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INSTALLING GUIDE V3.0 For FLOOD BARRIER

PROJECT BRIEFING

Customer: Our Valued Customer

Applicable for: This manual is generally applicable for all of our current flood barriers including NF-35 /NF-35G /NF-50 /NFP-50 /NF-100 /NF-100M /NF-100H.

Demo Project Description: Indoor Water Tank Demo with 2 of our products will be demonstrated in this file for customer review. One is Demountable Aluminum Flood Barrier which is removable, the other is Glass Wall Flood Barrier which is permanent constructed. The designed width is 2000 mm while the flood protection height as 800mm, the concrete foundation on the tank ground is reported as 350mm, Therefore, according to the experience of many projects, we recommend the pre-built parts to be installed by anchor sleeves in the current foundation and the end posts to be installed by anchoring on side wall.

Please see both the 2D&3D drawing below and attached which can be enlarged.

CAUTION:

ALWAYS WATCH SAFETY DURING INSTALLATION!

***Please check our Youtube Channel: https://www.youtube.com/@jiangyinnewflagtechnology5466/videos**
You may find some useful information we updated for your installation.

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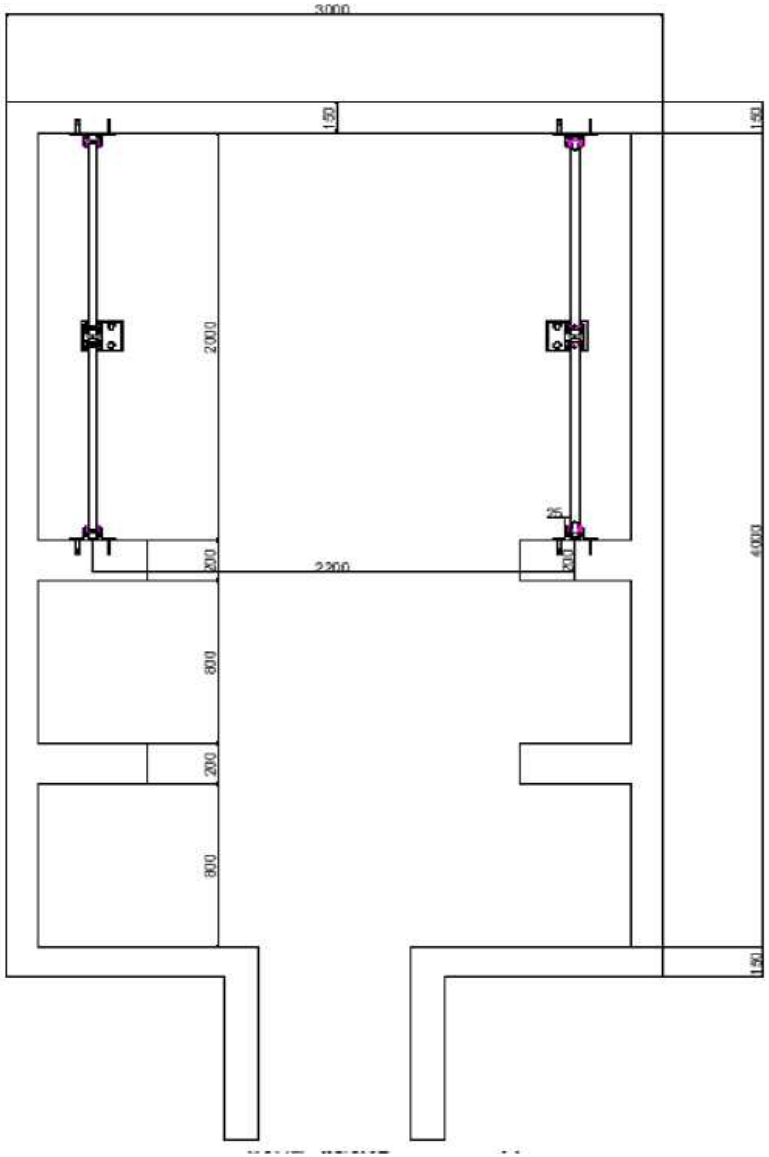
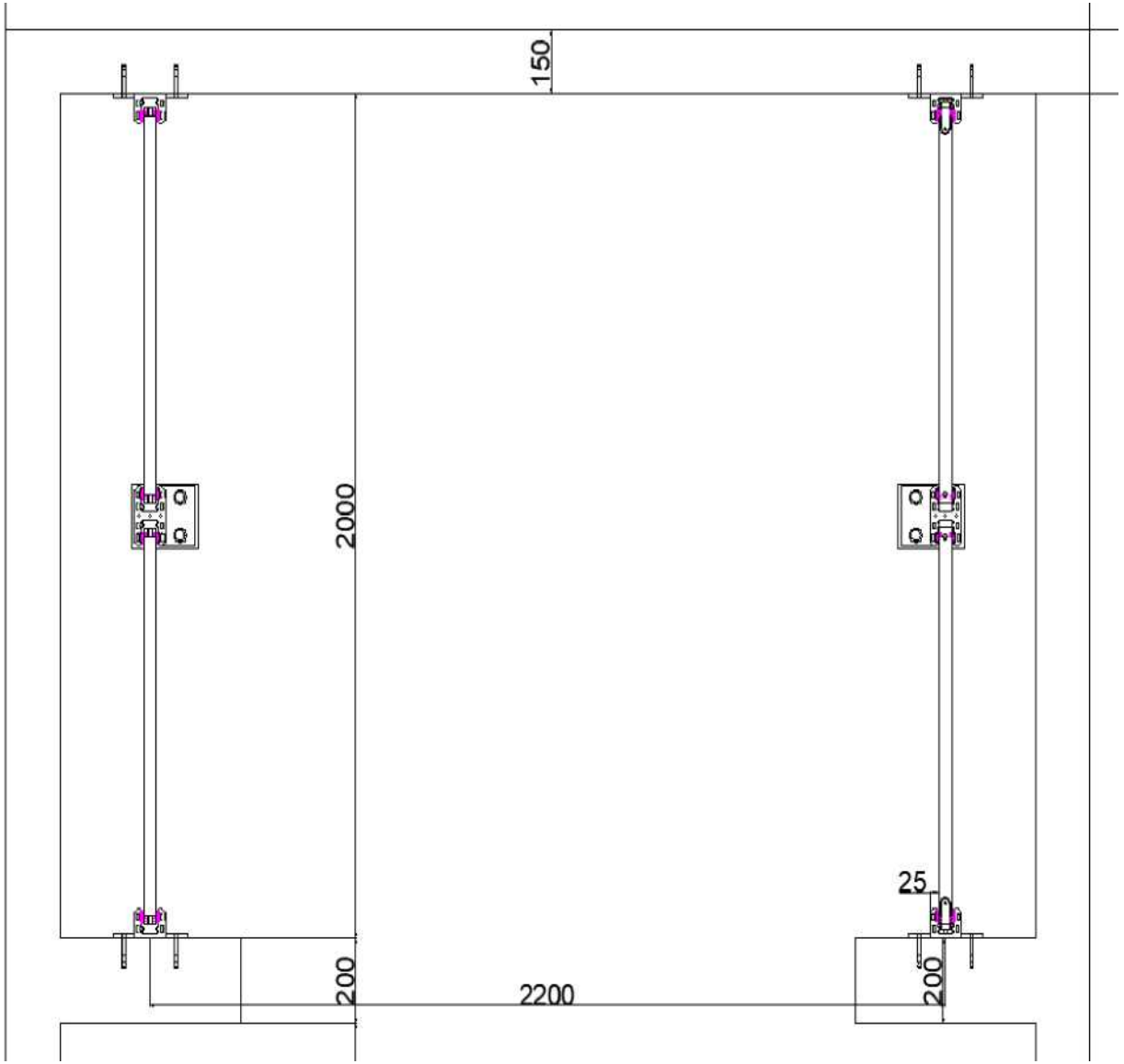
2D Drawing:





