



Qu**ARTZ** by ACO

Linear 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 (see page 12).

Drainage planning information

Linear drainage options		
Installation against the wall	Walk-through: Installation against the wall	Walk-in: Installation against the wall
<p>Simplest slope solution in one direction – slope away from the bathroom – no risk of bypass – use of CPE flexible membrane is recommended.</p>	<p>Slope in one direction – just shower area or whole bathroom floor can be sloped towards channel – use of CPE flexible membrane is recommended.</p>	<p>Simplest slope solution in one direction – slope away from the bathroom – no risk of overshooting water – use CPE flexible membrane is recommended.</p>
Installation at shower entrance	Walk-through: Installation with two channels	Walk-in: Installation at the entrance
<p>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.</p>	<p>Two directional slope towards the bathroom. Channel length should exactly fit the shower opening.</p>	<p>Two directional slope towards the channel. Channel length should exactly fit the shower opening.</p>

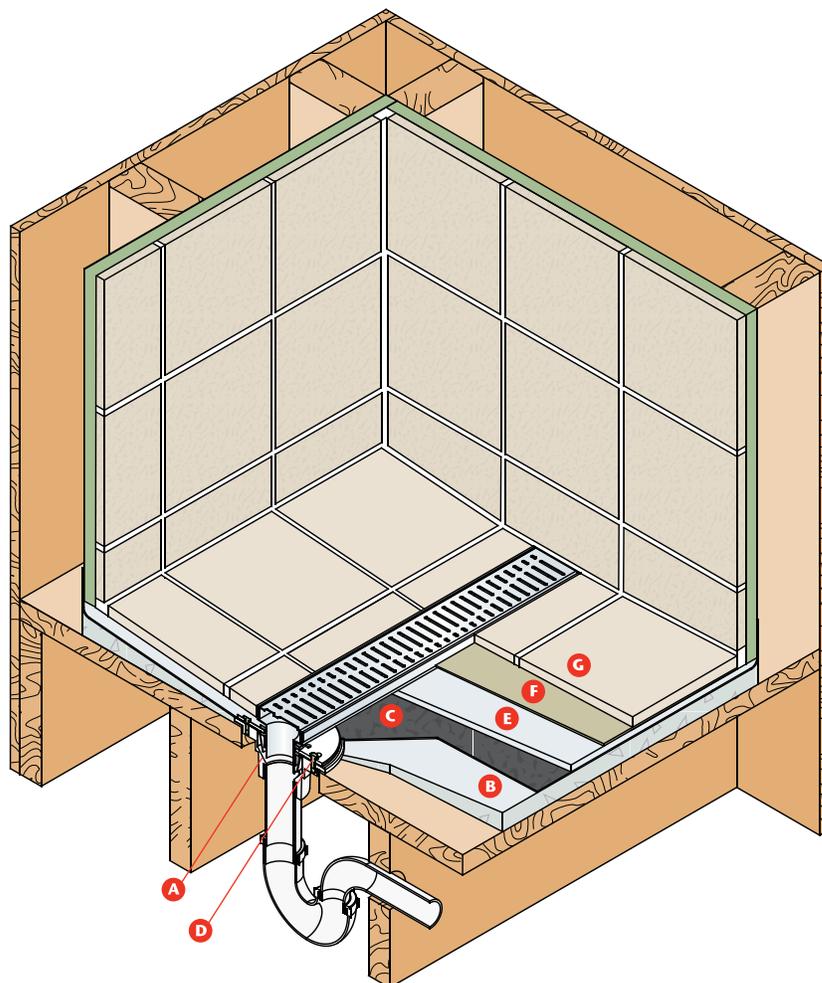
Installation overview

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.

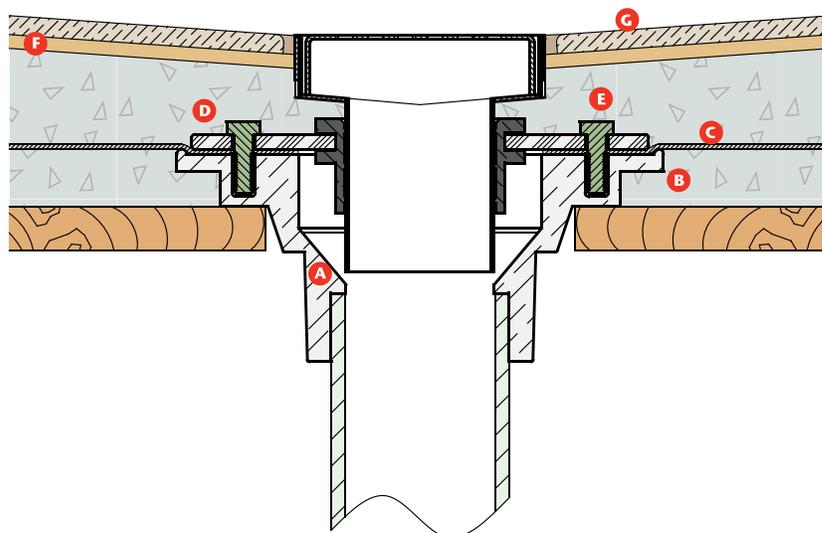
The installation details shown set out to provide the designer with integrated solutions to wet room floor drainage identifying preparation, installation and construction processes required to install waterproof channels and floor gullies in level threshold wet room environments.

