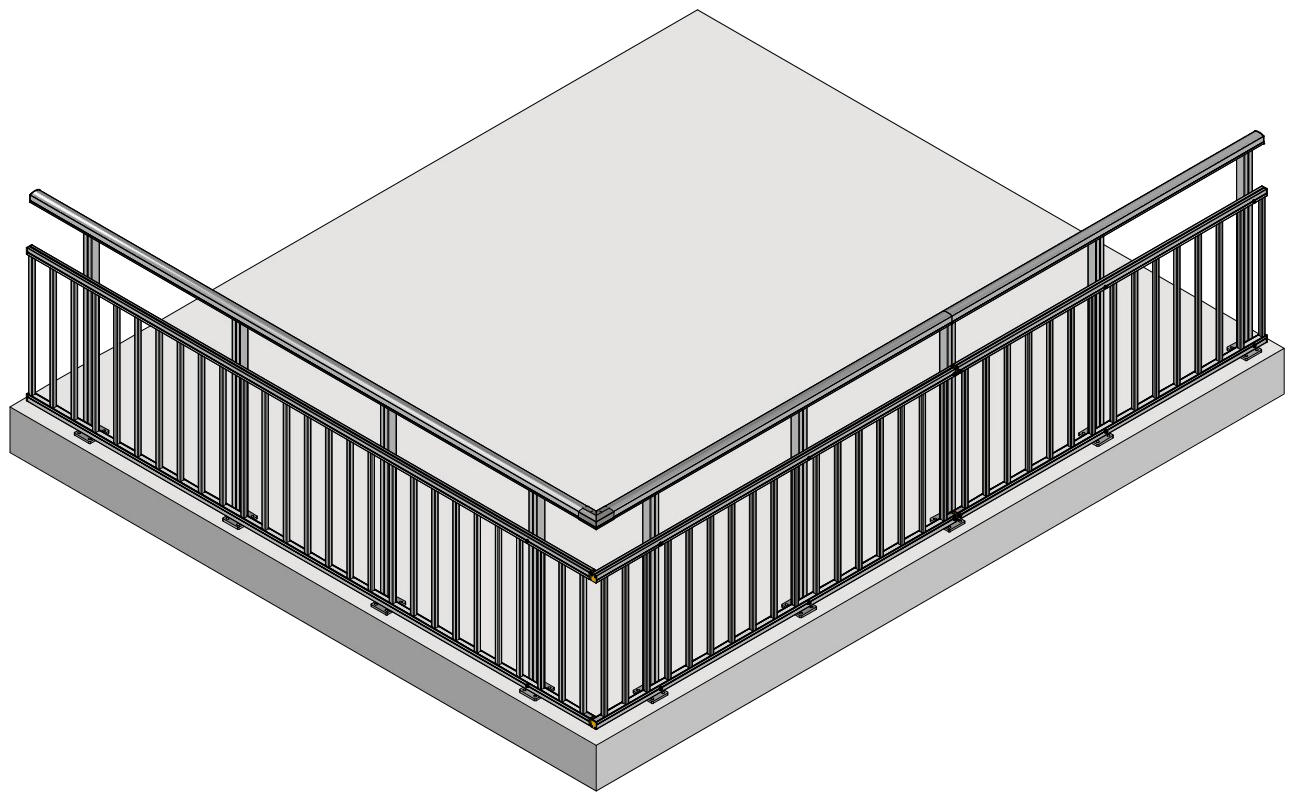
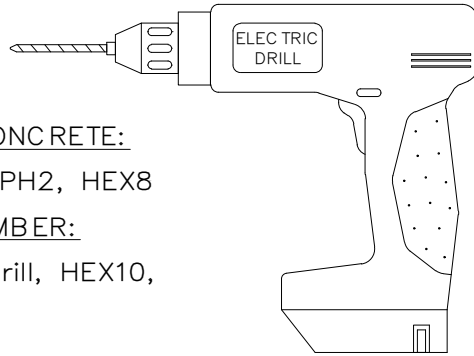


BALCONY RAILING
BODO
TOP
MOUNTED
INSTALLATION MANUAL



NECESSARY AND ADDITIONAL HELPFUL ITEMS FOR INSTALLATION:



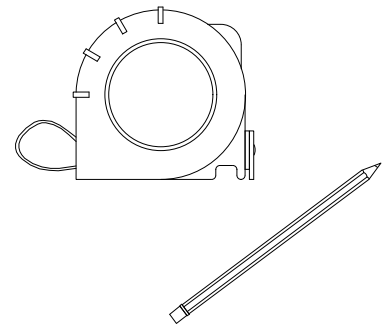
Drillbits for CONCRETE:

SDS plus M8, PH2, HEX8

Drillbits for TIMBER:

Ø6mm wood drill, HEX10,

TX40, PH2

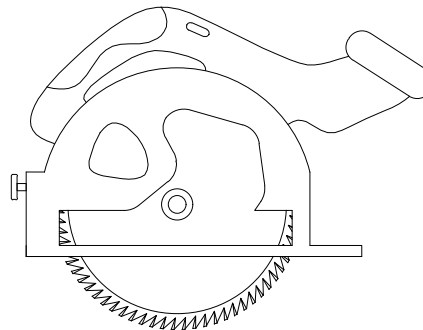


Measuring tape & pencil

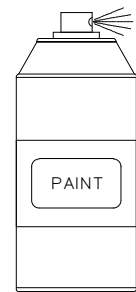
Electric drill for TIMBER
Hammer drill for CONCRETE



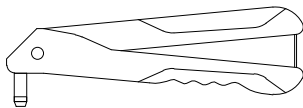
Soapy water spray
(Optional)



Angular saw
cold cut



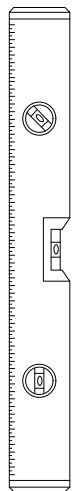
Repair paint
(Optional)



Riveting pliers



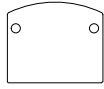
CAUTION



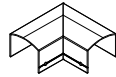
Level

- **READ THE WHOLE INSTALLATION MANUAL BEFORE STARTING.**
- Handle all parts with care – aluminium frames can bend or scratch easily.
- Railings are powder coated, paint can be damaged if profiles are left on uneven surfaces and not handled properly.
- Balcony railing installations have to follow the requirements set by a country's legislation. Innore takes no responsibility of damage and casualties that have occurred due to non-compliant installation.
- Do not install during windy weather conditions.
- Safety is number one priority when dealing with heights, always use personal protective equipment.

