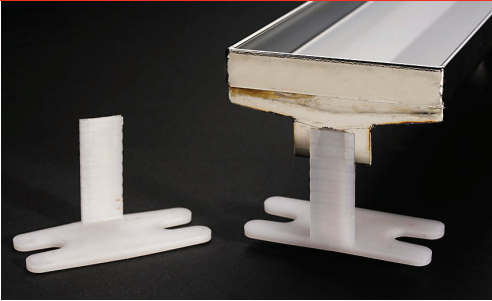


ACO Bathroom Drainage



Qu**ART**Z by ACO

Linear & point shower drains

Installation Guide



Technical & planning considerations

Accumulation and slopes

ASME A112.6.3-2001 requires a 2" outlet for shower applications. QuARTz by ACO channels have this as standard. The flow value for a 2" outlet varies depending upon the head of water above the grating.

In the case of shower channels, a head of water is not typical in practice, due to shallower floor grades. Floor drains can have a head of water due to 'basin' profile of floor grades.

Flow values without any accumulation (head of water) should be used when shower channels are placed around the perimeter of the shower and no shower threshold step is used.

If the shower channel is installed against a wall, there may be a small amount of accumulation (head of water) depending on the layout of the shower area. Grade of shower floor will determine depth of build-up.



Installation against the wall.

Outlet flow rate up to 9.51 GPM based on floor grades such that 0.2" (5 mm) head of water possible.



Installation at the entrance

Outlet flow rate up to 6.65 GPM based on no water accumulation (head of water).

Outlet flow rates (GPM)

Grate	Accumulation (head of water)		
	0" (0mm)	0.2" (5mm)	0.6" (15mm)
Channel body only	6.65	9.51	11.60

The addition of a grate will throttle the intake of water into the channel body and slow the flow of water to the outlet.

Effect of grate on outlet flow rates (GPM)

Grate	Accumulation (head of water)		
	0" (0mm)	0.2" (5mm)	0.6" (15mm)
Tile	6.49	9.28	11.32
Quadrato	6.34	9.07	11.06
Flag	6.34	9.07	11.06
Wave	6.00	8.58	10.47

Note: Based on 900mm shower drain with standard 2" outlet

Outflow performance

The choice of shower channel generally depends on the flow values of the shower fitting. 70 % of shower heads have a maximum capacity of less than 3 GPM.

The QuARTz by ACO shower drain standard channel has an outflow of 6.65 GPM. This value assumes no head of water above drain.

Based upon these flow rates the QuARTz by ACO shower drain standard channel can be used in conjunction with the majority of shower head fittings.

A number of custom solutions are available to cope with shower heads with higher flow rates.

Drainage planning information

Linear drainage options		
Installation against the wall	Walk-through: installation against the wall	Walk-in: installation against the wall
Simplest slope solution in one direction – slope away from the bathroom – no risk of bypass – use of CPE flexible membrane is recommended.	Slope in one direction – just shower area or whole bathroom floor can be sloped towards channel – use of CPE flexible membrane is recommended.	Simplest slope solution in one direction – slope away from the bathroom – no risk of overshooting water – use of CPE flexible membrane is recommended.
Installation at shower entrance	Walk-through: installation with two channels	Walk-in: installation at the entrance
Slope in one direction, towards the bathroom – possible risk of bypass – slope of bathroom floor towards shower area is recommended to prevent bypass. Channel length should exactly fit the shower opening.	Two directional slope towards the bathroom. Channel length should exactly fit the shower opening.	Two directional slope towards the channel. Channel length should exactly fit the shower opening.
Point installation at shower center	Installation with multiple point drains	
	Use single ShowerPoint drain within shower area. Floors must be graded up to 2% or other barriers must be used to prevent flow of water into bathroom area. With multiple ShowerPoint drains positioned within both shower and bathroom areas, level threshold floors can be used as bathroom ShowerPoint will also drain any liquid from cleaning or other bathroom fixtures.	

