

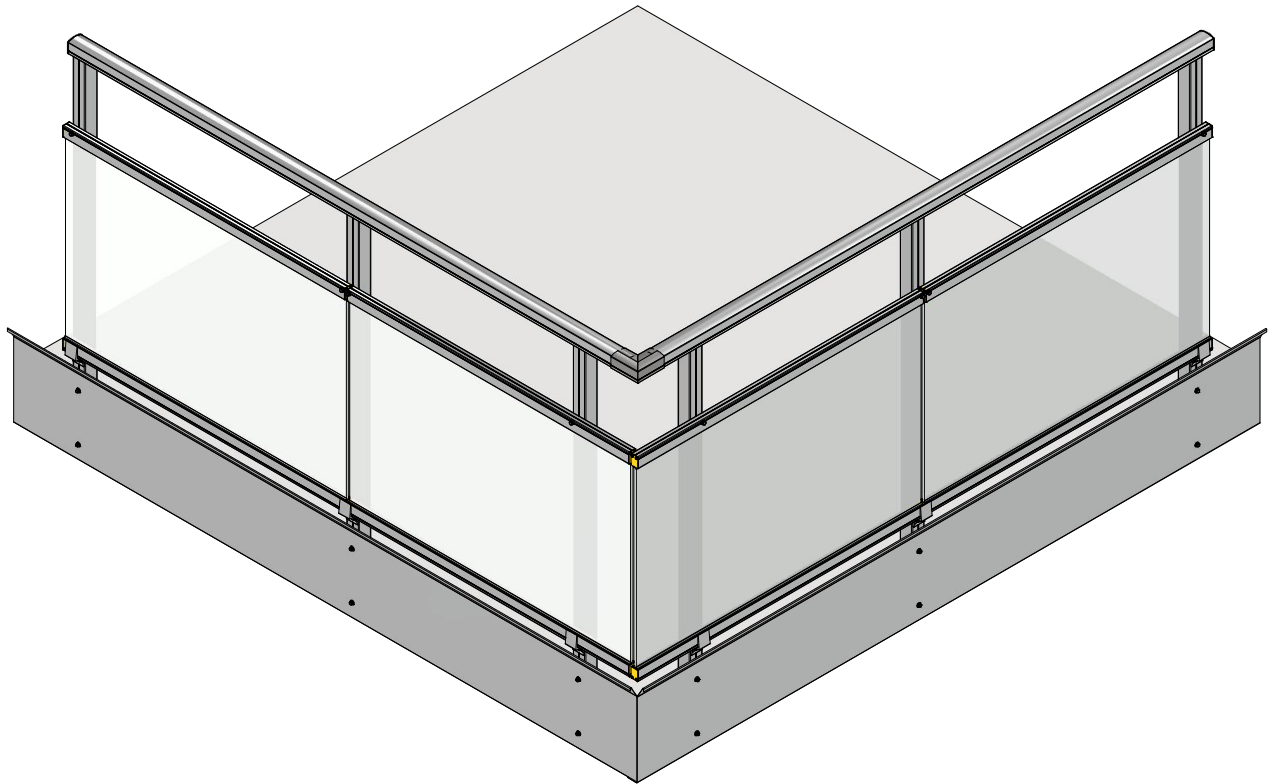
BALCONY RAILING

OSLO

SIDE

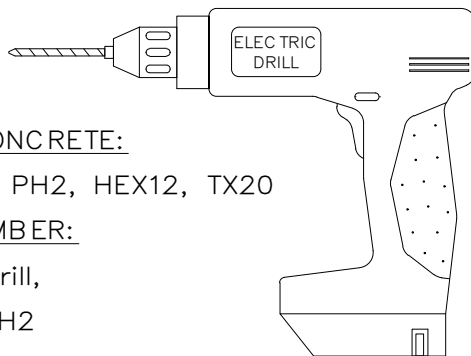
MOUNTED

INSTALLATION MANUAL



INNOR 

NECESSARY AND ADDITIONAL HELPFUL ITEMS FOR INSTALLATION:



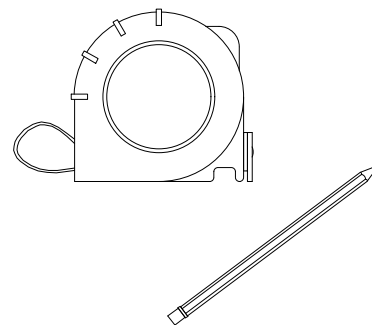
Drillbits for CONCRETE:

SDS plus M12, PH2, HEX12, TX20

Drillbits for TIMBER:

Ø6mm wood drill,

TX50, TX20, PH2

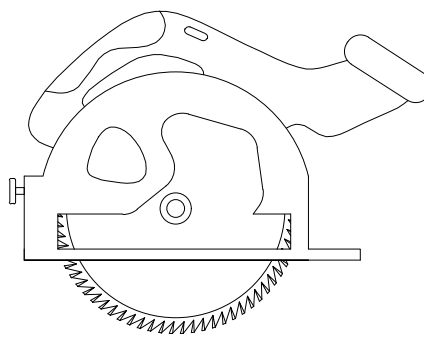


Measuring tape & pencil

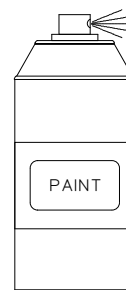
Electric drill for TIMBER
Hammer drill for CONCRETE



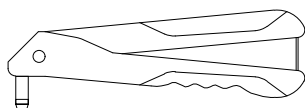
Soapy water spray
(Optional)



Angular saw
cold cut



Repair paint
(Optional)



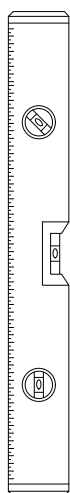
Riveting pliers



CAUTION

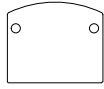
READ THE WHOLE INSTALLATION MANUAL BEFORE STARTING.

- It is easy to scratch and/or break glass panels, handle with care, use cut resistant gloves.
- 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. Glass railings are heavy in weight and bear a lot of wind due to a large surface area.
- Safety is number one priority when dealing with heights, always use personal protective equipment.

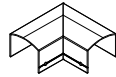


Level

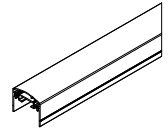
LIST OF DIFFERENT COMPONENTS:



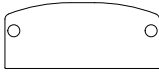
Handrail 51X43 endplate



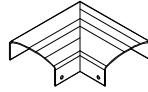
Handrail 51X43 corner



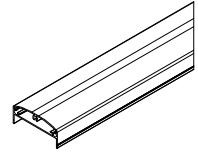
Handrail 51X43



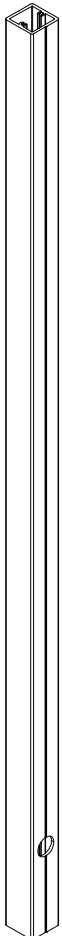
Handrail 82x35 endplate



Handrail 82X35 corner



Handrail 82X35



46x46mm

Column with

connection to concrete



46x46mm

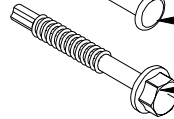
Column with
connection to timber



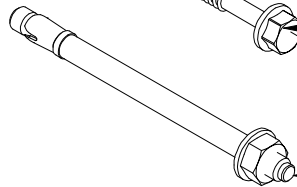
Glass lath stopper screws



Rivet, endplate to handrail



Self-drill screw,
25x37 frame with glass
to column.



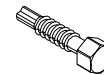
Expansion anchor HSA-R
w. nut and washer,
baseplate to balcony



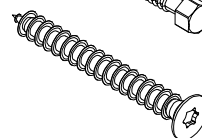
Self-drill screw
for handrail fastening



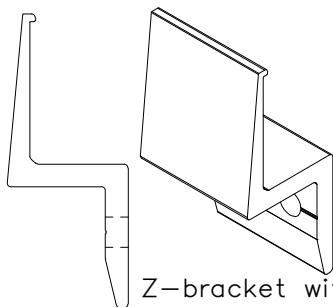
Top of column plate
for without handrail



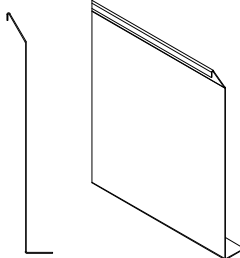
Self-drill screw for
top of column plate



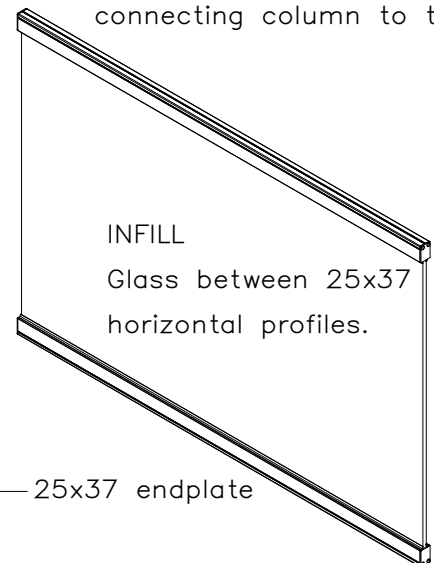
VGS EVO screw
connecting column to timber