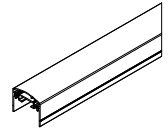
LIST OF DIFFERENT COMPONENTS:



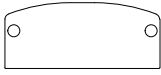
Handrail 51X43 endplate



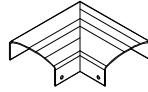
Handrail 51X43 corner



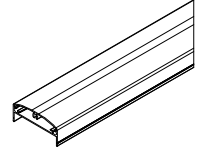
Handrail 51X43



Handrail 82x35 endplate



Handrail 82X35 corner



Handrail 82X35



Handrail 42,4X2 end cap



Handrail 42,4X2 corner



Handrail CHS 42,4X2

Milled end of railing for 42,4x2 handrail

Rivet, endplate to handrail

Self-drill screw, bodo frame to column.

Expansion anchor HSA-R w. nut and washer, baseplate to balcony

Self-drill screw for handrail fastening

Top of column plate for without handrail

Self-drill screw for top of column plate

HB SPL EVO screw connecting column to timber

Bodo frame endplate

46x46mm

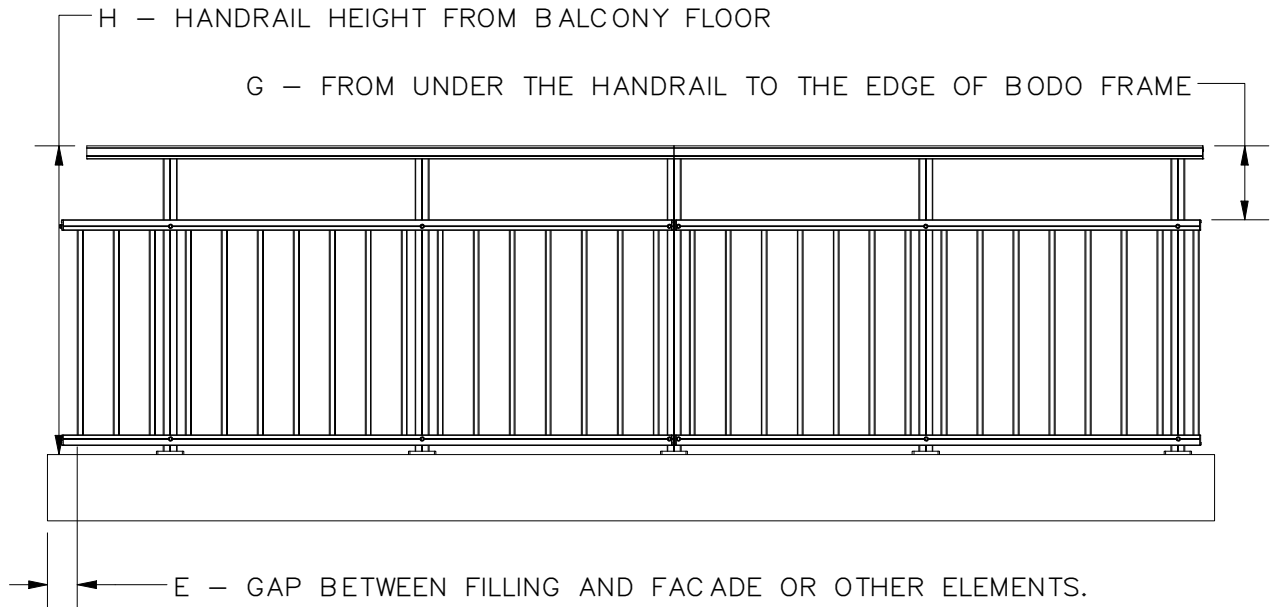
Column with baseplate, connection to timber

46x46mm

Column with baseplate, connection to concrete

Bodo frame 29x34mm profile, vertical columns 20x20

OVERALL REGULATIONS



If you ordered from the e-store, you need to cut the column to the correct length.

To calculate the correct length:

1. Measure your bodo frame height.
2. Add the height of the gap you are leaving.
3. Add the bodo frame height.
4. Add the G measurement required in your country.
5. Include the portion of the column that is concealed beneath the handrail for its attachment. (For Norway you have to subtract that distance)

The sum of these values gives you the column height.

If your balcony floor is raised (not at the same level as the column fixing point), measure the maximum gap (up to 50mm) from that surface and adjust accordingly.

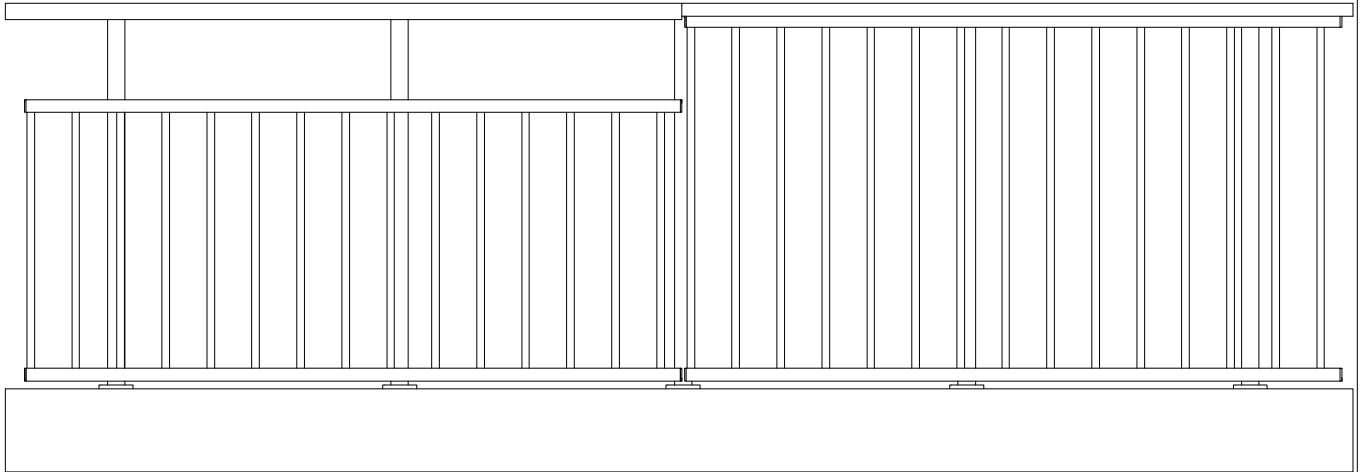
	Norway	Finland	Estonia	Sweden	Denmark	Germany
G (mm)	MAX 250	<200	<200	<110 AND >230	MAX 250	MAX 250
E (mm)	MAX 100	MAX 50	MAX 50	MAX 50	MAX 100	MAX 100
H (m)	1 or 1.2	1 or 1.2	1 or 1.2	1.1	1 or 1.2	1 or 1.2

* Norway has a regulation difference: G – From **TOP** of handrail to the edge bodo frame

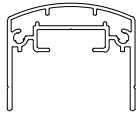
HANDRAIL AND BODO FRAME OPTIONS FOR BOTH BASE STRUCTURES – CONCRETE & TIMBER.

