.



An additional 'paint cover' hides live terminals to allow safe painting whilst light is on

7.3.6 ELECTRICAL INSPECTIONS AND TESTING

For temporary electrical systems (e.g., show area, compound, and apartments) the test certificates must be retained in [Folder 3 Section 10](#) including:

- The initial inspection / commissioning certificate; and
- The periodic inspection certificates (12 months).

For the temporary electrical supply to apartment buildings, the electrical contractor must maintain a plan showing the temporary cable routes.

The required electrical testing and inspection programme is set out in the following table.

Testing of Electrical Equipment

Note – only 110v equipment to be used on a TW site.

Equipment/Application	User Check	Formal Visual Check	Combined inspection and test
RCDs and cables to Site cabins	Weekly check and RCD test	Every 3 months	Before first use on site and then every 12 months
RCDs and cables to Silo	Weekly check and RCD test		Before first use on site and then every 3 months
Equipment in site offices	Monthly		Before first use on site and then every 12 months
Show area. Main installation and all electrical equipment within	Monthly		Before first use on site and then every 12 months
Information technology, desktop computers, VDU screens	No	Yes, 2 – 4 years	No if double insulated – otherwise up to 5 years
Photocopiers, fax machines	No	Yes, 2 – 4 years	No
Double insulated equipment: NOT handheld, moved occasionally, fans, table lamps, slide projectors	No	Yes, 2 – 4 years	No
Double insulated equipment: HAND-HELD some floor cleaners	Yes	Yes, 6 months to 1 year	No
Earthed equipment (class 1) electric kettles, some floor cleaners	Yes	Yes, 6 months to 1 year	Yes, 1 – 2 years
Cables (leads) and plugs connected to the above, extension leads (mains voltage)	Yes	Yes, 6 months – 4 years depending on the type of equipment it is connected to	Yes, 1 – 5 years depending on the type of equipment it is connected to

General Guidance on Electrical Installations

Fixed Installations	<ul style="list-style-type: none"> -Correct supply rating -Correct rating of fuses, switchgear, earthing -Suitable cabinets to protect from weather, moisture etc. -Correctly labelled -Tested before use & at appropriate intervals <p>FIXED WIRING OR INSTALLATIONS SHOULD ONLY BE WORKED ON BY A SUITABLY COMPETENT ELECTRICIAN</p>
Generators	<p>Package (>10kVA)</p> <ul style="list-style-type: none"> -Supply offices, compounds, sales areas -Supplied/maintained on contract basis -Connect to tested fixed installations and earth/bond properly <p>Small Portable (<5kVA)</p> <ul style="list-style-type: none"> -Use outdoors ONLY to power 110v/double insulated equipment
Protective Devices	<ul style="list-style-type: none"> -Fixed installations should have individual isolators (e.g. suitable plugs/sockets) -Protection via RCDs (residual current devices) -Use 30mA RCDs for personnel protection -Fuses/MCBs NOT considered adequate protection against electric shock
Portable Tools	<ul style="list-style-type: none"> -Normal site requirement = 110v / battery operated tools -Install a 110v building supply in communal areas of apartment blocks -Minimise trailing cables and route safely -Make a formal visual check at least once a month
Temporary Lighting	<ul style="list-style-type: none"> -Should be 110v -Fit flood/spotlights with glass covers -Festoon lighting not recommended (but fit protective covers if using) -Temporary strip lights in communal areas of apartment blocks -Minimise trailing cables and route safely
Consumer Units/Supplies	<ul style="list-style-type: none"> -Only electricians should turn on power after 2nd fix electrics completed -No exposed cables to be left -Completed test certificates; copies to Site Manager -Isolate power to fittings/sockets prior to tiling

Note: Adequate lighting must be provided throughout the work area, including where specific tasks require additional or emergency lighting.

