Welcome to the Wetrooms Generic Industry Guide one in a series of Industry Guides which are available free of charge from the Bathroom Academy Web Site.

We have aimed to make the contents of the Guides both informative and relevant and hope you will consider them a valuable aid to your continuing professional development and that of your colleagues, within the Bathroom Industry.

Each guide has been written by experts and contains the same five elements:

- Right choice of product for end user needs
- Generic industry design
- Generic industry installation
- Frequently asked questions
- Generic industry terminology

The Wetrooms Generic Industry Guide looks at the vast range of wetrooms that are available and offers essential information which will allow the Retailer, Merchant and Installer to provide items best suited to the end user’s needs, whilst the customer’s major considerations will be cost, functionality, durability and aesthetics. It is also essential to consider a number of important additional factors; available space, storage requirements and the materials used to manufacture the furniture and its’ suitability and compatibility with the bathing and/or showering suite within the bathroom.

Other guides in the series are:

- Baths
- Bathroom Furniture
- Brassware
- Domestic Water Systems
- Sanitaryware and Fittings
- Shower Controls
- Shower Enclosures
- Shower Trays
- Thermostatic Mixing Valves

All guides will be downloadable free of charge from www.bathroom-academy.co.uk

How to gain evidence and recognition of your knowledge of Wetrooms.

Did you know that when you have studied the guide in detail you can apply to be assessed and tested on your new found knowledge and if successful, achieve the Wetrooms Bathroom Academy Merit?

To find out more about what you need to do to achieve this qualification go to: www.bathroom-academy.co.uk/courses.asp
Introduction

A modern wetroom is a waterproofed room which includes a showering space with a drain in the floor serving an open plan shower.

Wetrooms are said to have been invented by the ancient Greeks, refined by the Romans, taking a lead from the natural environment and inspired by waterfalls. Over the centuries, building technology, design capabilities and product development has allowed the 'wetroom' to evolve into a useful and often stylish design concept. A well thought out wetroom is a concept fully acceptable within the domestic, hospitality and institutional sectors.

The popularity of wetrooms has been driven by several factors, including:

- A growing desire for showering and the water saving that achieves.
- A desire for minimalistic design.
- The rise in a need for independent living and accessible showering.

For many years the level access shower has been a normal part of Continental European bathroom design, particularly in apartment buildings, where the 'floor drain' had the dual function of a shower drain fitting and a floor mounted overflow drain should a basin or bath (or even washing machine) overflow, thereby protecting the neighbours on the floor below. The trend to buildings of multiple occupancy has brought this dual purpose to Britain both in new build and in modernising older buildings, along with much of the technology needed to achieve it.

In recent British history, wetrooms were perceived as a solution for users with a disability or infirmity. Bathing under a walk-in (or wheeled chair) access shower was far easier for many older or handicapped people. Wetrooms were often only seen in hospitals and care homes. The change to care at home generated a trend for Local Authorities to convert a bathroom, by replacing the bath (which may have already been in use under a shower fitting) with a sloped floor to a drainage fitting. The bathroom was waterproofed by using flexible sheet flooring (usually PVC or rubber) which formed a watertight and decorative finish.

The late 1990s power of the ‘grey pound’, led to a desire for a level access shower space with a ‘designer’ rather than ‘institutional’ look. Tile, marble or stone were selected as finishes to both floor and wall. The showering space became integrated with the overall bathroom design. The key to a successful wetroom remains as an installation that ensures the drainage and water proofing is undertaken correctly using products backed by guarantees.

Features & Benefits

Wetrooms can maximise available space and if undertaken correctly can increase the value of a home. As life expectancy in the UK is rising faster than expected, with 90 years of age being the anticipated norm by 2030, many people look to ensure their home meets their current and future needs.