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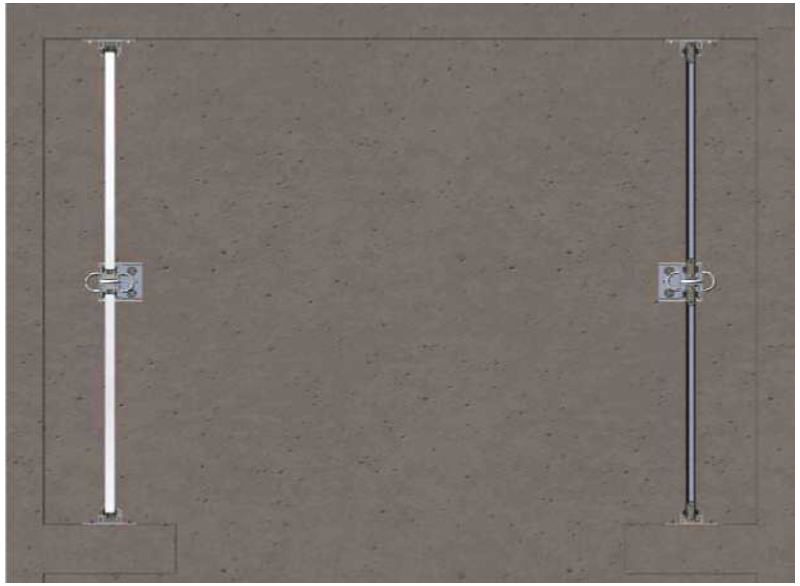
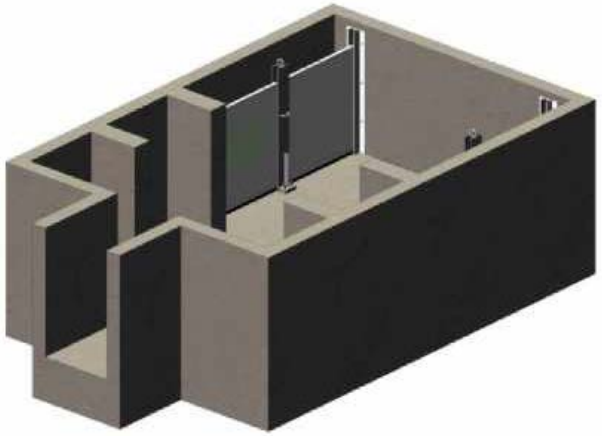
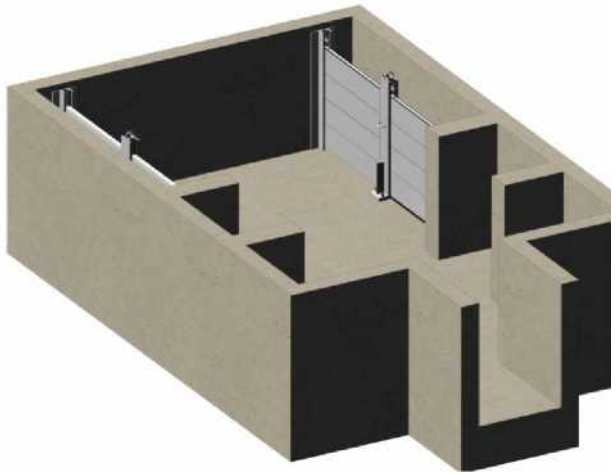
Top View: Left-Glass / Right-Aluminum