7.4 WORKING WITH GAS

7.4.1 GAS ENGINEERS

Before permitting any gas work on site, the Site Manager must see evidence of the gas engineer's Gas Safe Register ID card and check that it covers the work to be carried out and take a copy of both sides of the card (Record).

Includes tasks such as:

- First fix works, for example the installation of pipework for boilers, kitchen appliances (cookers and hobs) and gas fires; and
- Installation, testing and commissioning of central heating boilers, gas fires, etc. The Gas Engineer must hold a Combustion Performance Analysis CPA 1 Qualification on their card.

Gas Engineer's Gas Safe Register ID card



The front of the Card

- The photo
- The start date and expiry date
- The licence numbers
- The security hologram

The back of the Card

- The Gas Engineer is qualified to do the required gas work, i.e. pipework, central heating boilers, cookers, gas fires, commissioning a system, etc.

Important notes:

- For any commissioning work on central heating boilers, fires or space heaters, the gas engineer's card must indicate they hold a Combustion Performance Analysis CPA 1 qualification - normally marked on the card as 'Comb Analysis'.
- If there is no confirmation that there is a current appropriate qualification, the Gas Engineer must not be permitted to start (or continue) work on site. Contact your Regional HSE Advisor immediately.

7.4.2 GAS APPLIANCES

All Stock Homes / Apartments must have an annual inspection/service of all gas appliances, including any boilers and their associated flues systems, gas hobs and ovens and gas decorative fires.



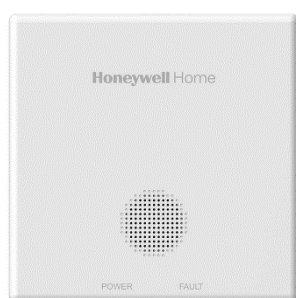
Gas Appliances to be serviced:

- When first commissioned;
- Before handover to a client if more than 3 months since last service;
- Annually if still not handed over; and
- Boiler sticker (regarding date of next service) to be affixed to boiler cabinet.



7.4.3 CARBON MONOXIDE (CO) ALARMS

All properties with gas fittings must be fitted with a CO Alarm(s) in accordance with the latest manufacturer's instructions. Each room with a gas fitting e.g., boiler, cooker or fire, must be fitted with its own alarm in the room the appliance is located. CO Alarms can be either battery powered or hard wired. Where battery powered units are being used, these must be the Honeywell XC100.



Honeywell R200



DETA 1121



Fire Angel CW1-PF-T

Alarm Located	Alarm NOT Located
<ul style="list-style-type: none">• Wall mounted• Above any door or window opening• At least 150mm below the ceiling; and• Within 1 to 3m horizontal distance of the appliance.	<ul style="list-style-type: none">• In a store/cupboard• Directly above a sink/cooker• Next to a door/window or anywhere that could be affected by draughts

Note: it is the gas safe engineer's responsibility to determine the correct location for CO alarms. The Site Manager must ensure that the gas engineer has been consulted re location.

During 'familiarisation' the Site Manager will demonstrate to the customer how the alarm is tested and emphasise the importance of regular testing.

7.4.4 GAS HOB AND OVEN PIPEWORK IN KITCHEN UNITS

During first fixing of gas installations, consideration must be given to:

- The positioning of the pipe work; and
- Access to the gas isolation valve.



An example of good practice – the pipe work and isolation valve placed at high level, clear of interference from drawers, stored items, etc.

The pipe work must be located to prevent interference / impact from items being stored in the unit.

Where the gas feed for the hob runs through the oven housing, care must be taken with regards to the location of the pipe and adequate space left for housing the oven.



Only once all appliances (Gas or Electric) have been installed in the house can the final Gas Soundness / Safety test (and issuing of the Gas Safe Certificate) be carried out.

7.5 FIXTURES AND FITTINGS

7.5.1 STABILITY OF FIXTURES AND FITTINGS

All heavy fixtures and fittings must be securely fixed to the wall using details specified in the manufacturer's instructions (see [section 10.1.10 & 11](#)).