Z-bracket with
connection to column



Sheet cover



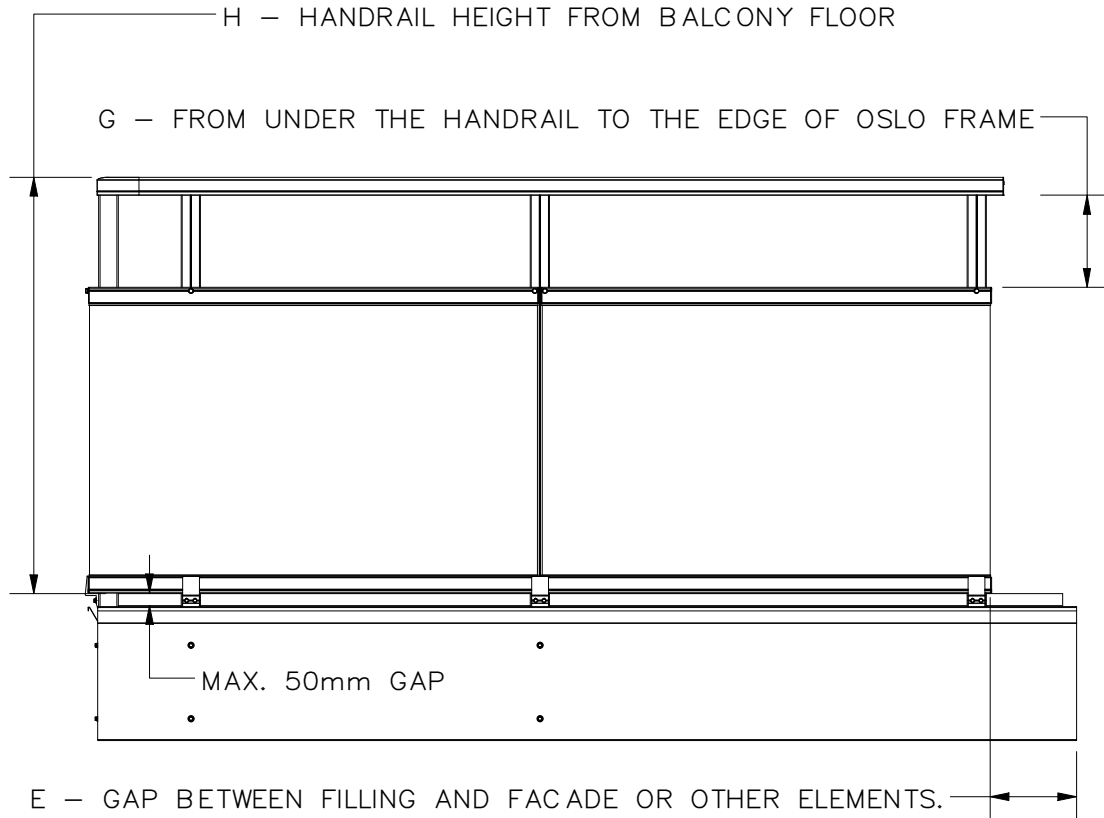
INFILL

Glass between 25x37
horizontal profiles.



25x37 endplate

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 infill height.
2. Add 50mm for the Z-bracket.
3. Add the infill height.
4. Include the G measurement required in your country.
5. Add the measurement from the bottom of Z-bracket to the bottom of column.

The sum of these values gives you the column height.