A wetroom is not only practical as we become less able, it is stylish, easy to clean and accessible, meeting the needs of all ages and members of the family. Wetrooms offer practical solutions and provide many features and benefits:

- Easy level accessible showering area for use by all
- Creates a spacious design-led room layout
- Creates a ‘wow’ factor in a home
- Easy to clean
- Creates an illusion of space in a small room
Section 1
Correct Choice of Components

The majority of homes can accommodate a wetroom, which can be either a separate shower room, but without a conventional shower tray and cubicle or part of a bigger bathroom, where the bath itself may be omitted to allow greater floor area to be integrated with the other bathroom fittings. However, a conventional British bathroom is small and may require, when converting to a wetroom, some form of screen to ensure the rest of the bathroom is kept dry.

The choice and availability of products in the market is extensive and suitable for all budgets. The key components are:

- **Water proofing to the floor, continuous with waterproofing to the walls in the showering area.** This may be applied by the following floor former methods:
  
  a) Liquid applied.
  
  b) Liquid applied, fabric supported.
  
  c) Sheet membrane material.
  
  d) Sheet membrane material with decoupling properties when used on timber.

- **A method of providing a slope to the shower drain.** There are many variations:
  
  a) A timber floor laid to falls on joists.
  
  b) A thin screed laid to falls on a timber floor.
  
  c) A cementitious screed laid to falls on a reinforced concrete slab or beam and block floor construction.
  
  d) A composite shower underlay e.g. rigid glass fibre supported resin/filler laid on joists or as part of a screed.
  
  e) A foam core shower underlay, normally finished with a cementitious coating to provide a ‘key’ for tiling, laid on joists or as part of a screed.
  
  f) Self-skinning PU foam shower tray laid on joists or as part of a screed where the top surface is the exposed showering area.
  
  g) A rigid enamelled cast-iron shower tray, laid on joists or as part of a screed where the top surface is the exposed showering area.
  
  h) A composite material fabricated or machined to form a shower tray laid on joists or as part of a screed where the top surface is the exposed showering area.
  
  i) Many manufacturers offer a slope-forming tray with a compatible drain, in many cases the tray being manufactured with a feature to accept that specific drain so that the drain assembly will be fully sealed into the overall floor.

- **Drainage capacity at least matching the shower input.** The drain can be either a ‘point’ with falls from 4 sides or to a channel which would normally have an unidirectional fall.

- Most ‘point’ drains with a small (usually metal) grating or cover (removable for cleaning) are manufactured in plastics and have been derived from those used in conventional shower trays. Their light weight makes them easier to use in timber construction but they can also be embedded in screeded floors.

  Cast metal point drains are heavier and more suited to solid floors, embedded in screed.

  Channel drains can be supplied as part of a tray/drain combination. That should ensure that the drain channel is fully sealed to the trays.

- **Shower valve, fixed shower head if desired, hose and handset.**

- **Water resistant floor finishing –** normally tile or stone of varying thickness, although sheet flooring and resin coatings can be used.

- **Water resistant wall covering –** normally tile or stone of varying thickness although there are other choices including rigid polymer sheet (such as PVC) or glass.

- **WC and basin, dependent on type of wetroom.**

- **Storage units**

- **Be sure that when ordering from separate suppliers that the components match and are compatible.**

- **It is important that the components, and other bathing equipment, meet product, building standards and meet current regulations.**

- Wetrooms often are found in larger showers, or en-suite bathrooms that include multiple outlets, and high volume water controls to create a luxury experience. It is vital to ensure the drain capacity is actively chosen, to ensure it can cope with the maximum water flow that will come from all of the shower head(s). This is because there is the potential for the room, or shower area to flood if the drain cannot handle the water flows demanded of it.
Section 2
Design and Installation

When designing a wetroom you should consider:

- Underfloor heating, providing background heat as well as helping dry out the floor after use
- Practical storage facilities – shelves and cupboards
- Hanging hooks and rails to allow storage for towels etc. away from the wet area
- Wall hung or back to wall sanitaryware for ease of cleaning
- Good ventilation to keep the room aired and aid the drying process following use
- Electrical requirements carefully placed away from the wet area and use of water resistant light fittings.