3D Demo:





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DETAILED INSTALLATION INSTRCUTION

PRINCIPAL: In order to have the best water seepage performance, please do everything you can to have a flat, smooth and parallel ground surface where the bottom of both the post and barrier panel contacts. And please calculate the position and installing angle according to your site condition carefully.

STEP 1: POSITIONING BEFORE INSTALL

First check the walls to be installed if they are vertical to ground and the walls both sides (for front wall install) are on the same plane first. If not, some levelling work could be used.

Then **locate the correct position according to our drawing indicated,** and apply the guide line or chalk line reel as the black arrow indicating in the picture, and well calculate the correct position for installation.

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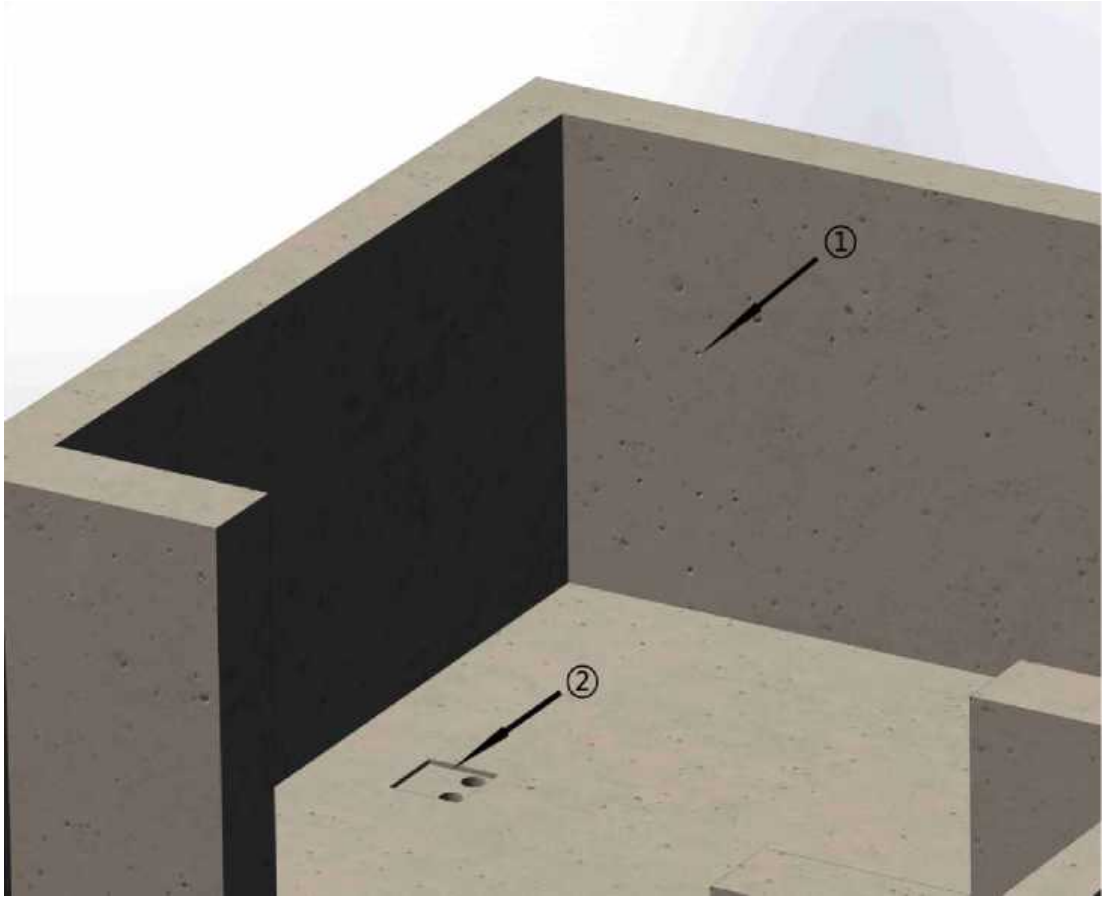
STEP 2: INTSALL THE END POST

Find the correct position for the End posts' installation on front wall or side wall according to the end post's design pattern, drill holes in depth of 110-130mm with a Dia.12-14mm driller on the wall (as the black arrow NO.1 shows), clean all debris and dust around.