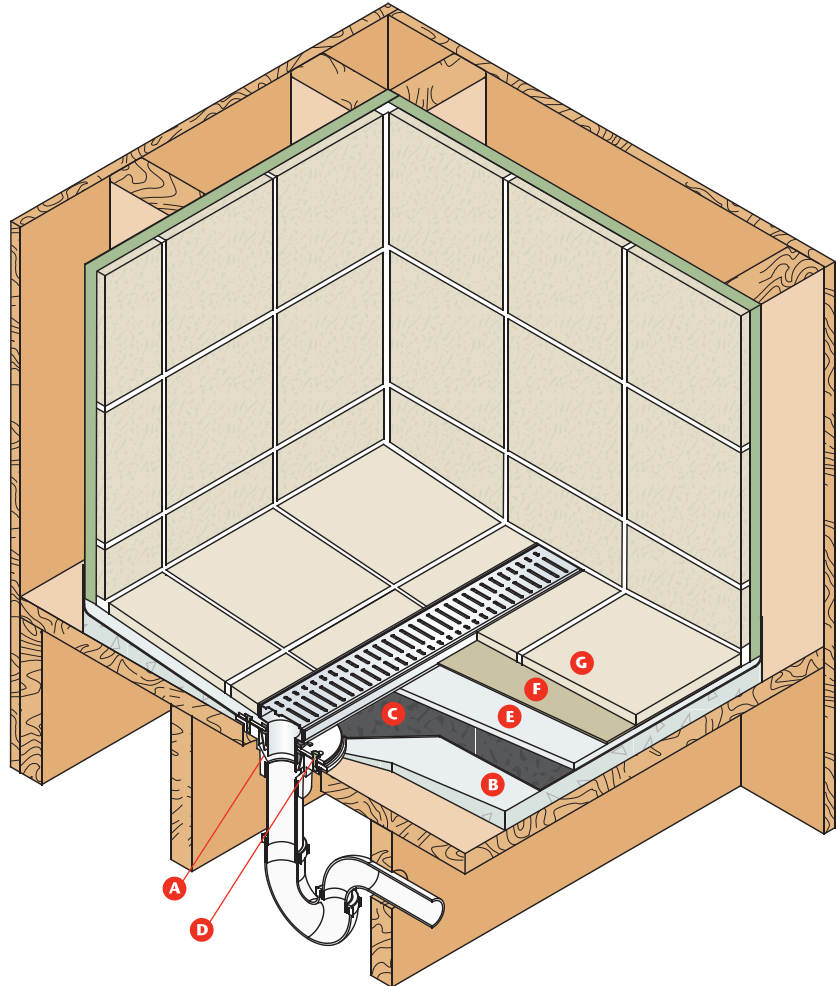
Installation overview

Tiled showers rely on waterproofing membrane beneath the tiles and grout. QuARTz by ACO offers a number of options to ensure compatibility with different floor structures.

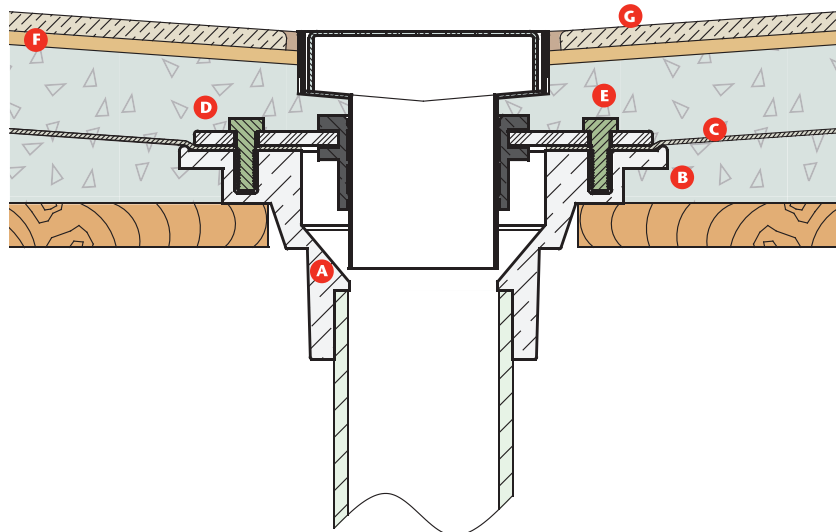
The installation details shown set out to provide the designer with integrated solutions to wet room floor drainage identifying preparation, installation and construction processes required to install waterproof channels and floor gullies in level threshold wet room environments.

Although these details do not cover every possible situation, they do provide a practical reference to most design applications.