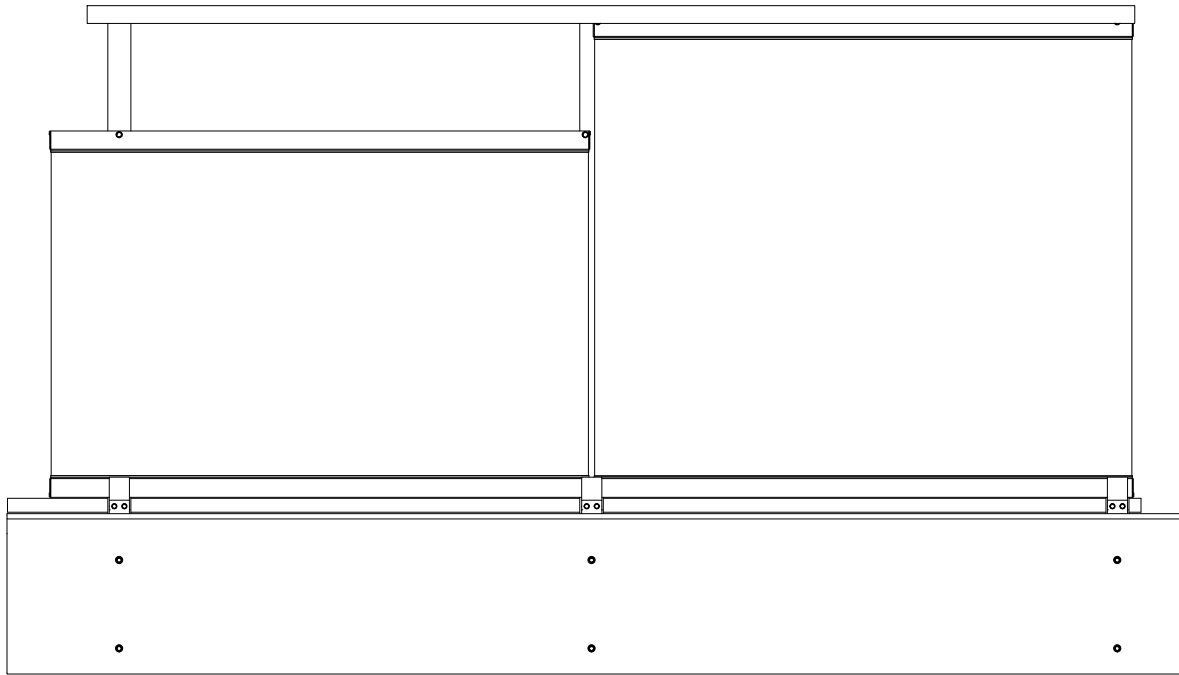
	Norway	Finland	Estonia	Sweden	Denmark	Germany
G (mm)	MAX 250*	<200	<200	MAX 260	MAX 250	<120
E (mm)	MAX 100	MAX 50	MAX 50	MAX 50	MAX 100	MAX 100
H (m)	1 or 1.2	1 or 1.2	1 or 1.2	1.1	1 or 1.2	1 or 1.2

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

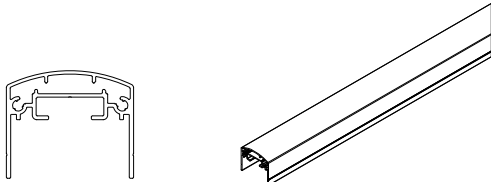
HANDRAIL AND INFILL OPTIONS FOR BOTH BASE STRUCTURES – CONCRETE & TIMBER.

S1

S3

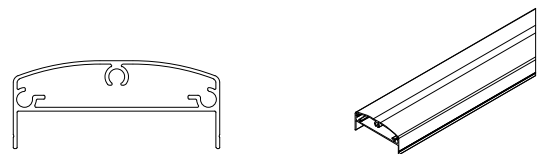


S1 OPTIONS:

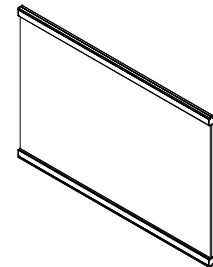


Handrail 51X43

S3 OPTIONS:

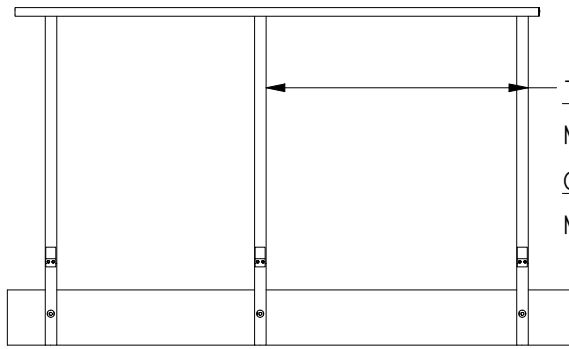


Handrail 82X35



SEE STEP 7 FOR FURTHER INFORMATION ABOUT DIFFERENT TYPES OF HANDRAILS.

Without separate handrail option. Column has a endplate, 25x37 profile itself is the handrail.