Trim the bottom end of the EPDM gasket in post with a knife first, to have it as flat and level to the post bottom, then **apply the sealant on the End Post EXACTLY (VERY IMPORTANT)** as picture below shows (the pictures shows Front Wall Type with wings for demo, for Side Wall, the vertical sealant should be on the back side of the post where contacts the wall), then keep the End Post vertical and fix it to the wall with M10*100mm expansion bolts.



(PLEASE SELECT THE CORRECT DRILL ACCORDING TO THE BOLTS BY YOUR EXPERIENCE AT SITE)

纽锋科技
NEWFLAG

FLOOD DEFENCE SPECIALIZER

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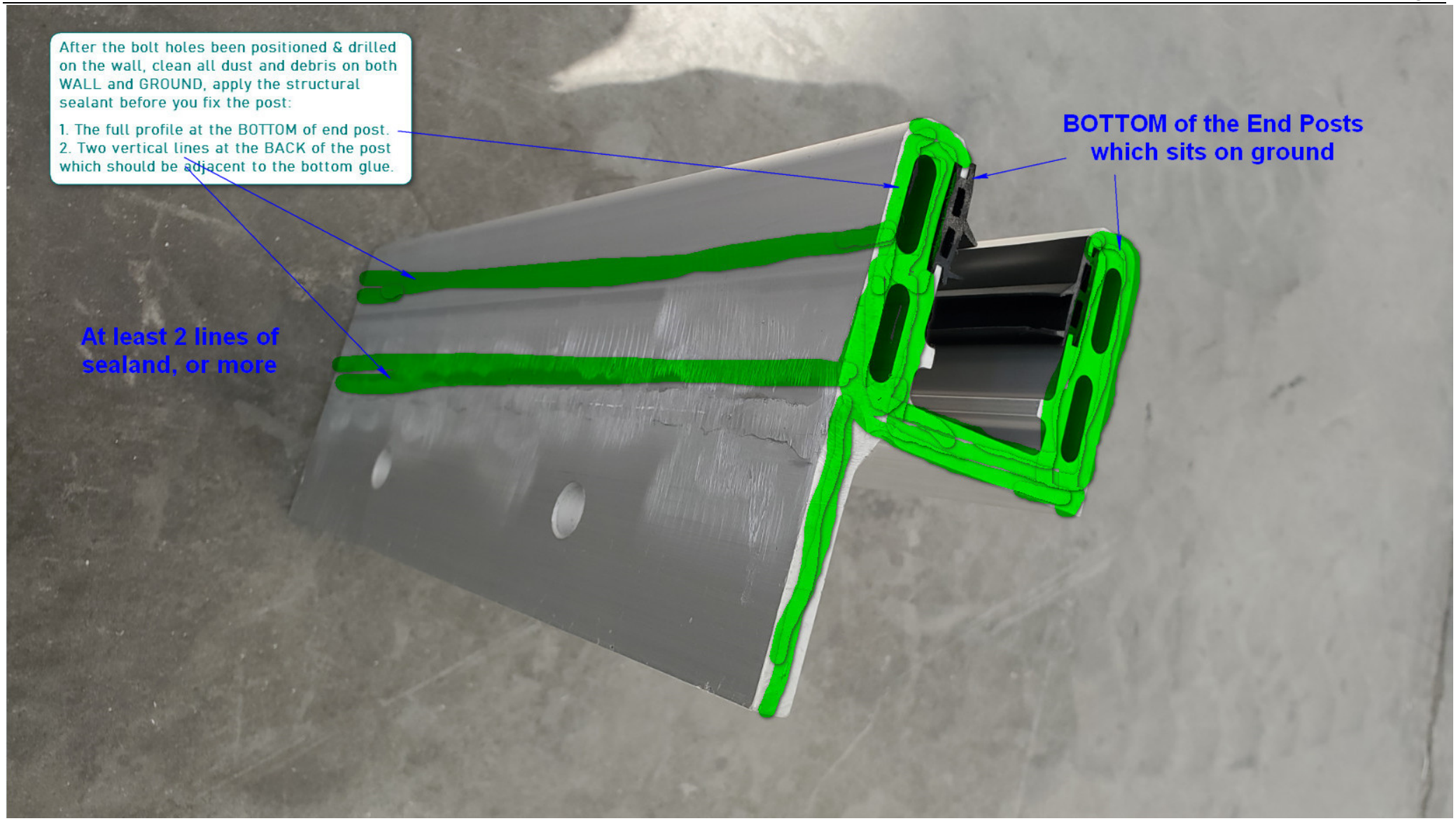

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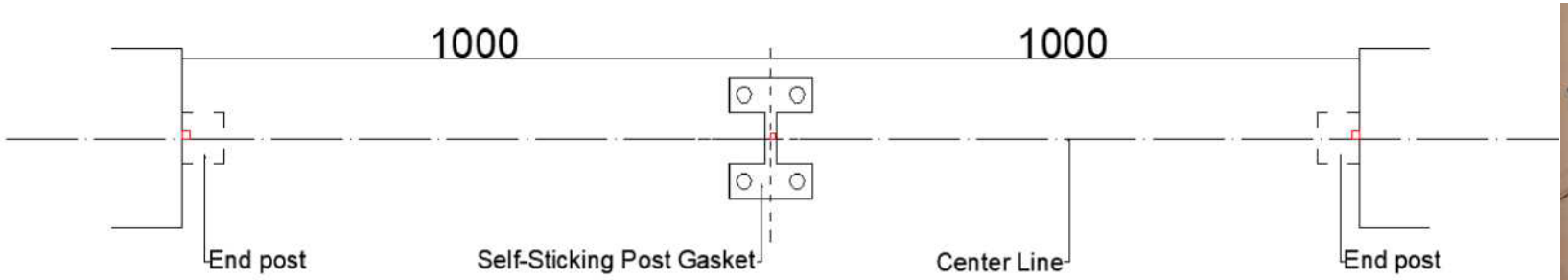
STEP 3: INSTALL THE REMOVABLE CENTRAL POST (IF IT IS REQUIRED IN YOUR PROJECT) (for this case, we demo in method A)