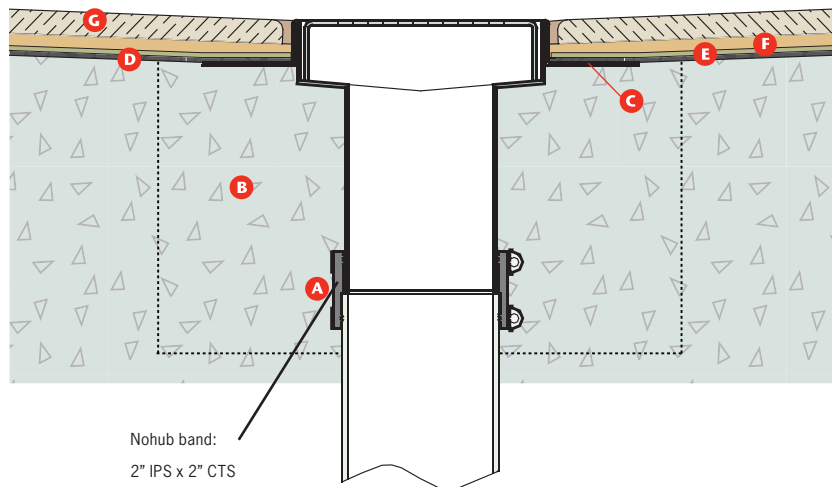
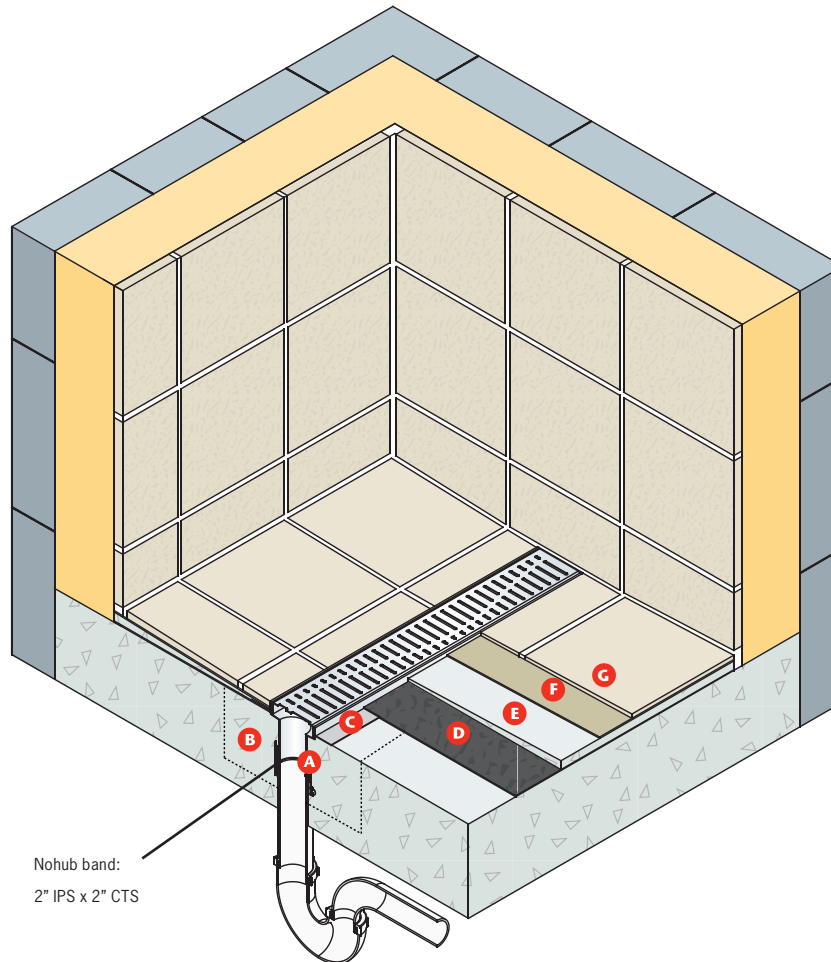
Plain body - joisted wooden floor