T1

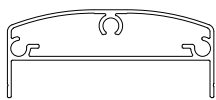
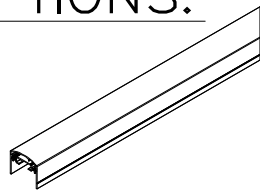
T3



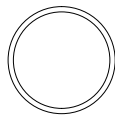
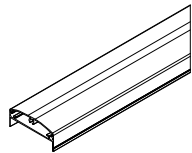
T1 OPTIONS:



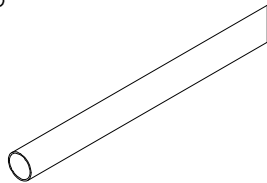
Handrail 51X43



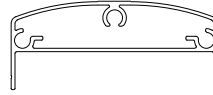
Handrail 82X35



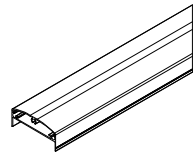
CHS 42,4X2



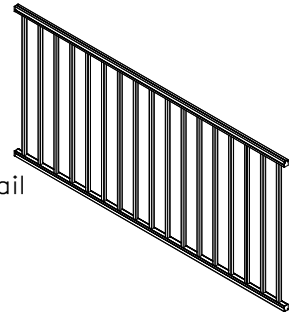
T3 OPTIONS:



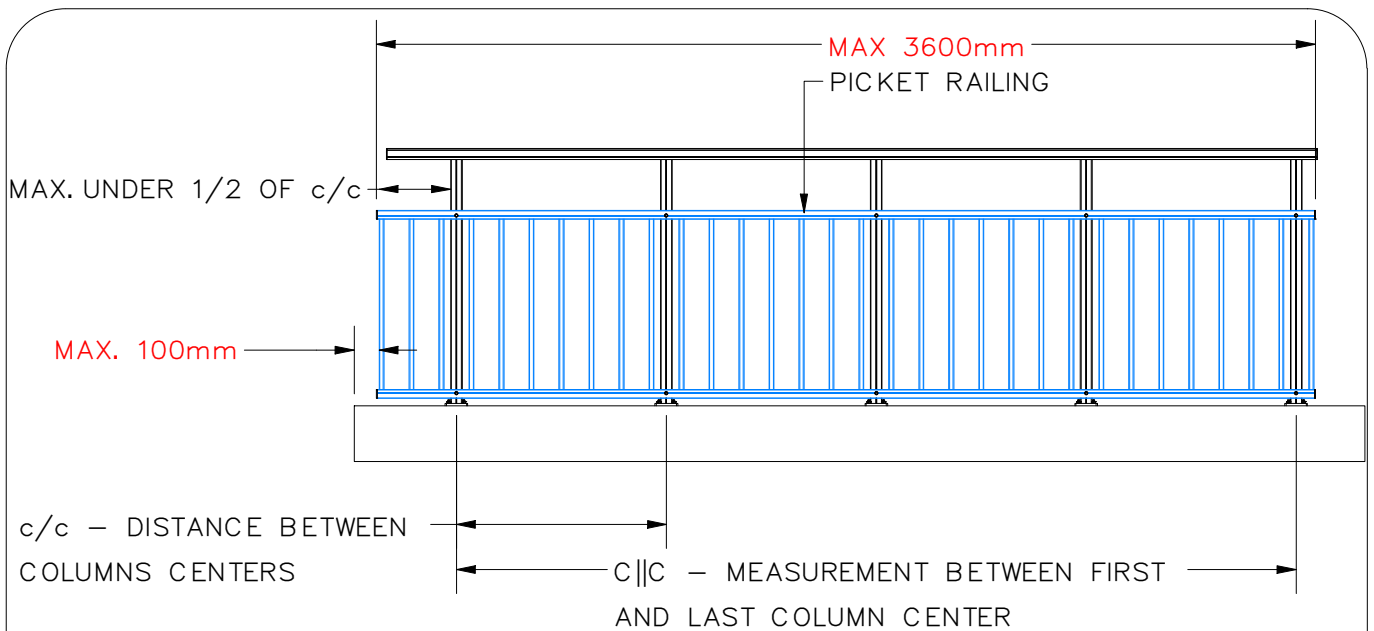
Handrail 82X35



Without separate handrail option. Column has a endplate, bodo frame itself is the handrail.



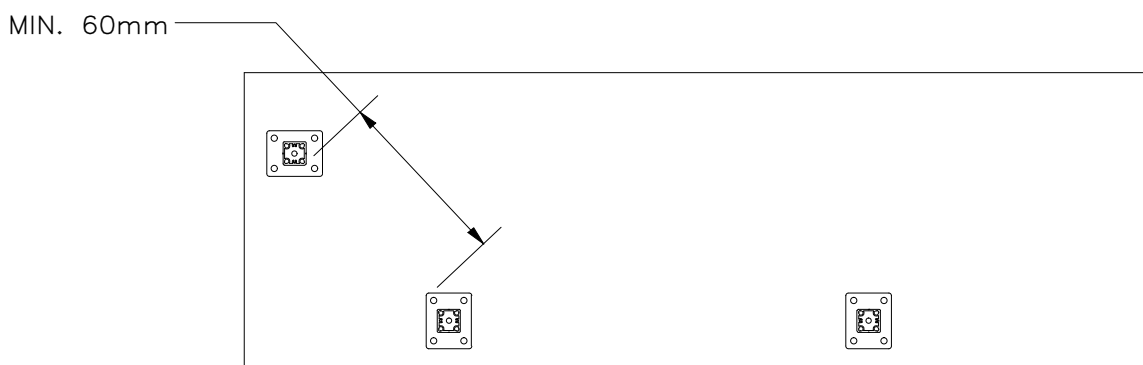
SEE STEP 5 FOR FURTHER INFORMATION ABOUT DIFFERENT TYPES OF HANDRAILS.



STEP 1. CALCULATE DESIRED COLUMN SPACING (c/c). $c/c = \frac{C||C}{\text{DESIRED SPACING NUMBER}}$

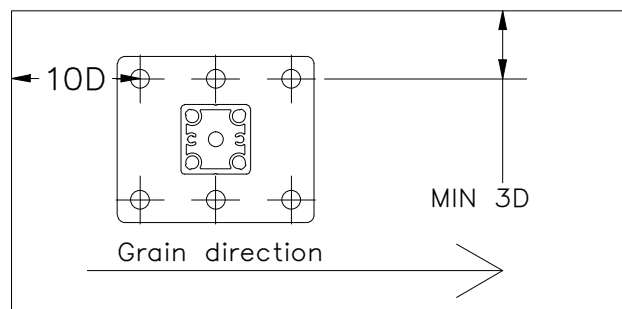
Make sure your column is exactly between two pickets.
In case your picket increment is 119mm,
your spacing should be 714mm 833mm or 952mm etc.