Wetrooms can be constructed using many different components and materials in a variety of ways but each should follow the basic principles. There are three types of floor to be considered and each one needs a slightly different approach:

a) Installation on timber construction, with the bearing surface (floorboards) fastened to joists

- The floor should be re-constructed, possibly incorporating one of the ‘floor formers’ described in Section 1 but in all cases incorporating a localised slope to ensure the showering area drains correctly. In a timber floor, it should be possible to install the showering area so that it forms a continuous extension of the rest of the bathroom floor. The term ‘level access’ is to avoid any step up into the showering area.
- A timber structure must be completely rigid if the finish is to be tile or stone – any movement will allow grout or the tile to crack. Floor formers are essentially available in two types being structural and non-structural. Where structural floor formers are used they can be fitted directly to joists without any further reinforcement and secured directly to joists. For non-structural floor formers, joint reinforcement and potentially Water and Boiling Proof (WBP) plywood should also be used depending upon the exact installation. The surface for the waterproofing, normally WBP plywood, a minimum 18mm thick, should be voids and screwed to the joists at 200mm intervals. Waterproof ‘decoupling’ membranes are recommended on timber substrates as the plywood will dry out and shrink over time.
- The drainage outlet must be installed correctly in the substrate in such a way that when finished the grate and frame are flush or up to 1 mm below the surrounding floor finish.
- Waterproofing should then be applied, following the manufacturers’ instructions, particularly for sealing joints, screw holes, the drain and any shower underlay used in the floor and the wall/floor junction. Corners are particularly vulnerable and need particular care.
- Polybutyl tapes are often used in conjunction with both liquid and membrane waterproofing – with the exception of rubberised bitumen membrane which can be sensitive to other chemicals and is best used independently. Successful waterproofing needs the floor to be clean of all dust and dirt, a primer, if one is specified by the waterproofing manufacturer, and as many coats of material and curing time as stated.
- The importance of the correct application of waterproofing cannot be over-emphasised. If at all possible, apply a flood-test to the room before tiling commences.
- It is equally important to fix tiles correctly, using water resistant adhesive and the correct grade of grout for a ‘wet area’.

b) Installation on solid inter-floors

- Many of the guidelines for timber floors are equally as important for floors of a concrete structure with insulation (thermal or acoustic) laid in conjunction with a screed.
- Pre-manufactured shower underlays are useful in creating the correct slope to the drainage point as they are on timber floors.
- For waterproofing apartment buildings where the floor is a party-wall, best practice is to tank the entire slab with a waterproofing system especially in new-build. Early coordination with the building designers is essential to allow this to be done.
- Early coordination with other trades is also needed so that the installation of the drainage outlet can be made in the correct sequence.
- If the entire floor slab has been tanked, the under tile waterproofing layer should not be omitted. If water from a shower penetrates the upper layer of waterproofing, the lower layer should contain it. In a centrally heated building, any water so trapped will evaporate via the micro-fissures in the grout/tile-bed which allowed its penetration. The aim is to create a ‘belts and braces’ installation that keeps all zones of the building dry.

c) Installation on solid ground floors

- In a typical installation on a solid ground floor, the ground floor is not a party-wall and will typically be mass concrete laid in a waterproof sheet which is to prevent ground water rising upwards rather than shower water penetrating the screed and slab.
- However, it is undesirable for water from a wetroom to penetrate to the screed or floor slab and therefore, the same method of under tile waterproofing should be used as in any other wetroom.

Basement Installations

A typical basement construction is far more at risk from ground-water penetration from the surrounding earth than water from a wetroom. Nevertheless, water should be prevented from penetrating the structure from the shower area by the correct use of under tile waterproofing as described above.

Early coordination is needed to route the shower waste pipe from the shower drain correctly: it may need to be routed vertically to under slab drainage.
Section 3
Further Installation Advice

Manufacturers Guarantees

Many manufacturers offer a guarantee with their wetroom components and it is very important to remember to:

- Register the guarantee
- Keep a copy of the guarantee in a safe place and pass to the client when the work has been completed.

Preparation Prior to Installation

Ensure all surfaces in the construction area are dry, solid, supportive and level, as well as free from oil, grease, dust and other separating layers.

