

# Caro Flood Defence Barrier



Tested To

BS 851188-1:2019+A1:2021

# Deployment Guide

# Deployment of Caro Flood Defence Barrier

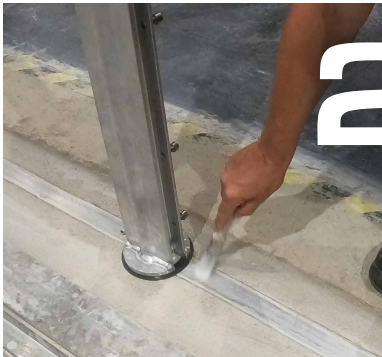
Before deploying your barrier, ensure you have considered your access back into the property and a way to get back over the barrier onto the dry side.

*For deployment of a single barrier with no demountable posts, follow steps 8-13, 15-17, 19, 21 & 22.*



1.

Remove the Ground Insert cover(s) and the yellow threaded protection caps beneath the covers.



2.

Clear any debris from the Ground Insert(s).



3.

With the Demountable Post in hand, firstly remove the protective cap from the greased thread.



4.

Stand on the side of the barrier that would experience flood water, you will notice the '**FRONT**' label in the Ground Insert facing you.



5.

Position the Demountable Post with its own '**FRONT**' label facing you, into the Ground Insert.



6.

Twist the top hexagon head, engaging the thread, hand-tighten, **DO NOT** tighten fully at this stage.



7.

Repeat the process for all Demountable Posts until all are in position.

# 8.



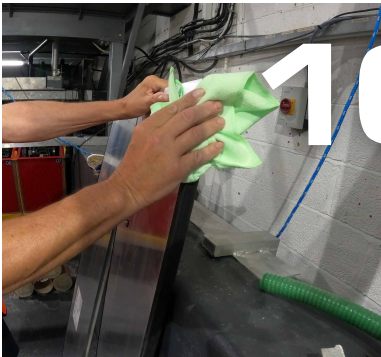
All compression screws must be protruding out of the posts to avoid obstruction when inserting the Panels.

# 9.



Ensure the Ground Strips are **free of all debris** with a clean paint brush, including the inner face of the wall rails (grit and even pet hair can present an issue).

# 10.



Wipe the bottom seals of bottom Panels with a damp cloth.

# 11.



Lower the '**Bottom**' Panels, one by one, ensuring the Dual Hardness Bottom Seal is fully in contact with the ground and there is equal spacing between the Wall Rail and Demountable Post (there should be 3mm gap at each end).



# 12.

If stacking further panels for additional height, the seal on top of the '**Bottom**' Panel is to be firmly fixed on.



# 13.

Whilst posts are "loosely" fixed, lower all of the '**Middle**' and '**Top**' Panels ensuring middle seals fully engage with the Panel above, ironing out any creases on the seals.



# 14.

Insert the key into the hexagon hole of the Demountable Post (slightly off-centre). Turn the key to tighten firmly in position. When firmly tightened, rotate the oval base approximately 90° until the vertical compression screws align with the top of the Panels below it.



# 15.

Check that all Panels are fully in position with no gaps.



# 16.

Taking the first compression block, noting a bevelled and flat side, ensure the block is 'undone' and insert the **flat side** to the inner face of the Wall Rail.



# 17.

Holding the compression block firmly in place, finger tighten the vertical screw with the T-bar, repeat the process for the compression block at the other end of the barrier.



# 18.

Move along the barrier to the Demountable Post(s) to finger tighten the vertical screws.



# 19.

Starting on the bottom left of the barrier work your way left to right on all bottom horizontal screws, repeating the process for middle and then top screws.



# 20.

Return to the Demountable Post(s) and firmly tighten vertical screws **taking care not to over tighten** causing indents or gaps around the screw to avoid water ingress (the shorter end of the T-Bar will provide more leverage for increased tightening, **avoid over tightening** to prevent buckling of Panels).

# 21.

Starting again at the bottom left, working to the right of the barrier, tighten all screws by 2 turns on each screw, repeat this process with the middle and top Panels until all screws are firmly tightened, take care not to over tighten causing indents or gaps around the screw.

# 22.

All bottom seals of the barrier should appear compressed to the ground.



## Your Caro Flood Defence Barrier Is Now Ready For Use!

# Risk Assessment

The use and deployment of any flood defence product should be considered in the context of the building relative to the risk of possible flooding. Single products alone may not give adequate protection to the whole building. It is, therefore, recommended that a full flood risk survey is undertaken to assess where flooding may ingress into the building and, as such, what measures should be deployed. Product compliance to BS 851188-1:2019 + A1:2021 does not mean that it is suitable for all installations and locations.