STEP 2. MARK THE DRILL HOLES TO BALCONY



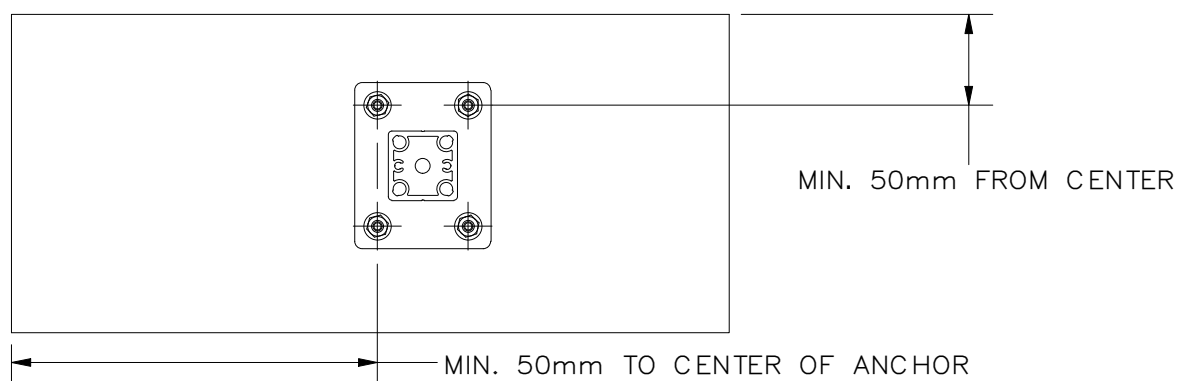
Corner distance from edge to edge has to be over 60mm.
Otherwise there might not be enough space for CHS handrail corner detail installation.
Make sure by trying to fit corner detail between columns in the corner,
if it fits there, you have enough space.
Note that the handrail has to go enough inside corner detail to fasten it.

TOP MOUNTED TIMBER – Minimum 10D from center of the screw to the edge of balcony. D = Fastener diameter. Ø10 has to have 100mm from edge.



1. Baseplate has 6 holes in it, mark the center points of the holes.

TOP MOUNTED CONCRETE – Minimum 50mm with M8 anchors and 70mm with M10 anchors from edge of balcony.



1. Use the anchor center distance from the edge to get the correct measurement.
2. Mark the center points of the holes.

ROTHOBLAAS HBS
PLATE EVO SCREW
DATASHEETS AND
INFORMATION



HILTI HSA-R WEDGE
ANCHOR
DATASHEETS AND
INFORMATION



INNOR

PRODUCT:
BODO TOP

SHEET NAME:
MEASUREMENTS – TOP MOUNTED

DATE:

PAGE:
7

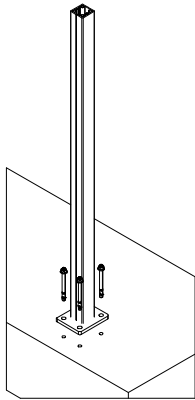
VERSION:

FORMAT:
A4

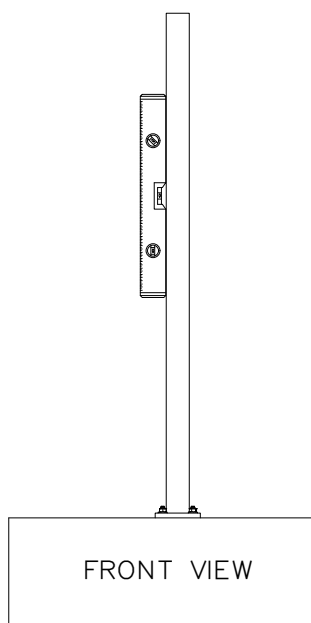
STEP 3. DRILL THE HOLES AND FASTEN THE COLUMNS

TOP MOUNTED TIMBER

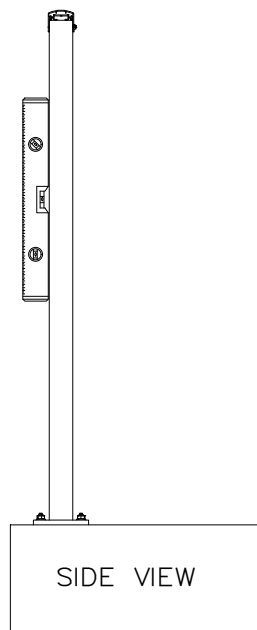
1. Predrill $\varnothing 6$ holes.
2. *In case you are going through waterproof layer, use roof sealant before fastening.*
3. Fix base plate with column to ground with correct fasteners according to project.
4. Check with level before fixing tight.
5. Check that the column is securely fixed.
6. Proceed with the installation of the remaining columns.



FIX COLUMN WITH BASE PLATE WITH CORRECT FASTENERS



FRONT VIEW

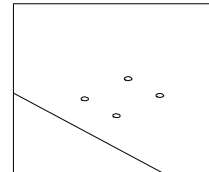


SIDE VIEW

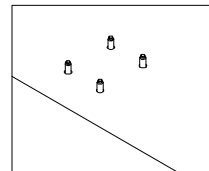
TOP MOUNTED CONCRETE

1. Mark the drill bit with a marker to set the correct drilling depth (min. 85 mm for expansion anchor).
2. Drill $\varnothing 8$ mm holes.
3. Clean the holes with a vacuum cleaner.
4. Hammer the anchors into the drilled holes.
5. Place the column with the base plate onto the anchors.
6. Make sure the column is correctly positioned, use a level.
7. Tighten the nuts by hand first, then use a wrench (this will expand the bottom part of the anchor).
8. Check that the column is securely fixed.
9. Proceed with the installation of the remaining columns.