Check that all of the parts required have been obtained and are included in the product packaging. Determine which additional equipment will be required prior to commencing the installation.

It is essential to check the product for defects, as many manufacturers do not resolve installation queries on damaged parts once the installation has been commenced/completed.

Please ensure you carefully read and follow the installation instructions provided by the manufacturer of the wetroom. Many installations that fail are not due to component failure. Guarantees rely on a level of competence to follow installation instructions.

Check that components are covered by current Standards and comply with Building Regulations.
Section 4
Frequently Asked Questions

Q: What size wetroom will a ‘tanking kit’ seal?
A: Careful consideration should be made to choose the appropriate tanking kit for the wetroom size planned.

Q: Should I tank the whole shower room or just the area where the shower is situated?
A: It is recommended to tank the whole floor with a turn up of 100mm on to the walls and all the way up the walls in the immediate shower area.

Q: Is the tanking system useful for waterproofing under tiles in a non-wetroom situation?
A: The manufacturer’s advice should be taken to check if it can be used under conventional shower trays in bathrooms, kitchens and toilets, where leaks from wet areas could also cause damage to the rooms below.

Q: What surfaces can the tanking system be applied to?
A: The manufacturer’s advice should be consulted to check the types of surface, including with primer or without primer but abraded, plywood, screeded concrete, plaster, plasterboard, shower tray formers, flush pointed brickwork and existing tiles.

Q: What sort of tile adhesive should I use over the tanking system?
A: Most good quality waterproof and flexible tile adhesive and grout complying with a recognised standard can be used.

Q: How long does the tanking compound have to dry before I can start tiling?
A: The manufacturer’s instructions should be consulted on application and usage times. Generally a minimum of 24 hours between application of the last coat of liquid tanking compound and the application of tiles is recommended. Sheet membranes have an advantage of not needing curing time.

Q: Is the tanking system compatible with under floor heating systems?
A: The manufacturer’s advice should be consulted to check if it can be used over any under floor heating systems that is covered with a screed, where the tanking sits on top of the screed. If electric heating map type systems are to be used, check if they can be applied directly over the compound and set into the tile adhesive.

Q: Should I use tanking tape over screw/nail heads?
A: It is recommended that you cover every joint and screw head with tanking compound and a small patch of tanking tape should be applied prior to the main coating.

Q: Which way up should I apply the tanking tape?
A: Generally it does not matter but the smooth side normally goes on the bottom.

Q: Should I take out the family bathroom for a wetroom solution?
A: Experts advise that the family bathroom should be retained and a wetroom solution should be an additional facility such as in an en-suite bathroom or ground floor shower room. It is believed that although a wetroom will add to the value of the home, potential buyers prefer to see more than one bathing facility.

Q: Should I get a professional to install my wetroom?
A: A competent DIY installer could install a wetroom but bear in mind that several skills are needed, not just tiling. A professional installer will provide added confidence that the installation has been carried out correctly and should provide a guarantee alongside those for the components.

Q: Is a wetroom an ideal solution for an ageing person?
A: A wetroom, providing a level access shower with no trip hazards for unassisted or assisted bathing, is a very sensible investment and it can be used by all ages.

Q: Do I need to use Marine Ply?
A: No WBP is more than adequate because its the plywood’s primary function is structural longevity.

Q: How do you calculate the maximum flow rate?
A: The pressure dictates the litres/minute coming from the control, feeding the outlets. The combined flow rates from all the outlets (or with some shower controls, the individual chosen outlet only) will provide an absolute minimum target flow rate. You should add up to 25% to this figure, to create excess capacity to allow for long term blockages to build up within the waste pipes over time. E.g. 20 litres / minute for a shower head, means target 25 Litres / minute to provide a safety capacity within the shower system.

Q: Do I need a larger drain capacity?
A: Wetrooms often are found in larger showers, or en-suite bathrooms that include multiple outlets, and high volume water controls to create a luxury experience. It is vital to ensure the drain capacity is actively chosen, to ensure it can cope with the maximum water flow that will come from all of the shower head(s). This is because there is the potential for the room, or shower area to flood if the drain cannot handle the water flows demanded of it.
Section 5

Industry Terminology

Ceramic sanitaryware
Bathroom products such as WCs and basins made from ceramic material.