A.) For Anchor Sleeve type (to be discussed with us during design, if the current ground has an existing concrete layer with enough depth)

After you find the right position of the central post, find the EXTRA post gaskets with 4 holes in the wooden case which is for positioning, stick it on the ground (self-sticking side) based on the line you placed as the picture shows, and mark the 4 holes with a pen, double check the position and angle before next step.



Drill the holes for the preparation for the installation of Central Post--Drill the 4 holes which you marked on the ground concrete foundation (as the black arrow NO. 2 shows in the drawing in STEP2) for a depth 300-330mm (if your concrete base is 350mm, and our anchor sleeve is 300mm) with a driller of diameter 55+mm (the sleeve is Ø50mm). We recommend the water drill because it can give a very tidy profile as you see.

*__Please double check the sleeves size before you select the driller, because it may change as per different model.__

NOTE: For anchor sleeve with top SS plat, you may need to slot an extra square shape space to allow the SS top plate to fit in as pictures shows above.

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Clean the debris, rock and dust in the holes, drain the water inside and do something to dry the holes, for example, apply a few cement powder on the hole's wall. Then inject the Anchor Adhesive with the gun as the picture shows, at a depth of 1/2 to 2/3, please judge the dose on the situation in field.

Place the anchor sleeves in and make sure the top surface of the sleeves parallel to the original ground surface (you can put the bolts of the central post in as a handle for the adjustment operation). After it dries, trim the edge and surface with cement mortar to get a very smooth ground. Then align the 4 holes on the base of the central post to the sleeves and bolt the post tightly. (The picture shows the finish of anchor plate with top ss plate)

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B.) For Anchor Plate type (to be discussed with us during design, if the current ground has not enough existing concrete layer for load bear)

1. Dig cave on ground and fabricate the steel cage

If the ground has NO or NOT ENOUGH concrete layer for the easier anchor sleeve embedding, then it will require to dig at least a single square shape cave to be constructed with reinforced cement structure for load bear purpose, during which the anchor plate should be embedded. First please dig a deep cave (the picture shows H500*W500*L500mm), clean it from rocks and debris, use Ø10-14 steel rod to fabricate a steel cage in appropriate dimension as shown to fit in the cave (The picture shows H450*W450*L450mm)

2. Fix the anchor plate firmly in this cave before cement mortar filled. [THE MOST CRUCIAL STEP]

I. Draw a center line on surface of the top SS plate, and align it to the position line in STEP1.

II. For MASS CONSTRUCTION WORK, we will supply 2 pcs or more parallel steel beam as pictures shows to save positioning time in large project.
For SMALL INDIVIDULE WORK, if you like our above idea of parallel steel beam's quick positioning, you can find 2 pcs of strong and straight wooden beam (will not deform after hanging by the anchor plate weight), drill holes on them to allow the central post's fixing bolts through, and tighten the bolts into the