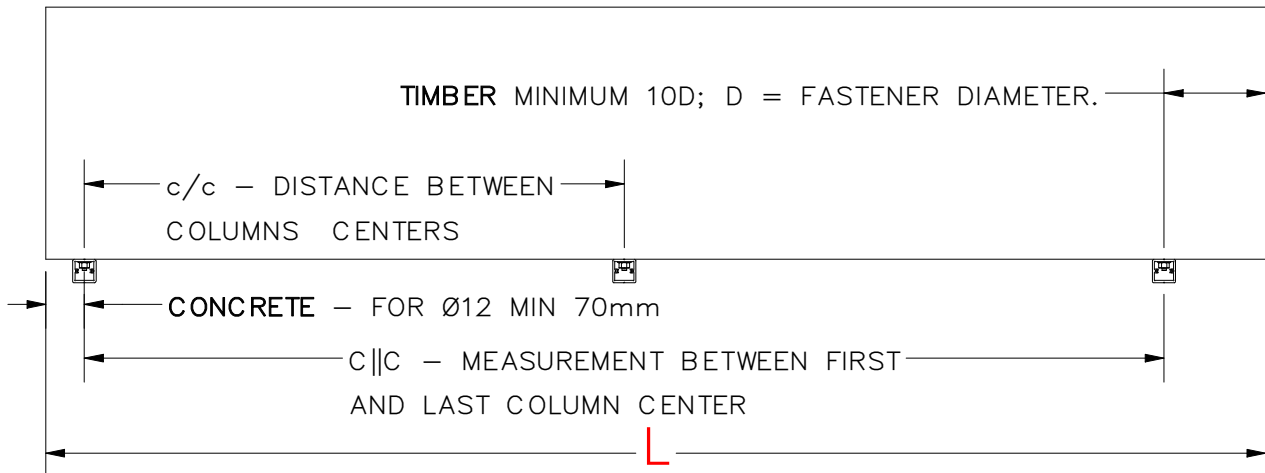
TIMBER max. column spacing 1194mm
 MIN base structure thickness 90mm.
CONCRETE max. column spacing 1187mm
 MIN. base structure thickness 90mm.

STEP 1. CALCULATE DESIRED COLUMN SPACING (c/c).

$$c/c = \frac{\text{DESIRED SPACING NUMBER}}{c||c}$$

Max. column spacing		
Height (m)	Concrete (mm)	Timber (mm)
1	1187	1194
1.2	1020	1026

*These apply to suburban terrain and villages and city environments considering wind load. For opened areas such as coastal areas and large areas with low vegetation, please contact Innore or your local structural engineer for further analysis of column spacing.



STEP 2. MARK THE DRILL HOLES TO BALCONY

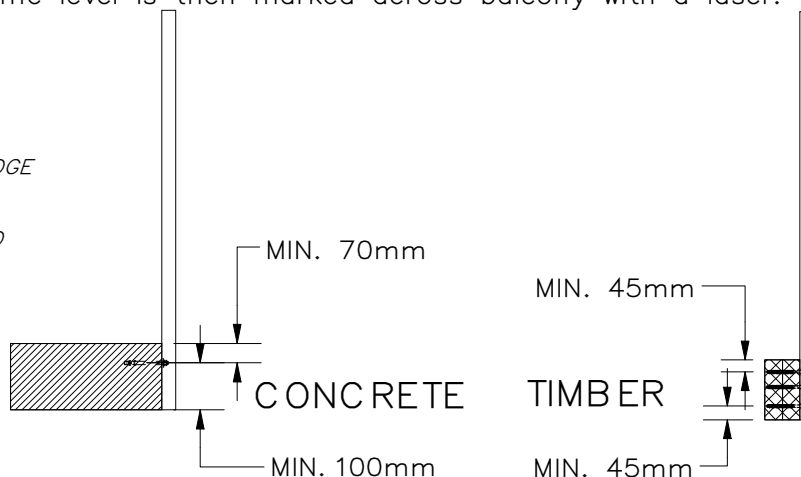
Important: ensure all fixing holes follow the handrail height.

If the base surface is not even, the railing will not be straight.

Typically, the lowest point is measured first,

and the same level is then marked across balcony with a laser.

