

675 mm x 675 mm clear opening cover complying with BS EN 124 and BS 1903
See Clause E2.32

Minimum clear access 675 mm

Mortar bedding and haunching to cover and frame to Clause E6.7

Minimum 2 courses of Class B engineering bricks or precast concrete cover frame seating rings

Precast concrete manhole sections and cover slab to be bedded with mortar, plasticom or elastomeric seal conforming to BS EN 1917 and BS 6911-3
See Clause E2.29

Lifting eyes in concrete rings to be pointed

See Clause B3.12.1 for PC ring diameter

In-situ concrete to be Gen3 (designed to BRE Special Digest 1 Concrete in Aggressive Ground)

150 mm ST4 concrete surround

High Strength concrete topping to be brought up to a dense, smooth face, neatly shaped and finished to all branch connections (minimum thickness 20 mm)

Chamber height (not less than 900 mm)

Benching slope to be 1:10 to 1:30

The bottom precast manhole ring to be built into base concrete minimum 75 mm

Construction joint

Self-cleaning tee hole to be provided where channel exceeds 600mm wide

Distance between top of pipe and underside of precast section to be minimum 50mm to maximum 300mm

Inverts to be formed using channel pipes

225 mm to underside of channel

Joint to be as close as possible to face of manhole to permit satisfactory joint and subsequent movement

Pipe joint with channel to be located minimum 100 mm inside face of manhole

Double step rungs in accordance with BS EN 13101 See Clause E2.33 for double step details

See Figure B.14 and Clause E5.6.2 for rocker pipe details

Minimum width of benching to be 225mm

Manhole Details

The technical drawings illustrate the Ultra-Rib Gully (Type 1) with the following details:

- Plan View (Top Left):** Shows a circular gully with four chambers. Arrows indicate 'Main flow' entering and exiting. A note states: 'Where chambers are positioned on 90° corners, always use main channel by fitting a 45° bend on inlet as shown'.
- Elevation View (Top Right):** Shows the gully's profile with a height of 450mm (max). It features 'Ultra-Rib Engineering Bricks' on Class B Engineering Bricks. A 'Bend to suit angle of connection' is shown with a '150mm Ø outlet'. The gully is surrounded by 'ST4 CONCRETE SURROUND' and '150mm THICK'. A note specifies: 'Joint to be as close as possible to face of chamber to permit satisfactory joint and subsequent movement'.
- Detail View (Bottom):** Shows a '45° bend' in the gully. It includes a 'Rodding Point' at the top and a 'Rodding Eye' at the bottom. The gully is surrounded by '300x300x150mm concrete surround, Grade GEN3'. The top is marked 'F.G.L. 57' and the height is '500'.

ULTRA-RIB GULLY (Type 1)
450mm Ø

Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent independent approval

Manhole cover to suit BS EN 124 loading Highways - Class D400 800mm clear opening

Access opening restricted to 350mm diameter or 300 mm x 300 mm if depth of chamber to invert is > 1 m

Mortar bedding and haunching to cover and frame to clause E6.7

Road construction

Precast concrete slab or in-situ concrete slab to support cover and frame

Class B engineering brickwork or precast concrete cover frame sealing rings

DOT Type 1 sub base (thickness varies)

Flexible seal

Minimum internal dimensions 450mm diameter or 450 mm x 450 mm

Temporarily cap shaft during construction

DOT Type 1 sub base (thickness varies) or concrete surround

Joints between base and shaft and between shaft components to be fitted with watertight seals

Base unit to have all connections with soffit levels set no lower than that of the main pipe

Joints to be as close as possible to face of chamber to permit satisfactory joint and subsequent movement

Granular bedding material

Invert of connecting pipe at least 50mm above that of the main pipe

TYPICAL OSMA CATCHPIT CHAMBER DETAIL - TYPE 2

(Flexible material construction)

Maximum depth from cover level to soffit of pipe 2 m, non entry

Plastic chambers and rings shall comply with BS EN 13398-1 and BS EN 13398-2 or have equivalent independent approval

Labels and Specifications:

- Manhole cover to suit BS EN 12412 loading Highways - Class D400 600mm clear opening
- Access opening restricted to 350mm diameter or 300 mm x 300 mm if depth of chamber to invert is > 1 m
- Class B engineering brickwork or precast concrete cover frame seating ring
- DOT Type 1 sub base (thickness varies)
- DOT Type 1 sub base (thickness varies) or concrete surround
- Minimum internal dimension 450mm diameter or 450 mm x 450 mm
- DOT Type 1 sub base or concrete surround min thickness 150mm
- Temporarily cap shaft during construction
- Flexible seal
- Precast concrete slab or in-situ concrete slab to support cover and frame
- Road construction
- Mortar bedding and haunching to cover and frame to clause E6.7
- Joints to be as close as possible to face of chamber to permit satisfactory joint and subsequent movement

- All pipes shall be laid in trenches in accordance with Part H of the building regulations.
- All trenches shall have vertical sides for full depth. Exceptionally, with prior approval of the Engineer, trenches may be battered above a point not less than 300mm above the top of the pipe.
- All bedding classes requiring concrete shall have a 12mm expansion joint constructed for the full width and depth of the concrete and shall be placed at pipe ends or at a maximum of 5.0 metres apart.
- A reinstatement of trenches in existing carriageways shall comprise of the same materials and thicknesses to underside of wearing course as for new carriageway construction to underside of wearing course.
- Selected fill or granular fill free from stones larger than 40mm.
- Selected fill: free from stones larger than 40mm, lumps of clay over 100mm, iron, brick, masonry & vegetable matter.
- General fill: free from stones larger than 40mm. The granular material should conform to BS 1610 Annex E Table B.15 and should be single size material or graded material from 0mm up to a maximum size of 10mm for 100mm pipes, 14mm for 150mm pipes, 20mm for pipes from 150mm up to 600mm and 40mm for pipes more than 600mm.
- All works and materials to be in accordance with Water Authorities Association "Sewers for Adoption" 7th edition.
- All manholes in areas of access subjected to vehicular loadings. Where depth of cover is less than 0.5m then a protective slab or concrete slab should be installed.
- Bed S: To be used in areas subject to traffic loading where depth of cover > 0.9m.
- Bed C/S: To be used in areas subject to traffic loading where depth of cover is 0.3m.