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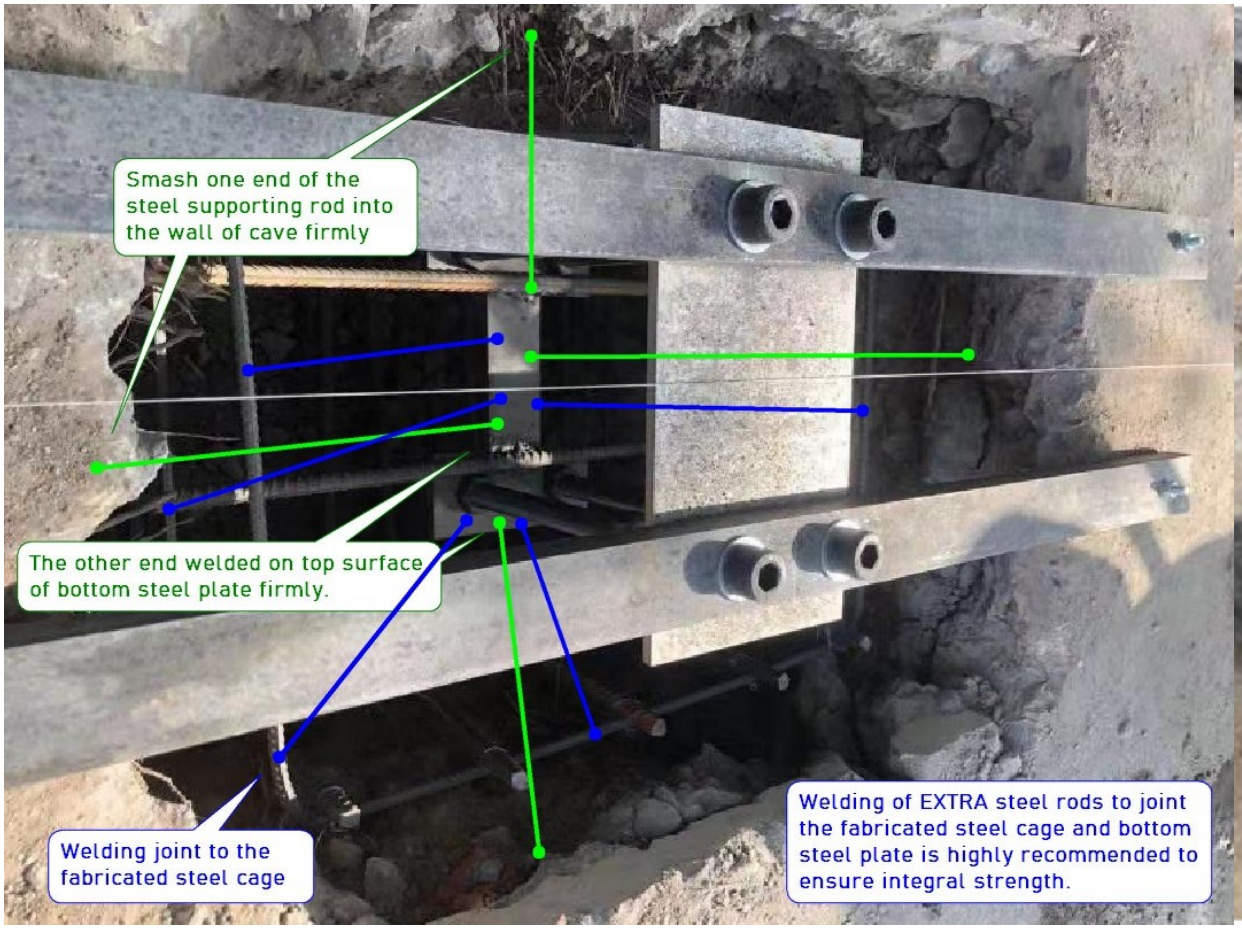
holes on the top SS plate. But normally you just need to insert the central post's 4 fixing bolts into the 4 holes of the top plate, to act as handles for your lift. Align the center line drawn on the top plate to the position line as shown in orange, try to level up the surface of top SS plate parallel to the ground surface (It doesn't matter if the surface is not perfectly level to the ground, because it can be adjusted by the 2 nuts on both sides of the bottom steel plate later).

III. Prepare 4 pcs of extra steel rods, to fix the anchor plate in 4 directions as supporting. Punch one end of each rod firmly into the wall of the cave, and weld the other end firmly to the top surface of the bottom steel plate. It would be even better if you could have the supporting rods to join the cave wall, now the fabricated steel cage and the bottom steel plate are in a whole integrity!



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NOTE:

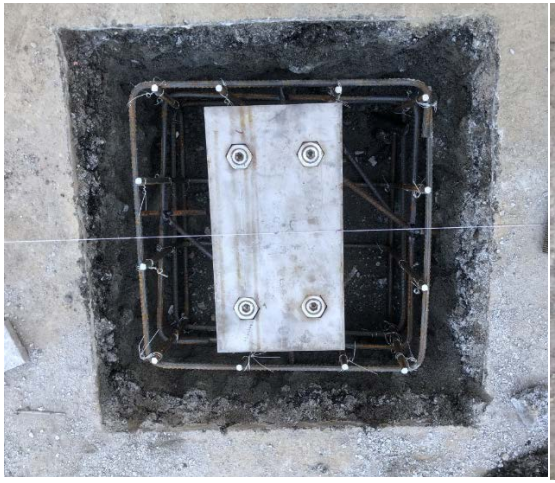
a. The welding should not affect the nuts loose or tighten operation if any further levelling adjusting is need.
b. The welding with the supporting steel rod can be only done at the bottom steel plate, not any other part on the anchor plate.
c. Tighten the 2 nuts on sides of the bottom steel plate on EACH THREAD, to lock the bottom steel plate first before you carry out the welding operation.
d. Always leave enough space for wrench operation on the bottom nuts which is under the bottom steel plate if any further levelling adjusting is required.

In general, the basic idea is to fix the anchor plate into the cave firmly with top surface parallel to the current ground as perfect as possible. Then after the filling of the cement mortar, a flat surface with anchor plate embedding will be obtained. The above is based on our idea and experience, you are encouraged to find out your own solution with your best knowledge.

3. **Adjust the bolts on sides of the bottom steel plate to level the surface to the ground if required.**

4. **Pour the cement mortar in to the cave and level the surface carefully. After it dries, the anchor plate embedding is done.**

5. **Check if the bottom self-adhesive gasket has been applied to the central post and align the post base on the embedded anchor plate, put the fixing bolts in and tighten all of them. After flood season, after the central post is removed, please remember to apply the protection bolt to the anchor plate to prevent debris and dust corrosion to the thread.**



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***STAINLESS STEEL C-SHAPE CHANNEL EMBEDING (OPTIONAL AND EXTRA STEP IF YOUR PROJECT REQUIRED):**

As per customer request, or for some special model aiming for top water seepage character **(such as NFP-50)**, a pc of Stainless Steel C channel or more pcs are included in the package to be embedded in ground at the same time when the installation of anchor parts in STEP 3 is carried out.