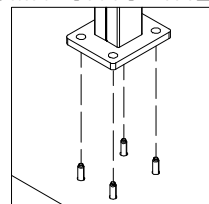
DRILL THE HOLES



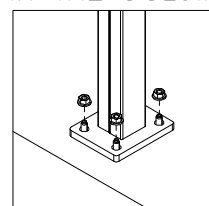
HAMMER IN THE ANCHORS



PLACE COLUMN ONTO THE ANCHORS

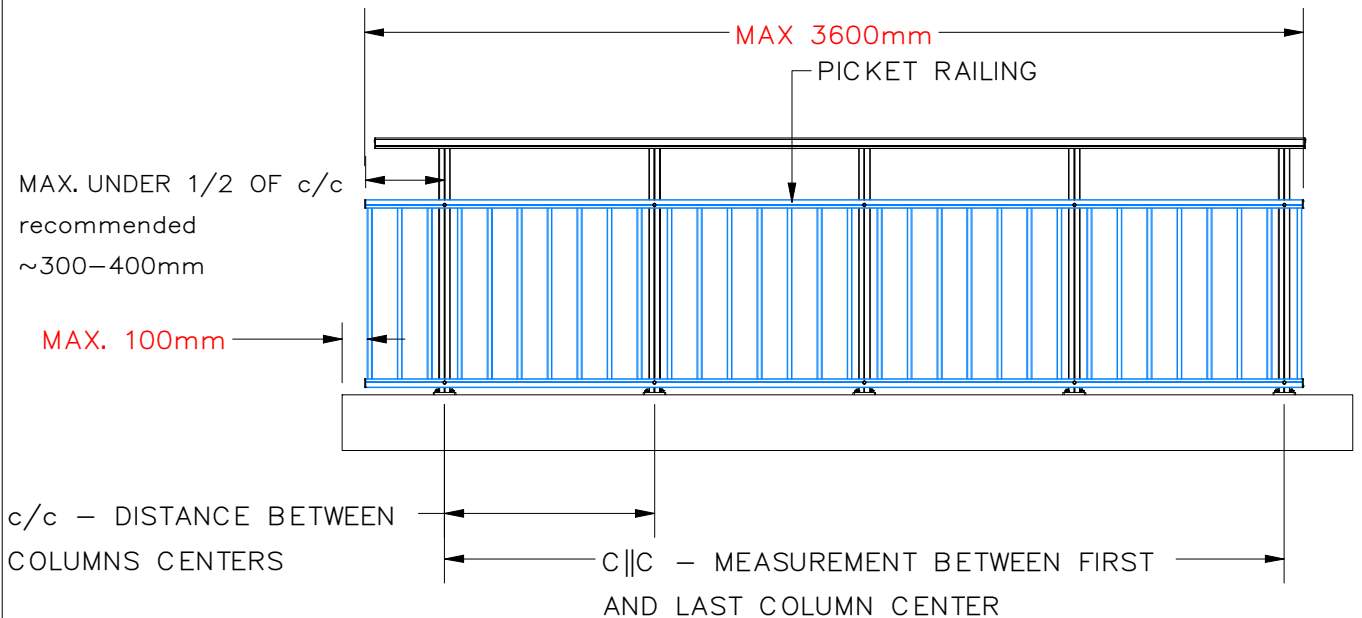


FIX THE COLUMN

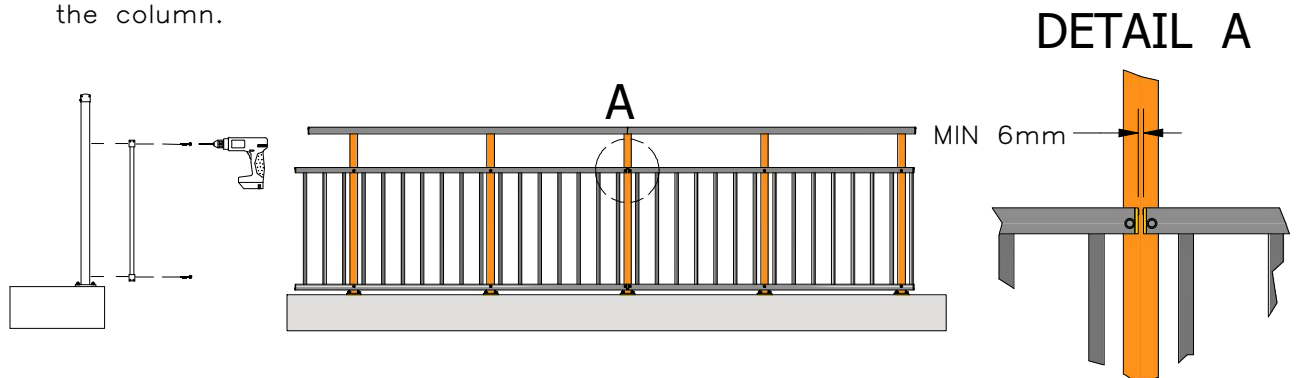


STEP 4. FIX BODO FRAMES TO COLUMNS.

1. Bodo frame has already been assembled according to ordered dimensions.
2. It is recommended to have an assistant for this step, or use distance blocks when fastening the screws.
3. Follow the height given from configurator to position the railing at the correct height.
4. Use two self-drilling screws per column to secure the Bodo railing: one at the bottom and one at the top (depending on the railing height).



- Maximum length of BODO railing is 3600mm, if balcony's side is longer it is necessary to make a continuation. Continuation should be made in the center of the column.



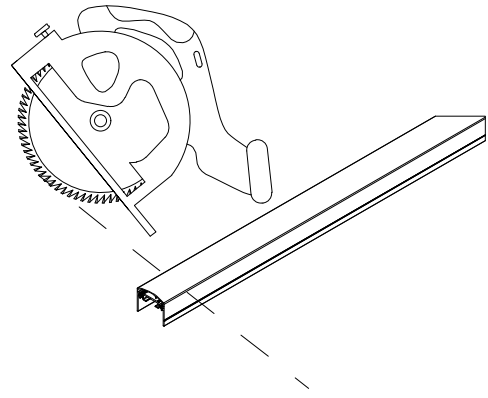
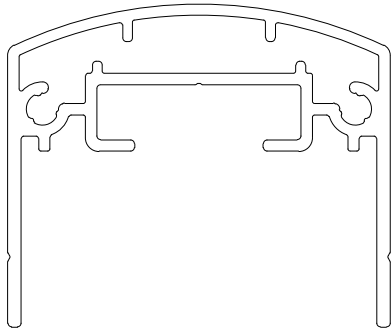
NB! If you purchased the 3m frame section (Bodo section) from the online store, it comes without pre-drilled mounting holes due to variable column spacing.

Drill holes on site as follows:

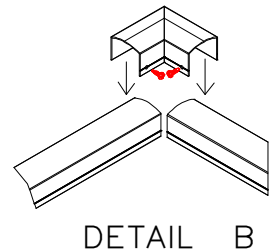
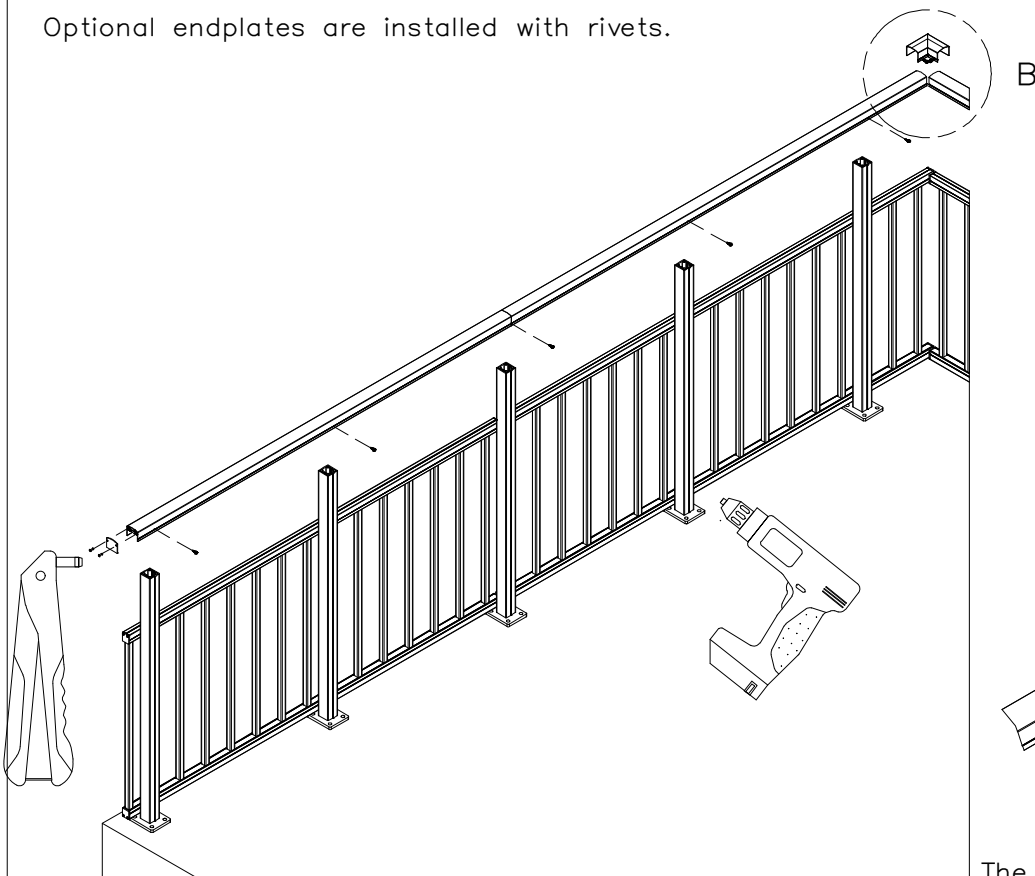
1. Use a drill bit 1.5 mm larger than the screw diameter.
2. When drilling aluminium, use ethanol for a clean cut.
3. Make sure the condensation holes face downward during installation.

STEP 5. CUT AND FIX THE HANDRAIL

HANDRAIL 51X43



Cut the handrail to desired length.
Fasten handrail to columns using self-drilling screws.
Optional endplates are installed with rivets.



The corner piece is fastened to the handrail with self drilling screws. In case the corner piece overlaps a column, secure both the corner and the handrail to the post by the same screw.

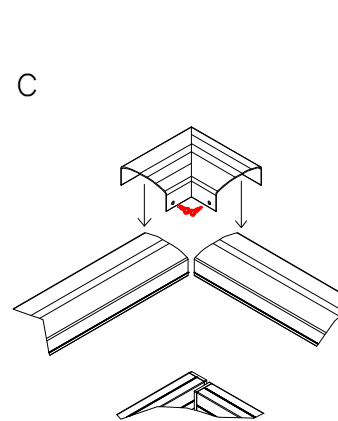
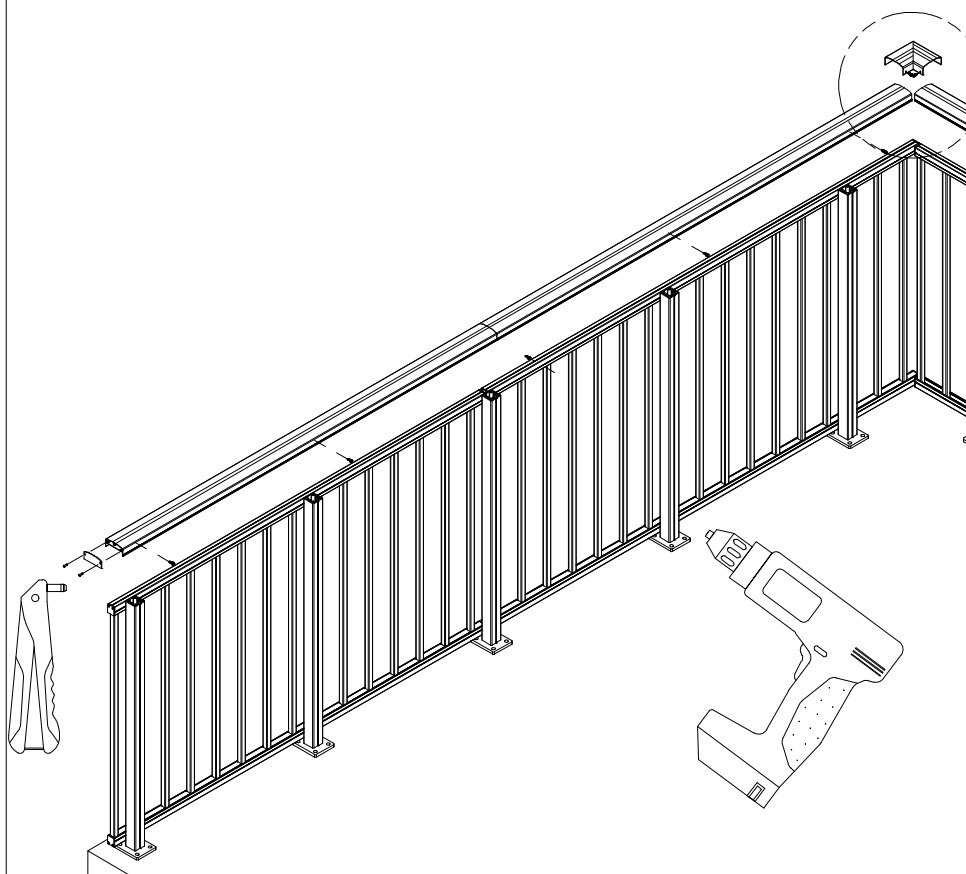
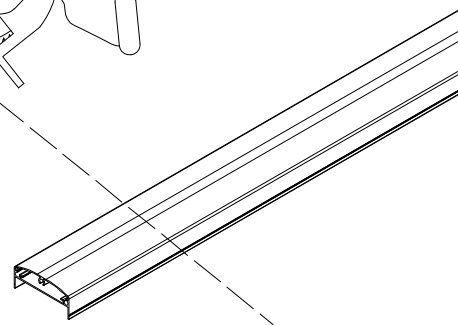
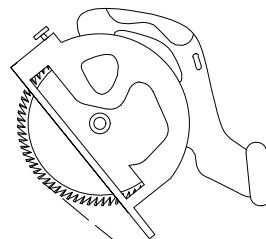
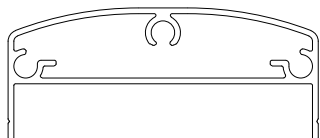
STEP 5. CUT AND FIX THE HANDRAIL

Cut the handrail to desired length.

Fasten handrail to columns using self-drilling screws.

Optional endplates are installed with rivets.