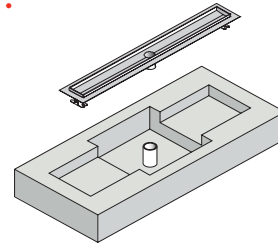
1. Where alterations to floor joists are necessary, consult Structural Engineer for advice and reinforce floor joists as advised.
2. Frame out shower surround as required.
3. Connect base of flange outlet adaptor **A** to pipe work, leaving drain bolts in place. Block drain opening with rag to prevent floor mortar from blocking pipe work.
4. Trowel mortar onto sub-floor. **B**
5. Install CPE membrane, **C** reinforce around outlet and cut carefully to reveal heads of drain bolts and outlet.
6. Install top section of flange outlet adaptor. **D**
7. Test membrane for leaks.
8. Lubricate outlet spigot on shower channel (liquid soap) and push fit shower channel into correct position and height.
9. Cut plastic installation feet to height to rest on the membrane and keep shower channel at required height and level.
10. Trowel mortar to required height, **E** allowing for thickness of tile and thin set mortar and grade to create 2% slope towards the drain.
11. After floor mortar has cured, apply thin set, **F** then install tile and grout. **G**
12. Install grate into shower channel.



Flange body - concrete floor

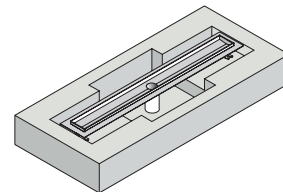


1.



After removing box formwork, connect shower channel to plumbing pipe work using stainless steel connector part #93874.

2.



Shower channel fitted in place prior to final concrete slurry pour. Shower channel flange should be at same level as original concrete slab.

1. Frame out shower surround in concrete slab as required, see diagram top right.
2. Set top edge of shower channel slightly below finished tile level, cut plastic installation feet to height to hold shower channel at required height and level.
3. Connect outlet to pipe using 2" IPS x 2" CTS. **A**
4. Pour concrete slurry **B** into framed out void in concrete slab to height of flange on channel body. **C**
5. Install 'hot-mop'/liquid membrane, **D** fully covering concrete and flange of shower channel in accordance with manufacturer's instructions.
6. Trowel mortar to required height and grade, approx. 2%. **E**
7. Apply thin set. **F**
8. Lay tile and grout. **G**
9. Install grate into shower channel.