Modular, stone, or artificial stone fireplaces are an example of where individual components can exceed 50kg in weight. Toppling of the unit, if not secured adequately, could potentially be caused by the passive weight of heavy items placed on projecting mantels or by a person, such as a child, pulling on or hanging from the mantel.

Note: mortar bonding is not sufficient. Mechanical fixings to manufacturer's instructions must be provided:



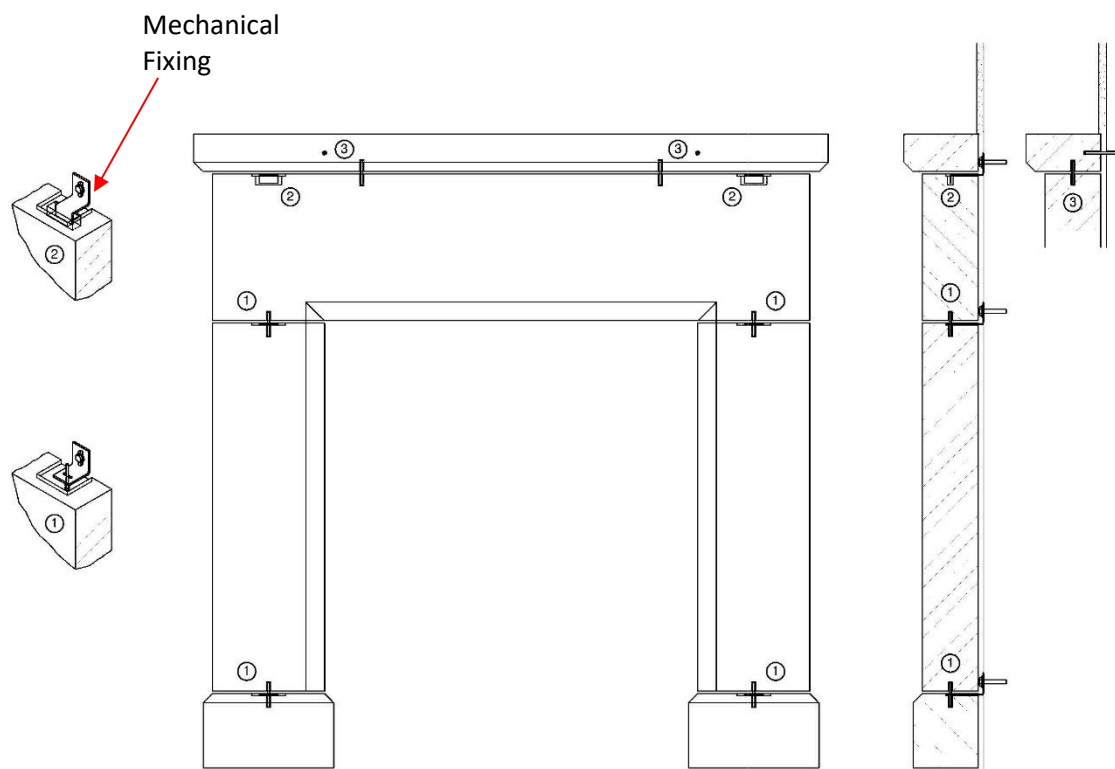
Ensure that there are fixing instructions provided with any such fixtures and fittings appropriate to the wall type e.g., large / heavy fireplace surround

Ensure that they are followed by the installer; and

Obtain confirmation of this from the installer for each such installation. This must be as a minimum, photographs of the fixings in-situ securing the surround and the photographs placed in the plot-file as evidence of mechanical fixings being used.

Typical Fixing detail for a Modular Stone Fireplace Surround

(see fixtures and fittings guide 'fireplace Surrounds' available on [inHouse](#))



7.5.2 RADIATOR FIXINGS


When fixing radiators to plasterboard walls, consideration must be given to the type of fixings used to secure the radiator brackets.