HANDRAIL 82x35



DETAIL C

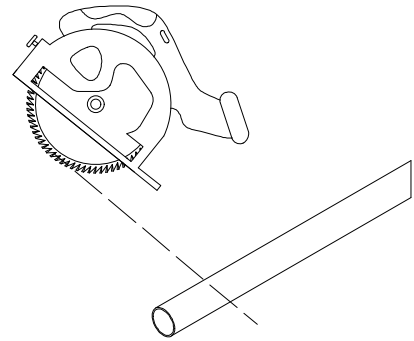
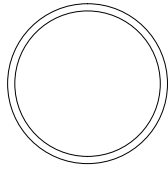
The corner piece is fastened to the handrail with self drilling screws. In case the corner piece overlaps a column, secure both the corner and the handrail to the post by the same screw.

STEP 5. CUT AND FIX THE HANDRAIL

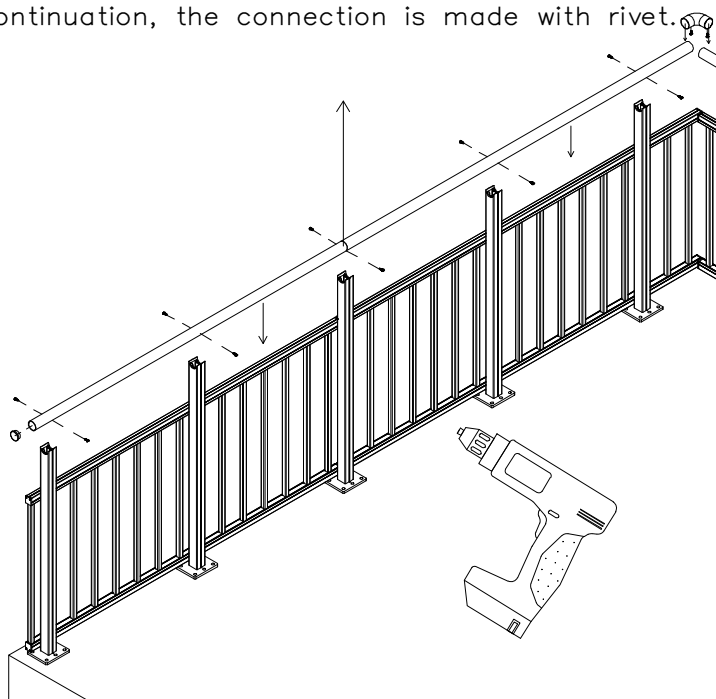
Cut the handrail to desired length.

Fasten handrail to columns using self-drilling screws.

CHS 42,4X2



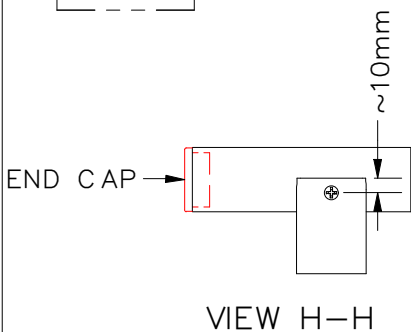
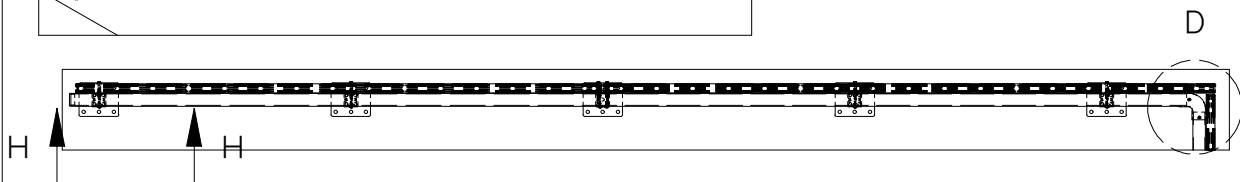
2 screws per column; in case of handrail continuation, the connection is made with rivet.



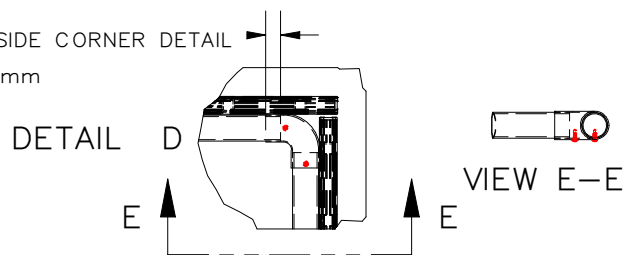
Note that CHS handrail is fastened with self-drilling screws from both sides.

Ensure that the handrail extends at least flush with the column edge so that the fixing screw does not interfere with the end cap.

You need to press the handrail firmly while drilling the screw to prevent it from lifting.



HANDRAIL MUST BE INSIDE CORNER DETAIL
MIN 20mm; MAX IS 35mm



Handrail has to be at least flush with the column so self drilling screw does not interfere with endcap.

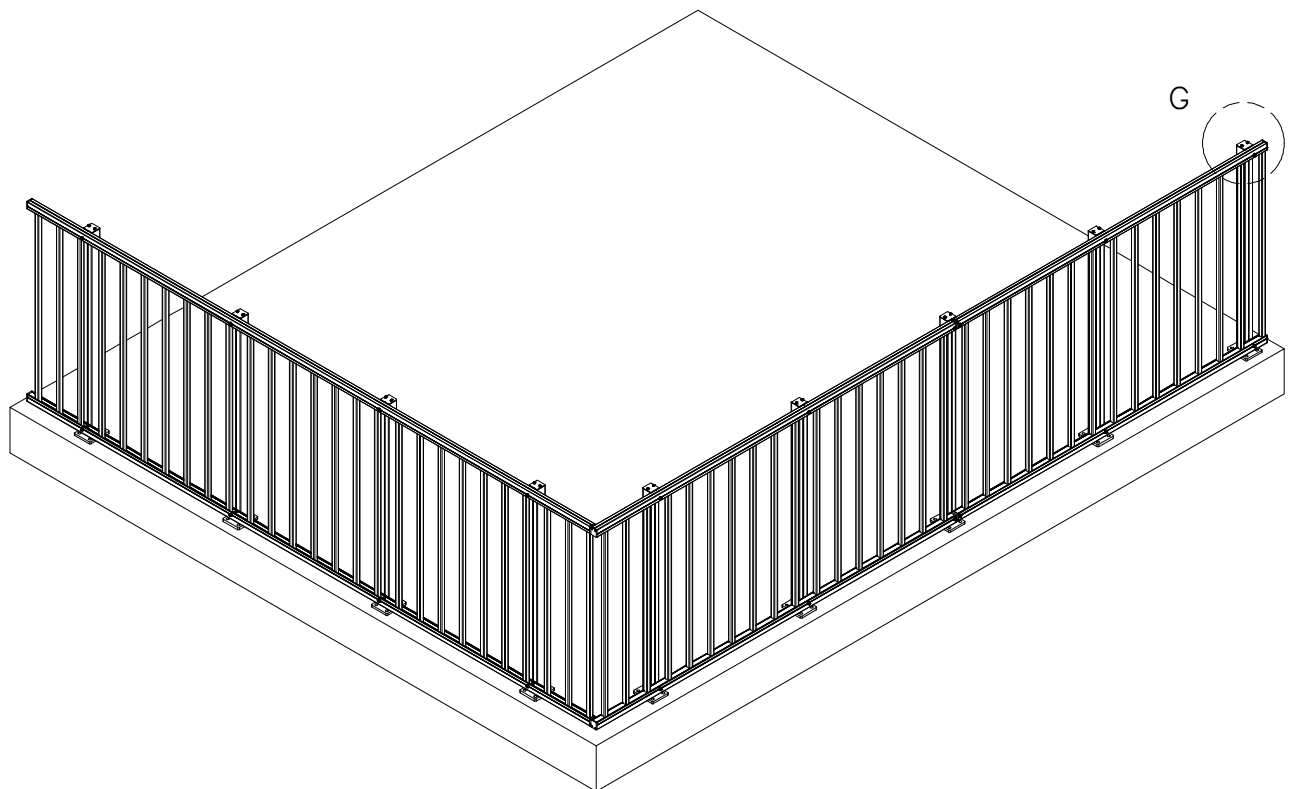
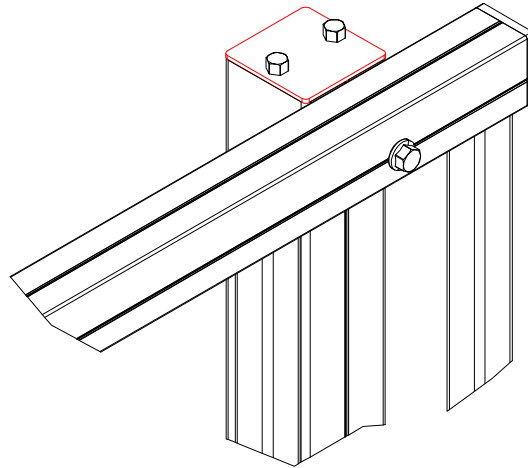
ROUND HANDRAIL CORNER.