HILTI HSA-R WEDGE ANCHOR DATASHEETS AND INFORMATION



ROTHOBLAAS VGS EVO SCREW DATASHEETS AND INFORMATION



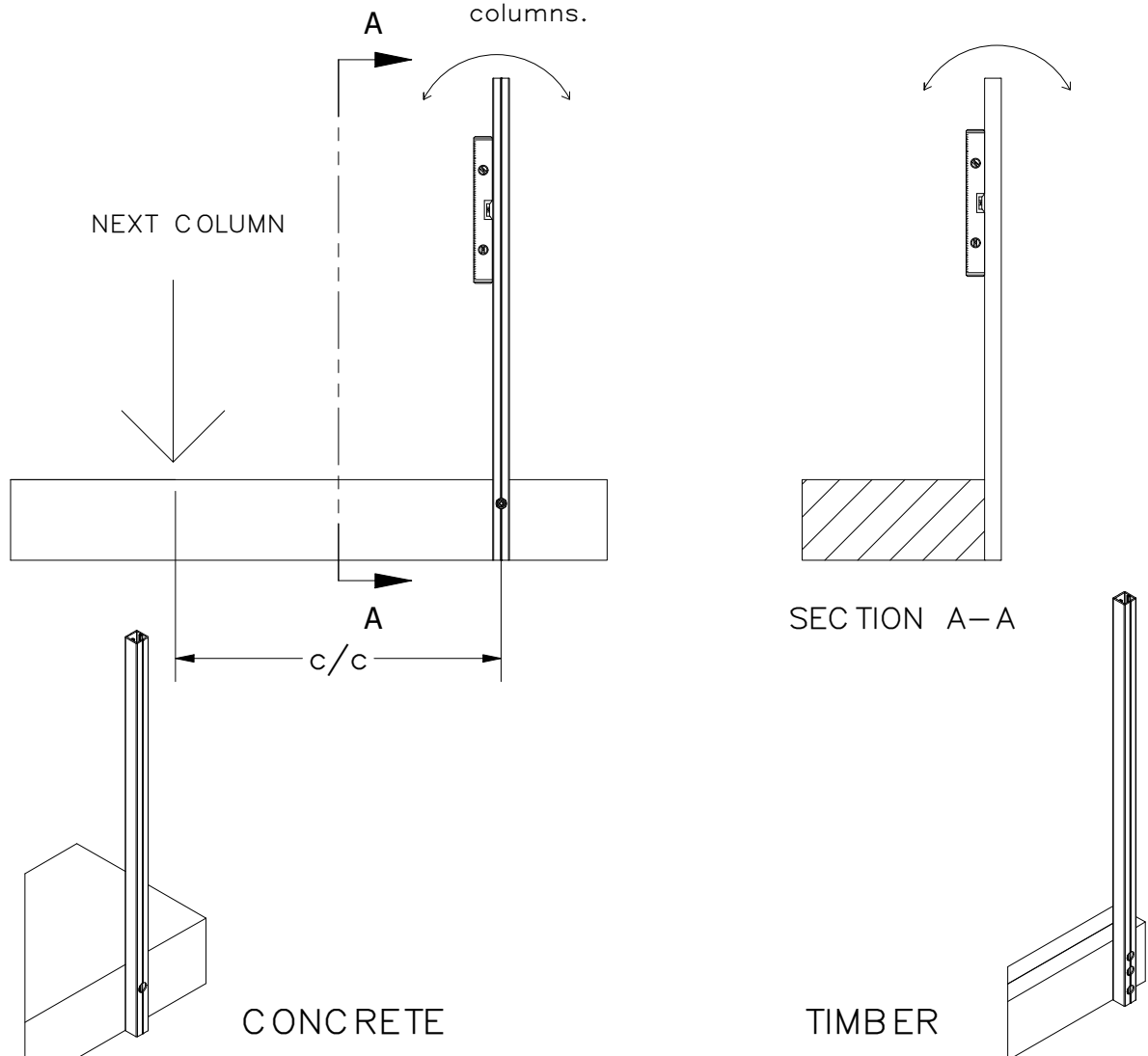
STEP 3. DRILL THE HOLES AND FASTEN THE COLUMNS

SIDE MOUNTED TIMBER

1. Predrill $\varnothing 6$ holes.
2. *In case you are going through waterproof layer, use roof sealant before fastening.*
3. Fix column to balcony 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.