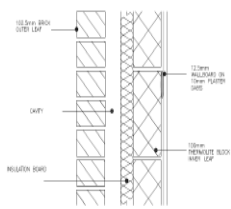


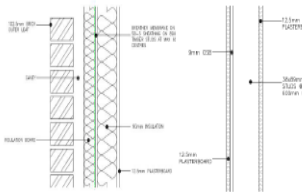

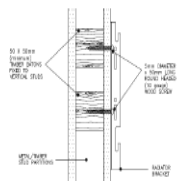

The installer must be able to provide evidence that fixings being used have been assessed and verified as suitable for the radiator (wet weight), brackets and the fixing background.

Guidance available that gives details of:

- The various fixing backgrounds encountered in our standard house types;
- The recommended fixing to be used and the load carried; and
- Table of radiators weights (wet weight Kg) for our standard Stelrad radiator range.

Note: most of our standard radiators have a wet weight below 40kg. If radiators above 40kg are being installed, an additional fixing must be used at the top of the radiator bracket (i.e., three fixings per bracket).

Under no circumstances can lightweight plaster fixings such as, Rawl 'self-drive' or Screwfix Rayfix fixings be used to mount radiators (see 'Radiator Fixing' guidance available on )

Fixing Background	Recommended fixing (Two fixings per bracket as per manufacturer's guidance and two brackets per radiator)	Shear and tension value	✓/X
 <p>Block detail</p>	 <p>Frame fixings Hilti HRD-H 10x80 / Fischer SKRFUS10x80 or equal</p>	<p>Frame fixing to Lightweight block minimum 50mm in to blockwork: 14 kg shear/tension load per fixing</p> <p>Frame fixing to Dense Concrete block minimum 50mm in to blockwork: 40 kg shear/tension load per fixing</p>	✓
	 <p>Rawl plug Uno or equal with 80mm number 10 wood screw</p>	<p>Screw and rawl plug Uno to Lightweight block minimum 50mm in to the blockwork: 17 kg shear/tension load per fixing</p> <p>Screw and rawl plug Uno to Dense Concrete block minimum 50mm into the blockwork: 49 kg shear/tension load per fixing</p>	✓
 <p>12.5mm Plasterboard Timber Frame internal 12.5mm Plasterboard internal partitions</p>	 <p>Cavity anchor/ cavity toggle</p>	<p>Hilti HHDS cavity anchor/toggle or equal 20 kg tension load per fixing and 50 kg shear load per fixing for 12.5mm plasterboard</p>	✓
	 <p>10GA x 50mm roundhead wood screw on to timber baton</p>	<p>10GA x 50mm woodscrew in to 50mm timber baton – Tension load 62.8 kg per fixing, 79.23kg shear load per fixing</p> <p>10GA x 35mm woodscrew in to 25mm thick timber baton – Tension load of 32.93kg per fixing, 29.26kg shear load per fixing</p> <p>8GA x 35mm wood screw in to 25mm thick timber baton – Tension load of 26.3kg per fixing, 29.26kg shear load per fixing</p>	✓
 <p>Rawl self drive fixings Screwfix Rayfix</p>		<p>Lightweight plasterboard fixings such as Rawl DRA 'self-drive' fixings, 'tap-in' driven fixings (plastic or metal) or Rayfix plasterboard fixings must not be used under any circumstances.</p>	X

7.5.3 WALL MOUNTED KITCHEN UNIT FIXINGS

When fixing wall-mounted kitchen units, consideration must be given to the type of fixings used to secure the units.

Prior to authorising kitchen fit out, the kitchen unit installer must provide to the site manager:

- Details of the specific wall-mounted unit fixing detail; which must include;
- Method of installation and specific fixing system for securing the units to specific backgrounds.
- Details of the fixings

Our current suppliers have provided details below with regards to their specific fixing system (see table below).

Note: if the detail in the table does not match the fixing / background and a suitable alternative detail / fixing has been provided or no fixing detail is provided by the installer or the installer does not have the prescribed fixings - the kitchen fit-out **must not** proceed.

