

Materials:

**Pole:** Grade 6082 Aluminium

**Brackets:** Acetal

**Bolts:** BZP

## Loading

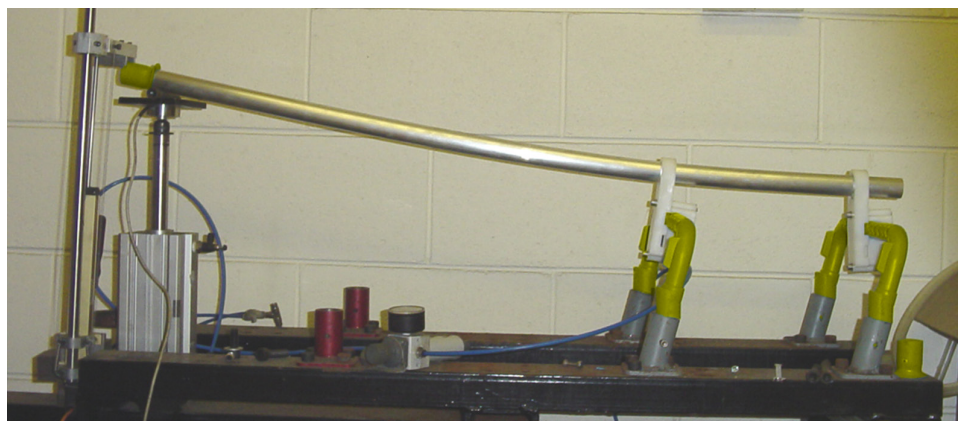
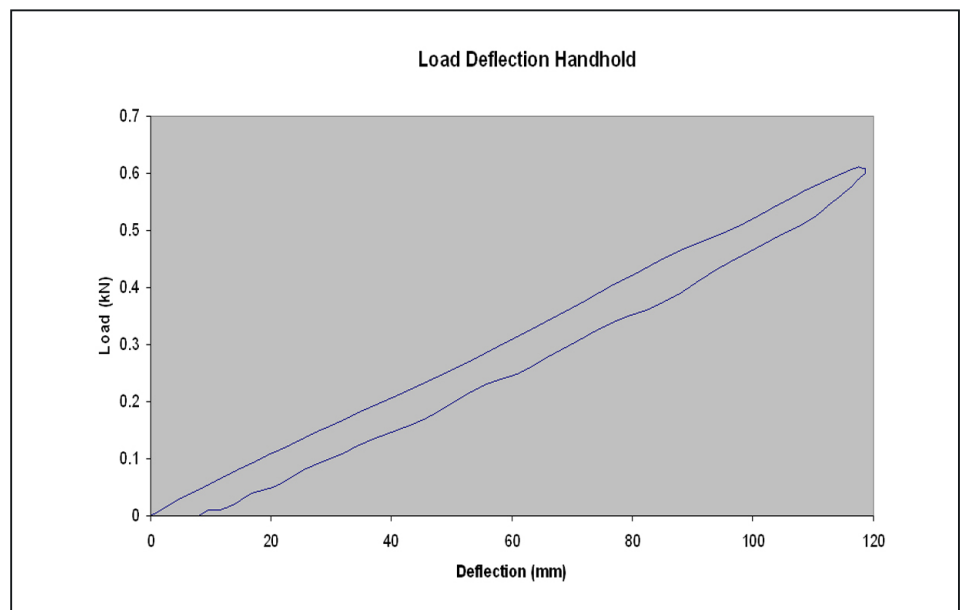
The handhold meets the following criteria:

### Axial Loading

The pole maintains an axial load of 1.8kN for 60 seconds without failure

### Load Deflection

A 115kg person exerts a 220N force horizontally on the handhold when leaning back. The graph below shows a typical load deflection cycle for the handhold. The bracket failure point is in excess of 1250N.





1. Disassemble the bracket and ensure all components are present.

2. Place the lower half of the bracket around the center of the top step in required orientation. (See last page)



3. Fit upper half of bracket ensuring correct fit with step and lower half of bracket.

4. Insert screws, finger tighten then repeat for second step



5. Tighten 4 screws with 5mm Allen key.

6. Ensure handhold is secure and fit for use.



To raise the handhold grip the top of the pole and pull vertically upwards. As the handhold nears the top you will feel the locating pin hit the underside of the bracket. Whilst applying slight upward pressure rotate the pole until the pin can be felt to drop into a slot. Continue to lift the pole until the pin emerges through the top of the lower bracket. Rotate the pole until the pin can be felt to drop into a second slot, as shown on the second picture. This locks the handhold in the raised position.

Check the handhold is secure before use.

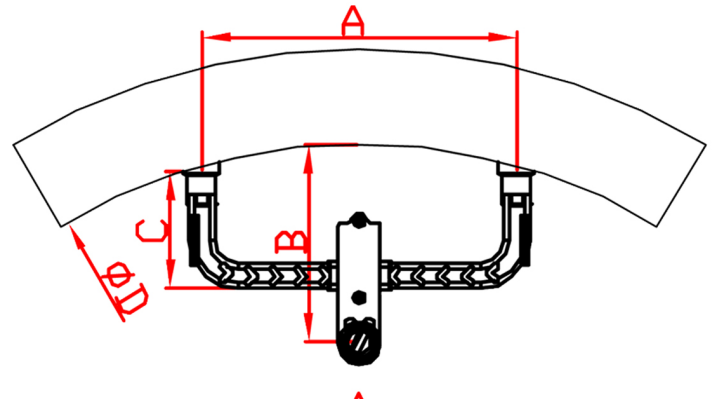
To lower the handhold pull the pole upwards whilst rotating.

The pin will be felt to drop through a slot and the handhold will be able to be lowered. Do not drop the pole.

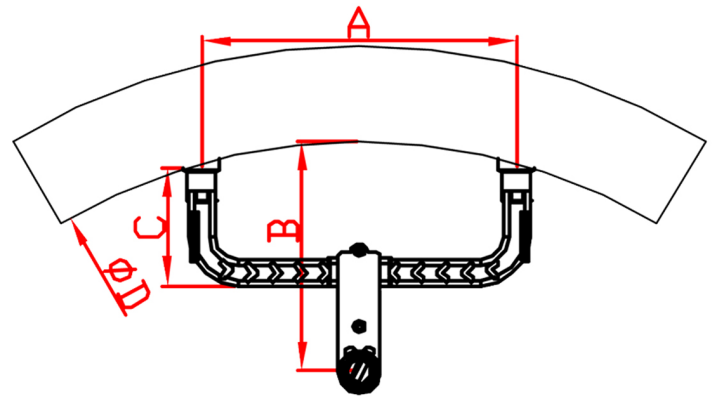
Ensure the handhold is rigidly fixed before entering manhole.



## Option 1



## Option 2



Material	A	B	C	D
Option 1	300	204	129	1200
	320	208	130	1200
	330	208	129	1200
	300	197	129	1800
	320	200	130	1800
	330	200	129	1800
Option 2	300	238	129	1200
	320	242	130	1200
	330	242	129	1200
	300	231	129	1800
	320	234	130	1800
	330	234	129	1800

All dimensions in MM. Orientations achieved by rotating upper and lower bracket components. Dimensions will vary according to fitment of step.