

## Manhole shutterings

### Safety Information and Operating Instructions

#### 1.0 General Information

- The manhole shuttering are usually in two heights 900mm and 1800mm respectively, used to create 180mm concrete ring around the manhole.
- The diameter is usually up to 2700mm.
- The shutters are supplied in sections and so designed that each set for manhole rings over 1200mm diameter will adjust to accommodate several smaller sizes.
- Below is the table that show the sizes.

Internal diameter of manhole (mm)	Panels required for Set		
	A	B	C
675	2	1	-
900	2	2	-
1050	3	-	1
1200	3	1	-
1350	3	2	-
1500	4	-	1
<b>Manhole shutters used to cast diameters over 1800mm should be suitably braced and/or strutted to ensure stability of the panels.</b>			
1800	4	2	-
2025	5	1	-
2100	5	1	1
2400	6	-	-
2700	6	2	-

#### 2.0 Safety & Good Operation Practice

- PPE (safety gloves and hard hat etc.) as per the site risk assessment to be worn when using this equipment.

- Only competent / trained staff should use this equipment.
- Whilst the shutter is supplied with a coating of mold release agent, the shutters must be kept oiled to prevent concrete sticking to the panels.
- It is important that ALL the keys and wedges are inserted into the slots.
- **Manhole shutters used to cast diameters over 1800mm should be suitably braced and/or strutted to ensure stability of the panels.**

**Note:** All retaining clips and pins must be connected. When using the larger sizes to retain high volumes of concrete, additional support must be provided to the exterior of the shuttering. Failure to add additional external support could lead to the shuttering bursting.

#### 3.0 Assembly Instructions

1. Assemble the shutter with the correct number of panels in accordance with the utilisation chart provided.
2. Butt the flanges of the panels together, insert a pin through each hole in the flange and then drop a wedge into the slot in each pin.
3. Once all pins and wedges are in place, tap the wedges from above with a rubber hammer to secure.
4. N.B. Only lift the shutters by the lifting lugs and DO NOT attempt to stack one complete shutter on top of another to achieve extra pouring height.

#### 4.0 Maintenance of the Manhole shuttering

- The general overall condition and appearance of the manhole shuttering must be inspected, including the lifting points.
- Manhole rings and shutter for impact holes, damage and distortion which may affect stability when it is flat on ground must be checked and change if necessary
- Inspect the vertical metal frame for any sign of damage or distortion. Repair or change if necessary
- Check that the retaining clips and pins are in good condition. Change if necessary.
- Any problems, call your local Marwood Group Ltd depot.

**This equipment must not be altered in any way**