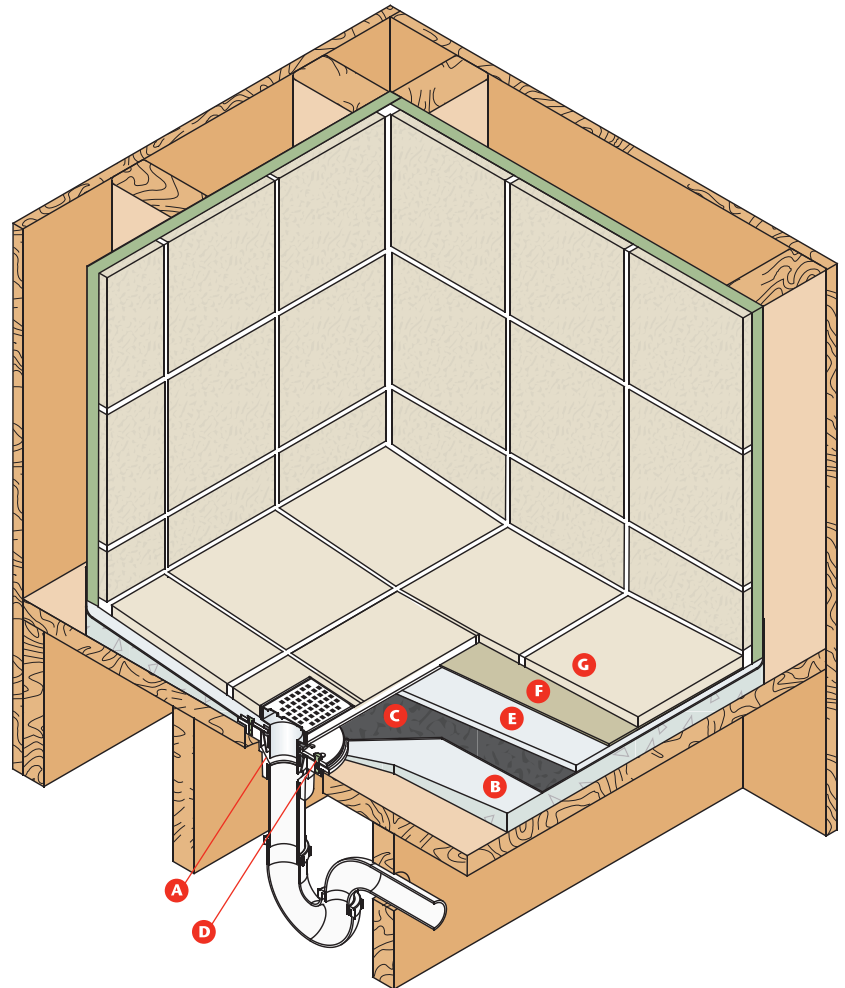
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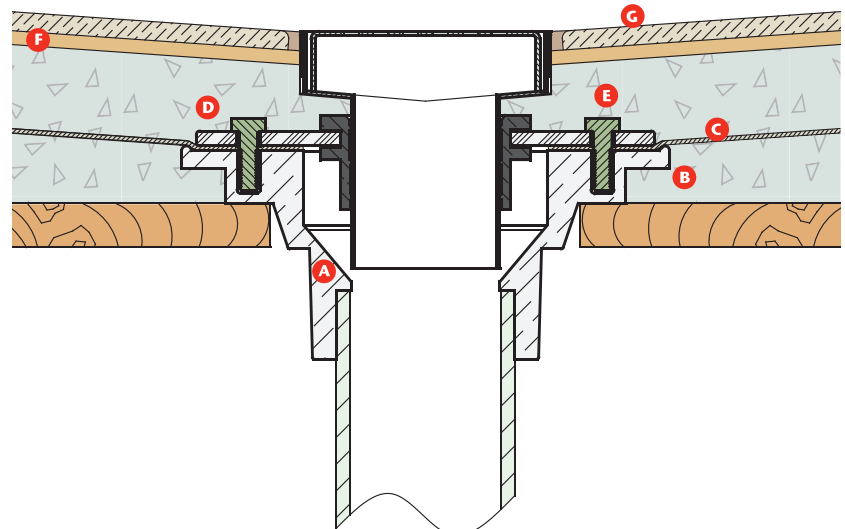
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Although these details do not cover every possible situation, they do provide a practical reference to most design applications.

Point Drain



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2. Frame out shower surround as required.
3. Connect base of flange outlet adaptor **A** to pipe work, leaving drain bolts in place. Block drain opening with rag to prevent floor mortar blocking pipe work.
4. Trowel mortar onto sub-floor. **B**
5. Install CPE membrane, **C** reinforce around outlet and cut carefully to reveal heads of drain bolts and outlet.
6. Install top section of flange outlet adaptor. **D**
7. Test membrane for leaks
8. Lubricate outlet spigot on shower drain body (liquid soap) and push fit shower outlet into correct position and height.
9. Trowel mortar to required height, **E** allowing for thickness of tile and thin set mortar and grade to create 2% slope towards the drain.
10. After floor mortar has cured, apply thin set, **F**
11. Install grate into point drain.



Product Cleaning Instructions

DO USE:

- A solution made from mild soap or dish detergent & warm water
- A soft, clean cotton cloth
- Clean water to rinse then wipe dry
- Baking soda & water paste to remove oxidized stains and surface rust

DO NOT USE:

- Cleaning agents containing chlorides, alcohol, ammonia, alkaline or mineral spirits
- Steel wool or wire brushes
- Abrasive cleaners





Other ACO product lines

■ ACO DRAIN

ACO Drain is the world's leading modular trench drain system for commercial, industrial and landscape applications.

■ ACO SPORT

ACO Sport is a range of surface drainage and building accessories for track & field, used at Olympic sites since 1972.

■ AQUADUCT

Aqueduct custom designs and manufactures fiberglass trench drain systems to meet individual project requirements.

■ ACO INFRASTRUCTURE

ACO Road is a range of surface drainage products engineered for the unique design and performance demands of highways, urban roads and bridges.

■ ACO SELF

ACO Self is a range of building products designed for the residential builder and DIY enthusiast.

ACO WILDLIFE

- ACO Wildlife is a tunnel and fence system designed to guide amphibians and other small creatures safely across roads.

ACO STORMBRIXX

- A unique, patented plastic geocellular stormwater management system.

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