1. Find the correct location for the SS C-shape channel according the drawing and mark the lines for location.
2. Cut the ground along the lines with a saw in enough depth; Slot , remove and clean the target location for a clean space for the C-shape channel to sit in for double check, with the top surface level to the remaining ground surface, as well as to the surface of the anchor plate embedded next to it.
3. Take the C-shape channel out and pour the cement mortar in, then insert the channel and use a rubber hammer to knock on surface to level up. Make sure the cement mortar under the C channel is full filled and solid to support.
4. Clean the surface after cement dries.
5. Now an integral embedded part for both C-shape channel and anchor plate is obtained.

For complete installation for embedding parts, please refer to the Youtube video link carried out by our Thai agent.
https://youtu.be/mVGs8DxPl7E

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STEP 4: INSTALL THE PANELS AND GLASS PANES

A.) FOR DEMOUNTABLE FLOOD BARRIER

For Aluminum Barrier in our 1st generation Slot-in Type, slide in the aluminum barrier panel from the top or side and stack them one another, apply the pressing tool for downwards tight press. **Check the video here: https://youtu.be/05LG3wd6Le4**

For Aluminum Barrier in our 2nd generation Side-compress Type, place and stack the aluminum barrier panels one on another, rotate the main pole and apply the pressing tool for downwards tight press. **Check the video here: https://youtu.be/k_FeNukkcrw**

B.) **FOR GLASS FLOOD BARRIER**

It won't quite work as sliding from the top because glass is very heavy and with great friction unless some lubricant applied. We recommend inserting the glass panel FROM THE SIDE. Please carry out one module by another: after one post is fixed, insert the glass pane in from the side, and the other end of the glass be inserted to the central post when it has not fixed yet, adjust the central post which has contained the glass carefully to align to the holes of the embedded anchor parts for fixing, press the glass down to the bottom, then carry out the same steps for the next glass. (For the last pc of glass wall which will be in the fixed end post, you may need some lubricant such as detergent or sanitizer mixed water because the only choice is slide the glass in from top. **Check the video here : https://youtu.be/j6uFHpMhPEU**

We have already applied the bottom gaskets on one side of the glass, which should face downwards to the **CLEAN AND SMOOTH** ground.
You might need a crane at site for glass installation in future if it is in large pane for example 1.2m*3m in great heavy. But if the glass pane is within the man power capacity, we will supply the glass handling tool--4 pcs of Air Suction Disks, for you to handle the glass with man hand:
PLEASE MAKE SURE the glass surface where the disk contacts is VERY CLEAN, or the glass may fall off during operation!

Place it on the surface of the glass and repeat the pressing on the bottom marked in red continuously till you feel no further suction, now you can lift.

When you lift and move especially when you PUT DOWN, **please watch very carefully on the 4 corners of the glass because it is the weakest point of safety glass**.

Press the green key to release after glass positioned.

And always watch over your BODY SAFETY, always trust your judgement more than the disk itself!

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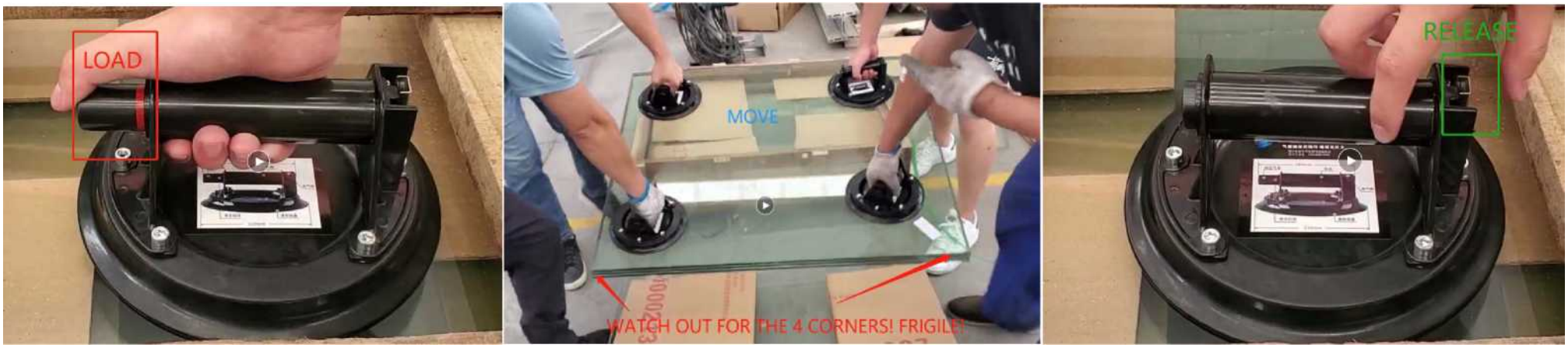
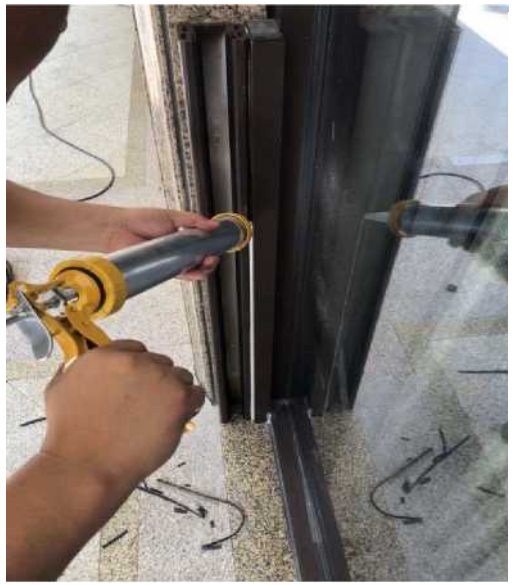
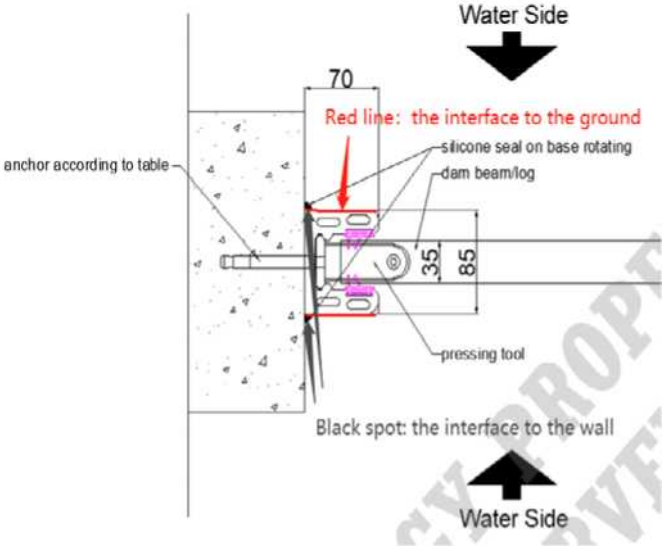