KITCHEN SUPPLIER WALL UNIT FIXING SPECIFICATION		
SUPPLIER	SUBSTRATE	
	TIMBER/METAL PARTITIONS Fitted with noggins/pattresses as instructed	BLOCK AND BRICK Dot/dab
MOORES	(Bracket system)	(Bracket system)
	50mm No. 10 screws Minimum <u>two</u> fixings per bracket	75mm No.10 screws Minimum <u>two</u> fixings per bracket Rawl plug uno or equivalent Minimum 45mm plug and screw contact within block/brick
	(Fixed through cabinet rail)	(Fixed through cabinet rail)
	75mm No.10 screws	90mm No.10 screws Rawl plug uno or equivalent Minimum 45mm plug screw contact within block/brick
	When fixing through rail units up to 600mm wide Two fixings top rail/two bottom rail. Units over 600mm three fixings to top rail/two bottom rail	
MANHATTAN/PAULA ROSA	(Bracket system)	(Bracket system)
	50mm No..10 screws Minimum two fixings per bracket	75mm No.10 screws Minimum two fixings per bracket Rawl plug uno or equivalent Minimum 60mm plug and screw contact within block/brick
SYMPHONY	(Bracket system)	(Bracket system)
	75mm No.10 screws Minimum two fixings per bracket	100mm No.10 screw Minimum two fixings per bracket Rawl plug uno or equivalent Minimum 50mm plug and screw contact within block/brick
Plasterboard fixings or cavity anchors must not be used under any circumstances		

7.5.4 FITTING STAINLESS STEEL SINKS

When fitting stainless steel sinks, there may be sharp edges around the waste outlet. To control the risk of cuts:



- All stainless-steel sinks will be supplied with a protective rubber grommet fitted round the waste outlet (those provided without the protective grommet in place to be returned to supplier); and
- After removing the protective grommet e.g. when fitting the sink waste, cut resistant gloves must be worn when working with the sink unit.



7.5.5 DROP DOWN LOFT HATCHES



All drop down loft hatch are delivered with two green 'blockers' that must be fitted as the final part of the hatch installation, (each Drop down Loft Hatch comes with fitting instructions attached). Once the blockers are fitted, the loft hatch door cannot be removed - except by removing the two 'blocker' retaining screws and releasing both blockers.

7.5.6 FREE STANDING WALL HUNG BASINS

When fixing wall hung basins consideration must be given to the type of fixings used to secure the units. Prior to the site manager authorising the installation of these units the installer must provide a fixing detail that includes details of the fixings to be used including number, location and details of any specific backgrounds (pattresses)



7.6 EXTERNAL FINISHING TRADES

7.6.1 PROGRESSIVE SCAFFOLD STRIP

Wherever possible, finishing of external works at height **must** be carried out from the main scaffold. This will necessitate progressive stripping of the scaffold and must be considered when planning the works. Typical tasks that could be carried out from the main scaffold include:



- Installing balconies;
- Vertical tile hanging;
- Rainwater downpipes;
- Mastic pointing to windows;
- Cleaning, painting, snagging;
- Installing roof and high-level aerials;
- Core Drilling;
- Pointing putlog holes; and
- Installing vents, alarm boxes, outside lights, etc.

Where unavoidable, alternatives such as mobile towers (see [section 5.2 & 7.1.8](#)). MEWPS (see [section 8.4](#)), or ladders (see [section 5.3](#)) can be used.

7.6.2 CORE DRILLING



Where core drilling cannot be undertaken from the external scaffold, a proprietary Scaffold Tower or Podium steps must be used.

NOTE: core drilling must not be carried out from a standard ladder or step ladder.

Where aluminium scaffold towers are being used to carry out external works consideration must be given to the ground conditions. These towers can only be used on a prepared hard standing i.e. a tarmac driveway, paved area, level-compacted stoned area etc.