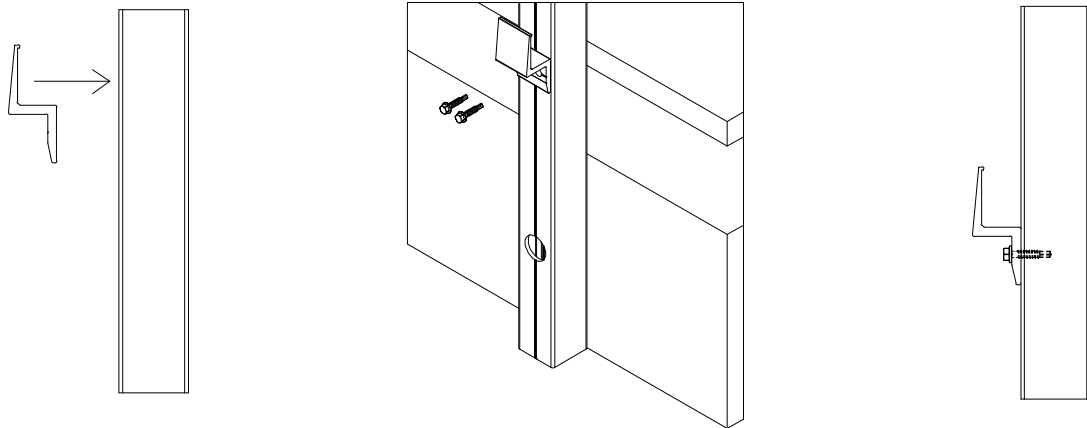
SIDE MOUNTED CONCRETE

1. Mark the drill bit with a marker to set the correct drilling depth (min. 85 mm for expansion anchor).
2. Drill $\varnothing 12$ hole.
3. Clean the holes with a vacuum cleaner.
4. In case you are going through waterproof layer, use roof sealant before fitting the anchor.
5. Hammer the anchors into the drilled holes.
6. Place the column onto the anchors.
7. Make sure the column is correctly positioned, use a level.
8. Tighten the nuts by hand if possible, if access is limited, use a socket wrench.
9. Check that the column is securely fixed.
10. Proceed with the installation of the remaining columns.



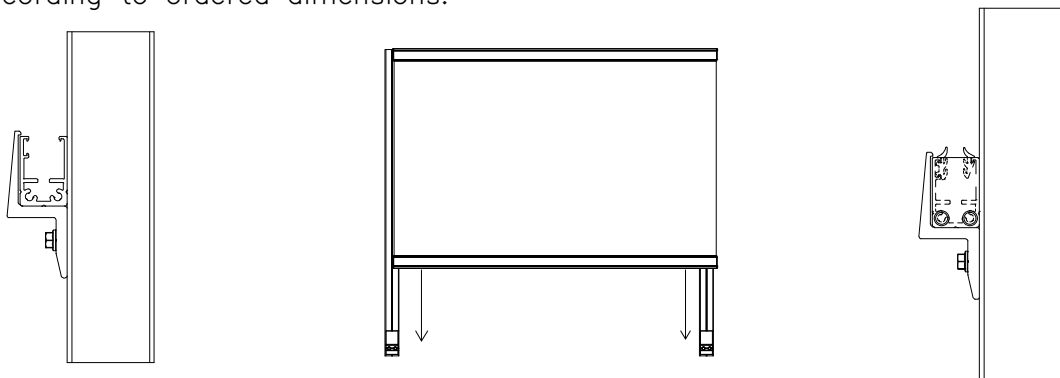
STEP 4. FIX INFILL MOUNTING PROFILE TO COLUMNS.

1. Fix the z-bracket that carries infill to column. Check overall regulations on page 4 to get the correct height.



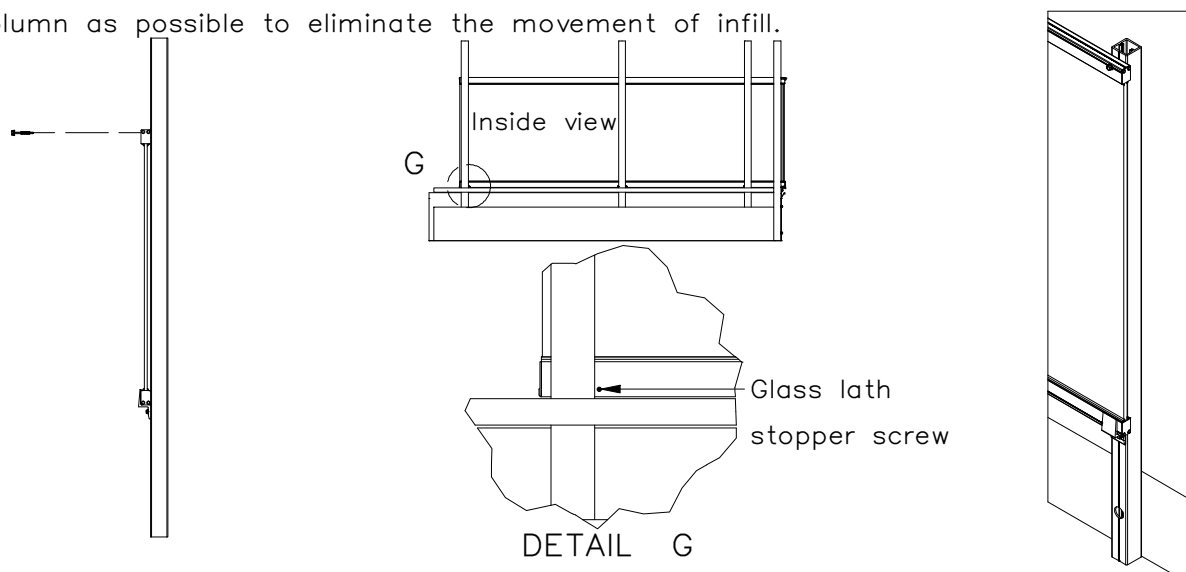
STEP 5. INSTALL INFILL TO COLUMNS.