Flood risk surveys should be undertaken by an appropriately competent and qualified professional, for example a corporate member of the Chartered Institution of Water and Environmental Management, the Institution of Civil Engineers or the Royal Institution of Chartered Surveyors or similar professional body. For details of approved companies, visit the Environment Agency website.

[www.gov.uk/government/organisations/environment-agency](http://www.gov.uk/government/organisations/environment-agency).

## Certification

The “Caro Flood Defence Barrier” has been tested to and meets the requirements of BS 851188-1:2019+A1:2021 which states that the product must adhere to a leakage rate of less than 500ml/h/m of product seal width or base length aperture width.

## Fixing Suitability

Due to the design of the “Caro Flood Defence Barrier” it is suitable to be fixed to any permanent surface including brick work, render, hard wood, concrete, stone and steel structures across both domestic and commercial properties.

## Construction

The Caro Flood Defence Barrier is a lightweight engineered extrusion and rail-based barrier system. All components are manufactured from aluminium with stainless steel fixings. Aluminium handles are added to each board for ease of use.

## Design Life

The lifetime of our barriers will vary from property to property and can depend on a range of factors such as upkeep and maintenance. If the barrier has been maintained in accordance with our maintenance guidelines, we would expect the components to last up to 10 years.

# Maintenance Instructions

The Caro Flood Defence Barrier should be inspected and cleaned after every deployment. Metal Extrusions and Metal Rails (including rubber seals) need to be cleaned and dried and stored away from exterior weather conditions. Rubber seals could perish if stored without drying.

Metal parts including Panels, Wall Rails, Demountable Posts, Ground Inserts and Ground Strips are all guaranteed for five years if they have been cleaned and dried in accordance with the given instructions.

The deployment and dismantling of your Caro Flood Defence Barrier should be carried out every 2 – 3 months to ensure that all the components are present and in good order. All threads should be regularly greased.

## Post Flood Maintenance Instructions

1. Post flood and before commencement of cleaning, protect the floor area around the door with absorbent material to soak up any contaminated water that may have been trapped around the wall rails and demountable posts.
2. Clean the sealing rubbers, wall rails, demountable post and panels with warm water and dry with a soft cloth.
3. Grease the threads of all threaded components with Petroleum Jelly.
4. When storing, place all components including screws, fixing head, T-Bar and the deployment guide safely into the Caro hessian bag provided.
5. Store the bag together with your clean dry panels in a secure, accessible location, ready for use in an emergency.

*If used and maintained in accordance with the manufacturer's instructions, the Caro Flood Defence Barrier will remain ready to keep your property watertight. It is the householder's responsibility to ensure that the barrier and its components are cleaned, dried, maintained and stored whilst not in use.*

## WARNING

**Flood water is usually contaminated. Appropriate personal protective equipment (PPE) must be worn at installation and during post flood maintenance. It is also advisable that PPE is worn when working in any flood contaminated area.**

# Maintenance Regime(s)

| Component           | Replace     | Maintenance Required (After Every Use)                                                     |
|---------------------|-------------|--------------------------------------------------------------------------------------------|
| Wall Rails          | As Required | Clean with warm water and dry with soft cloth                                              |
| Panels              | As Required | Clean with warm water and dry with soft cloth<br><br>Store in a secure accessible location |
| Locking Mechanism   | As Required | Grease threads and store in Hessian Bag                                                    |
| Demountable Post(s) | As Required | Grease threads and replace thread cover(s)                                                 |
| Screws/Bolts        | As Required | Clean and dry and store in Hessian Bag                                                     |
| Seals               | As Required | Clean with warm water and dry with soft cloth                                              |

## Replacement Parts

In the event that any parts of the barrier need to be replaced, parts are available directly from Caro Flood Defence Systems.

[info@caro.co.uk](mailto:info@caro.co.uk)

 01763 244446 (Option 1)

## Disposal

At end of life, the barrier should be disposed of at your local household waste recycling facility. Metallic parts of the barrier should be disposed of in the recyclable metal area, any loose seals should be disposed of appropriately depending on recycling guidelines at your local waste disposal facility.

# Troubleshooting Guide

## Unable to fit Extrusions into Rails?

1. Have you removed the compression blocks?
2. Ensure the correct panel has been chosen for the aperture.
3. Ensure all horizontal compression screws have been fully undone to prevent obstruction.
4. Ensure rubber seal in Wall Rails has not perished or buckled.

## Unable to fit Demountable Post in Ground Insert:

1. Check thread on Demountable Post for damage
2. Check Ground Insert is clear and does not contain debris

## Sources of Advice

### Caro Flood Defence Systems

[www.caro.co.uk](http://www.caro.co.uk)

[info@caro.co.uk](mailto:info@caro.co.uk)

 **01763 244446 (Option 1)**

### Floodline

Advanced Warning of Flood – The Environment Agency operates a 24hr telephone floodline where you can obtain up to the minute information on the flooding situation in your area.