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

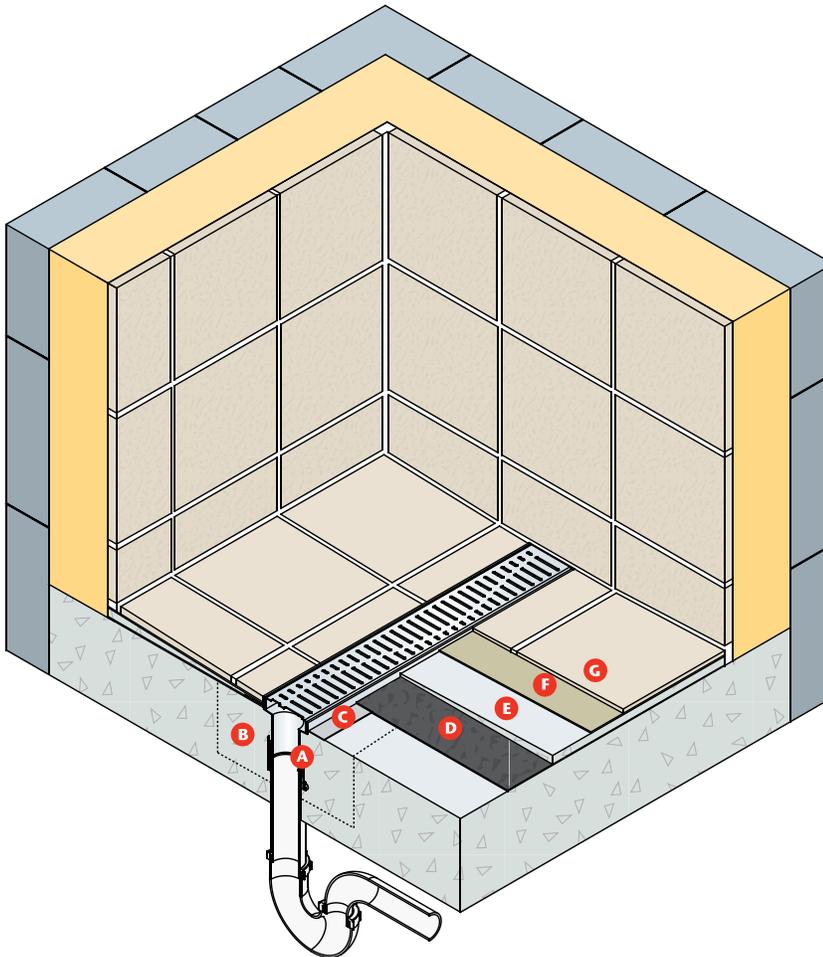
Plain body - joisted wooden floor



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 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 1% slope towards the drain.
11. After floor mortar has cured, apply thin set, **F** install tile and grout. **G**
12. Install grate into shower channel.



Flange body - concrete floor



1. Showerchannel (length/l) plus 2" (50mm) Max width 12" (300mm) Width at end 9" (225mm)

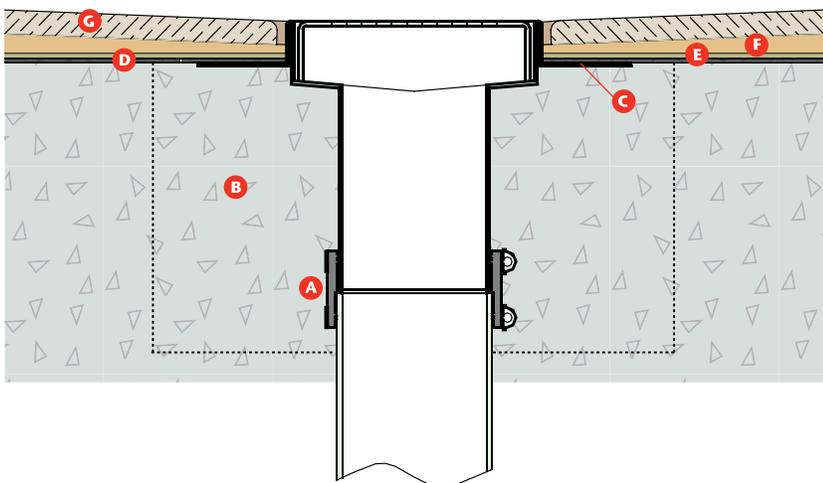
Box out detail showing suggested dimensions

2.

After removing box form work connect shower channel to plumbing pipe work using stainless steel connector part number 93874.

3.

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 work using 2" stainless coupler. **A**
- 4.** Pour concrete slurry **B** into framed out void in concrete slab to height of flange on channel body. **C** **D**
- 5.** Install 'hot-mop'/liquid membrane, fully covering concrete and flange of shower channel in accordance with manufacturer's instructions.
- 6.** Trowel mortar to required height and grade, approx. 1%. **E**
- 7.** Apply thin set. **F**
- 8.** Lay tile and grout. **G**
- 9.** Install grate into shower channel.



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ACO Polymer Products, Inc.

East Sales Office

P.O. Box 245
Chardon, OH 44024
Tel: (440) 285-7000
Toll free: (800) 543-4764
Fax: (440) 285-7005

West Sales Office

P.O. Box 12067
Casa Grande, AZ 85130
Tel: (520) 421-9988
Toll Free: (888) 490-9552
Fax: (520) 421-9899

Electronic Contact:

info@QuARTzbyACO.com
www.QuARTzbyACO.com

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