The red-marked screws are used to fasten the corner detail to the handrail. Leave enough room between the handrail end and the column to allow access for the screw underneath or from side.

STEP 5. CUT AND FIX THE HANDRAIL

This option does not have a handrail, instead it has 2x46x46mm endplates fastened with self drilling screws to the top of the columns.

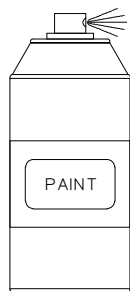
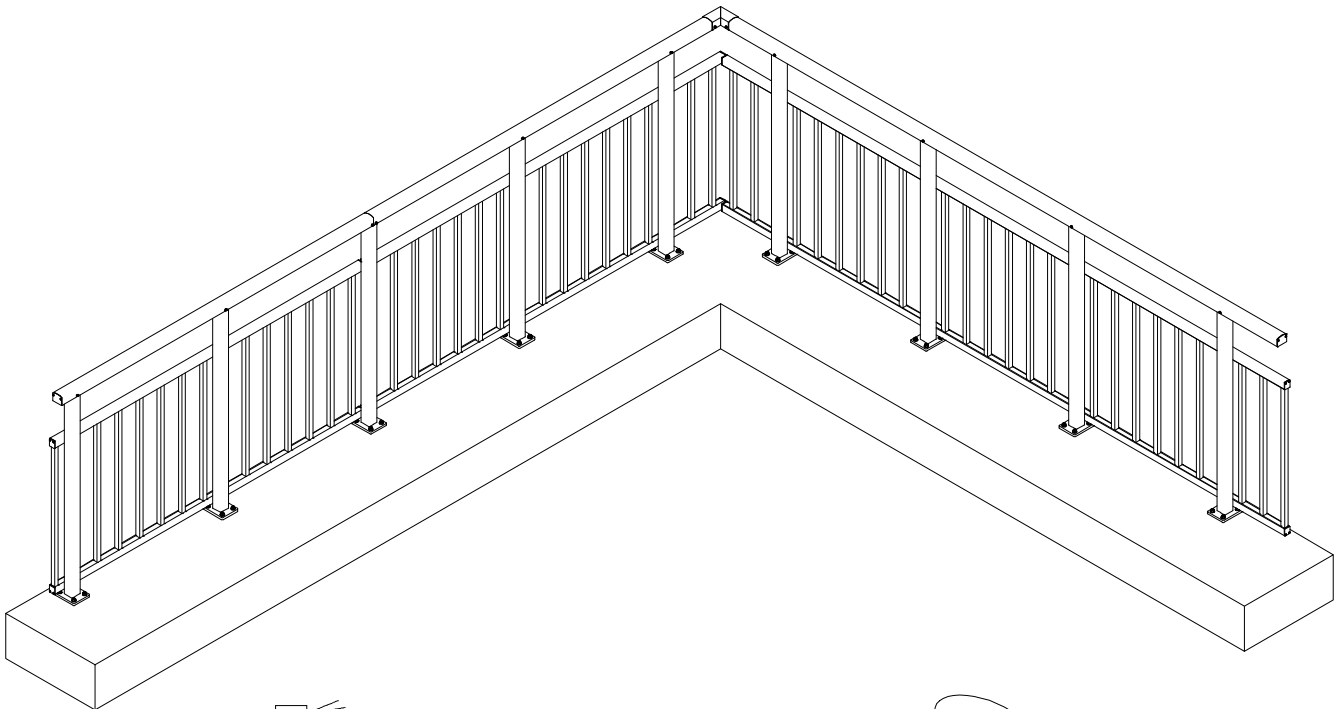
DETAIL G



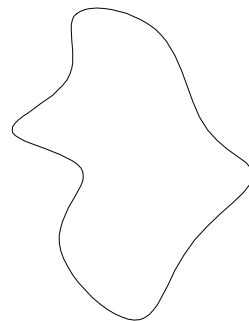
STEP 6. FINISH THE BALCONY ASSEMBLY

Clean railing with microfiber cloth.

If any damage has occurred during installation to painted parts, repair paint with correct ral code can be used!



RE-PAINTE IF NEEDED



CLEAN THE ASSEMBLY

Enjoy your new Innore railing and stay safe!
Designed for safety, built to last.

Thank you for choosing Innore railing systems – Your Innore railing is designed and manufactured in Estonia with a focus on safety, durability, and timeless design.

Keep your railing in perfect condition:

- Clean regularly with mild detergent and water.
- Check fasteners and joints periodically.
- Avoid harsh chemicals or abrasive cleaners.
- Follow detailed steps in the Maintenance Guide.

For detailed information, see:

Maintenance Guide:

If you have any questions or need assistance, don't hesitate to contact us:

Email: info@innore.ee

Website: www.innore.eu

We're here to help you keep your railing safe, beautiful, and long-lasting.
Stay safe – and enjoy your view!