 **0345 988 1188**

You can also register for the Environment Agency's Floodline Warnings Direct Service:

**National Flood Forum 01299 403055**

**Scottish Flood Forum 01698 839021**

# Health and Safety

It is highly recommended the correct PPE (Personal Protective Equipment) is worn at all times during installation. This includes but is not limited to high viz vests, safety gloves, safety glasses and steel toe protective footwear.

Always refer to the Health and Safety Executive (HSE) for advice on manual handling. [www.hse.gov.uk](http://www.hse.gov.uk)

When transporting the barrier, plan your route, remove any obstructions and plan rest stops along the way if necessary. Keep the load close to the waist, the load should be kept close to the body for as long as possible while lifting. Adopt a stable position and make sure your feet are apart.

It is important that the installation guide and deployment guide are followed step by step, if any installations cannot be carried out in this way then installers are to contact Caro Flood Defence Systems.

Homeowners are advised to sign up to the Environment Agency flood alerts for their local area. Flood alerts give you notice time to deploy your flood resilience product and vacate in the event of a flood emergency.

Access back into properties should only be undertaken once flood waters recede and it is safe to do so.

## Product Testing

This product has been tested under laboratory conditions against the standard set of tests as defined in BS 851188-1:2019+A1:2021. This includes the testing of the product for leakage under static water levels of 600mm DMWD above the aperture's threshold level; waves up to 0.1m high; dynamic impact; and parallel currents up to 1.0m/s. The testing undertaken under this British Standard excludes all other components of the flood resistance system.

The conformance of this product to BS 851188-1:2019+A1:2021 does not mean that it is suitable for all buildings or locations. If the user has any uncertainty about the suitability of a product they should seek professional guidance.

## KIWA Standards

The Caro Flood Defence Barrier is KIWA certified to BS 851188-1:2019+A1:2021 (Certificate number KA-25-1001).

### **BS Standard – Designated Maximum Water Depth (DMWD)**

Caro Single Barrier: up to 900mm x 1500mm; DMWD 0.6m

Caro Double Barrier with Demountable Post: up to 900mm x (1500mm – 3100mm); DMWD 0.6m

*All leakage will not be greater than 500ml/h/m in accordance with BS 851188-1:2019+A1:2021.*

# Additional Information

The “Caro Flood Defence Barrier” is a re-useable manual building aperture product for temporary flood resistance against rising flood water and debris.

The product should be used on doorways or other openings of up to 3.1m wide to a height of up to 600mm DMWD (Designated Maximum Water Depth), including garages, patio doors and wall openings such as retaining garden walls.

The product can be used for domestic or commercial properties including schools, hospitals and public buildings and has also been approved for use on Environment Agency framework projects. This product is designed for the temporary mitigation of flood risk and should be seen as part of a suite of measures to reduce the risk of water entering a property.

The barrier is suitable for surface water (pluvial) flooding, where the local drainage system and surrounding terrain cannot cope with the rainfall. It is also suitable for river (fluvial) flooding where a normal river channel overflows, tidal flooding where high tides and storm conditions cause a rise in sea water levels, runoff water flooding where the soil is infiltrated to full capacity and sewer flooding where sewers become overwhelmed with flow levels.

The Caro Flood Defence Barrier is designed for deployment in flood conditions. This by definition will have a degree of polluted water and this will not affect the performance of the product under normal conditions. The product is designed for general flood and sea water flooding conditions. If the product is being proposed for installation in locations where high levels of aggressive chemicals are present, expert advice from a Flood Risk Surveyor should be sought prior to installation.

Caution must be taken when deploying the panels. Waterproof gloves should be used in wet conditions to avoid the panels slipping in hands.

The Caro Flood Defence Barrier is suitable for use by all adults that are capable of lifting the lightweight aluminium components. The barrier is not for use by children, and some small parts such as screws or bolts may present a choking hazard.

For a digital version of the installation or deployment guide please visit:  
<https://www.caro.co.uk/installation-deployment>

For an additional hard copy of the guide, please write to:  
Caro Group, Edge Barn, 11 Market Hill, Royston, Hertfordshire, SG8 9JL.

# Maintenance Records

# Maintenance Records

# Dismantling your Caro Flood Defence Barrier

1. Release the vertical compression screws
2. Release the horizontal screws
3. Remove the Demountable Post hexagon head fixing
4. All components should be allowed to dry before storage
5. Apply grease to the internal thread in the Ground Insert and replace the protective yellow cap
6. Apply grease to the bottom thread of the Demountable Post(s) and replace the protective cap

Replacement component parts are available from **Caro Group** via

**info@caro.co.uk**

**01763 244446** (Option 1)