Drainage
The means of removing waste water to the drain.

Drainage channel
See Gully.

Easy access
A means of approaching or entering a wetroom made easy.

EN
European Standard (often written as BS EN British/European) for a wide range of products which have been approved for use across Europe.

ETAG 022
European Technical Approval (ETA) applicable to waterproofing materials for wetroom floors and/or walls.

Gully
A drain with a grating for removing waste water to the drainage system.

Plywood
Construction board consisting of 2 or more layers of wood bonded under pressure with the direction of the grain alternating.

Primer
A substance used as a preparatory coat on a previously uncoated surface to prevent the absorption of subsequent layers of material.

Screed
A levelled layer of material e.g. cement applied to a floor.

Sealing
The application of a nonporous coating to a surface to make it impervious.

Shower controls
Any device that supplies and controls hot and cold water supplies for the purposes of showering.

Tanking
A term applied to the waterproofing process carried out in a wetroom and other applications.

Walk-in shower
A shower enclosure having no door and incorporating a shower head behind a large glazed screen. This layout is typically used in wetrooms.

Water and boil proof (WBP) ply wood.
Water and boil proof ply wood is bonded with waterproof adhesive and is typically used as a substrate in wetrooms.

Water resistant
The ability to resist the penetration of water to some degree but not entirely.

Wetroom
A wetroom is a water proofed room with a drain in the floor often serving as an open plan shower.

Wetroom former
A shower tray that sits under the tiling or the type of floor installed in a wetroom. Its purpose is to create enough of a fall for water to drain out of the wetroom, whilst at the same time making sure that the wetroom floor is level with no tripping hazards.

Wetroom former waste kit
The waste/drain components used on the former to direct the water to the drain.

Wetroom tanking kit
The waterproofing sealing and procedure carried out in bathrooms, wetrooms or shower rooms to protect the floor and walls against moisture ingress and leaks.
Section 6

References

Regulations and Standards for Wetroom Installations

The Water Supply (Water Fittings) Regulations 1999 Statutory Instrument No. 1148

Building Regulations and Standards

The Building Regulations 2010 Approved Document A Structure.
http://www.planningportal.gov.uk/buildingregulations/approveddocuments/parta/documenta

The Building Regulations 2010 Approved Document F Ventilation.
http://www.planningportal.gov.uk/buildingregulations/approveddocuments/partf/approved

http://www.planningportal.gov.uk/buildingregulations/approveddocuments/partg/approved

http://www.planningportal.gov.uk/buildingregulations/approveddocuments/parth/approved#Download

http://www.planningportal.gov.uk/buildingregulations/approveddocuments/partm/adm/admvol1

www.bsigroup.com

European Technical Approval Guideline ETAG 022 Watertight Covering Kits for Wet Room Floors and or Walls.
http://www.eota.eu/en-GB/content/etags-used-as-ead/26/

BS EN 12150-1:2015 Glass in Building. Thermally toughened soda lime silicate safety glass definition and description.
www.bsigroup.com

The Lifetime Homes Design Guide.

Contact Details for Plumbing Organisations

Scottish and Northern Ireland Plumbing Employers Federation (SNIPEF) is the trade association representing businesses involved in the installation and maintenance of plumbing and heating systems. For a list of members telephone 0131 556 0600, or visit the website www.snipef.org

The Association of Plumbing & Heating Contractors (APHC) is the leading trade association for the plumbing & heating industry in England & Wales. For a list of members telephone 0121-711 5030 or visit the web site www.aphc.co.uk

The Chartered Institute of Plumbing and Heating Engineering (CIPHE) is the professional body for the UK plumbing industry. For a list of members telephone 01708 472791, or visit the web site www.ciphe.org.uk

NTG – Telephone 0115 921 4865. Website www.kbbntg.org

CITB – Website www.citb.co.uk

WATERSAFE – Website: www.watersafe.org.uk