STEP 5: Apply the Structure Adhesive attached (black default) for water sealing (We always use structure adhesive instead of conventional watertight sealant because it has much higher strength itself, you can replace it with transparent or white watertight sealant if you don't like them).

For Aluminum Barrier: to all the edge of the interface between the end posts and the wall AND the ground, to prevent leakage from side. Not necessary for the central post because it will be removed in future (A post gasket has been adhered on the bottom of the central post for you in advance).





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For glass wall, after you apply the same procedure as the aluminum one, please test the leakage first, considering it is permanently constructed you can decide if you would need extra sealing work on all possible seams, such as the bottom gasket-ground interface, glass-posts interface, to obtain 0 leakage.

STEP 6: *FOR GLASS FLOOD WALL ONLY

Place the aluminum or SS frame show in the picture to the top of the glass pane, you can apply some transparent sealant inside before you install if you don't intend to uninstall it any more. (Please make sure you install the frame as the last step, NEVER INSTALL IT BEFORE YOU PLACE THE GLASS INTO THE POST!)

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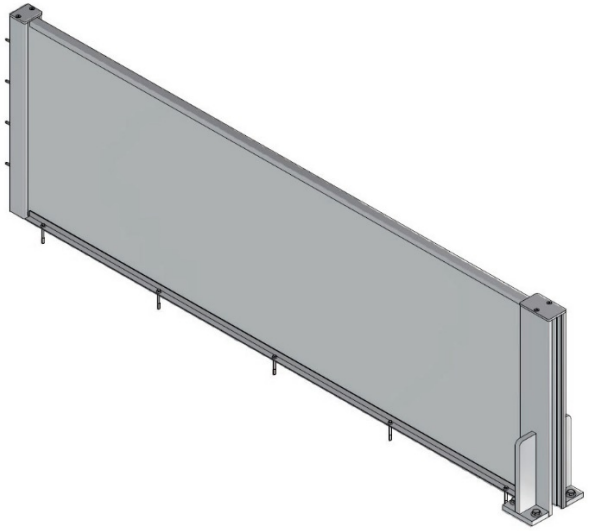
STEP 7: *FOR GLASS FLOOD WALL ONLY

Install the aluminum or SS L-shape corner key at the bottom of the glass on both sides, fixed them with bolts into the ground(the picture below on right is not showing). You may need to apply sealant as well if you think any small leaking at bottom is not tolerable.



1. Our regular glass pane for Glass Flood Wall, is in light green color, the Super-white color is available as customer request on extra cost.
2. We will pre- install the bottom gasket for the glass pane and the bottom gasket for the central post for small order, but in large project order, we will leave the job to customer.
3. In future, if you want to replace the EPDM gaskets in the posts and the barrier panels, apply some adhesive at the 2 ends of the gasket to prevent it fall out of the structure during dismantling and moving. It has to be a bit loose because it has to be convenient the placing-in in production.
4. You will find all necessary backups spare parts and tools in the packing.
5. The Air-Suction Disks, Anchor Adhesive, Structure Adhesive is only free for small order. For large project in large quantity, we will probably get into trouble during China's export declaration if the cargo under inspection.
6. We will design the anchor parts pattern based on the project detailed site information.
7. The above installation is based on our knowledge and you are always encouraged to develop your own working way upon your knowledge and welcome to share with us.