7.6.3 CHEMICAL CLEANING OF BRICKWORK/STONEWORK

Where chemical cleaning of external brickwork is required, this is carried out by the application of a dilute solution of hydrochloric acid (8-10%) applied by brush or sprayed on. The acid breaks down the cement base and the residue is then removed by power washing with clean water.

The application must only be for the severely stained areas (i.e. spot application). Full areas **must** not be randomly covered.

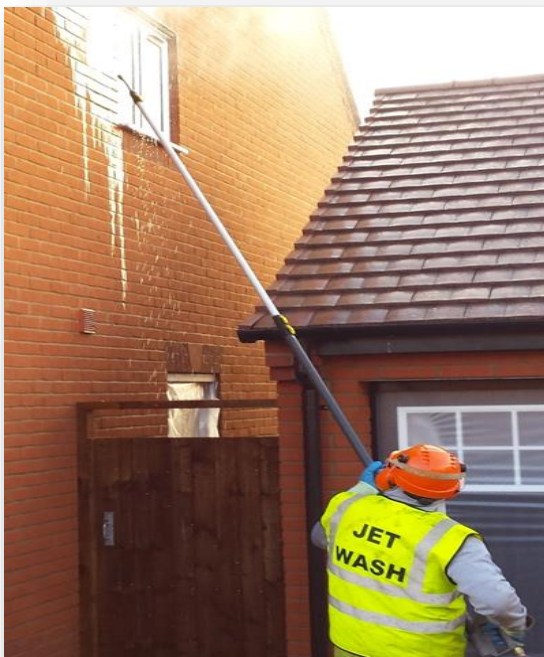
The acid must not be brought to site if more than 10% concentration and must be stored in clearly labelled containers. The contractor must provide COSHH Assessments and detailed Product Data Sheets to the Site Manager before any chemical cleaning work commences.

Controls (must be noted in the Contractor's Safe System of Work)



Exclusion zone

- Establish a suitable exclusion zone;
- Display appropriate signs; and
- Inform other operatives (and homeowners where applicable) of the exclusion zone.



Suitable equipment and controls:

- Work from the ground or scaffold (no work to be carried out from ladders); and
- Extended lances must be used to reach high spots.

Personal Protective Equipment

- Waterproof gloves;
- Eye protection (face mask); and
- Waterproof overalls.

7.6.4 GATES

POWERED GATES (Electric)



Powered gates, particularly those operated remotely, can present a significant risk to pedestrians – especially children.

They may only be used on a TW site if:

- A full Design Risk Assessment has been carried out by the Technical Team assisted by Production and the Regional HSE Advisor, considering any trapping and/or crushing zones and the controls necessary to avoid entrapment.
- Details provided of the 'designed-in' safety features to prevent entrapment, etc.
- CE marked with a Declaration of Conformity issued by the manufacturer/supplier; and
- Confirmation of the agreed maintenance is available.

For further details see

- The DHF Powered Gate Group's [Code of Practice for the Design, Manufacture, Installation and Maintenance of Powered Gates and Traffic Barriers](#); and
- TW's Technical Bulletin on [Designing for Gates](#).

Both are available on 



MECHANICAL GATE

Only gates with specially designed hinges (prevent entrapment) must be used. Adequate safeguards, such as space between the gate post and pillar via hinge type, must be incorporated within the gate design and fitted to prevent entrapment.

See TW's Technical Bulletin on [Designing for Gates](#) for further details, available on 



Potential for child to trap and injure fingers between gatepost and pillar



Note the modified hinge with adequate space between gatepost and pillar

The Site Manager must check that any gates being installed on the site have hinges that have been designed to prevent entrapment.

Before installation, the Site Manager must have received, in writing, from the Technical or Commercial Departments, as appropriate, confirmation that the design and installation instructions are in compliance with the safeguards and guidance document listed above.

If you have any concerns relating to gates on your site (electrical or mechanical) – stop work immediately and contact your Regional HSE Advisor for advice.