Glass with gaskets and 25x37 profile have already been precut and put together according to ordered dimensions.



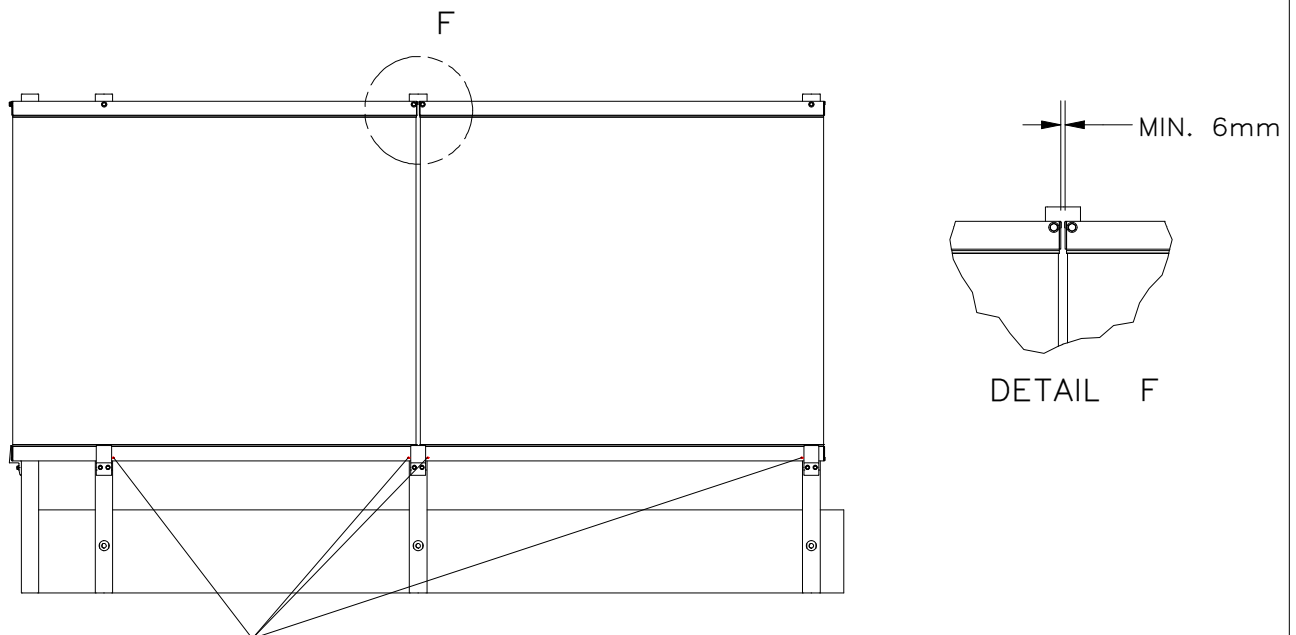
It is recommended to slide in the the frame with glass from the top, it fixes with a click. Infill must be fastened at the top with self-drilling screws. Pay attention to not over tighten the screws. Max torque 8Nm.

It is necessary to use 2 glass lath fixing profile screws per 1 infill. Both as close to column as possible to eliminate the movement of infill.



Continuation should be made in the center of the column.

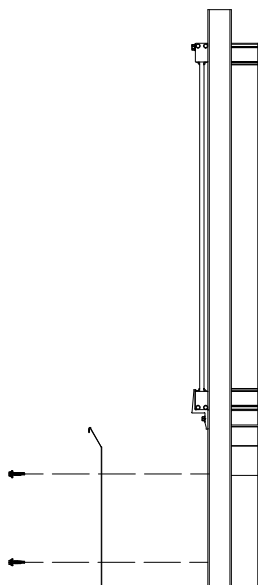
Make sure the condensation holes face downward during installation.



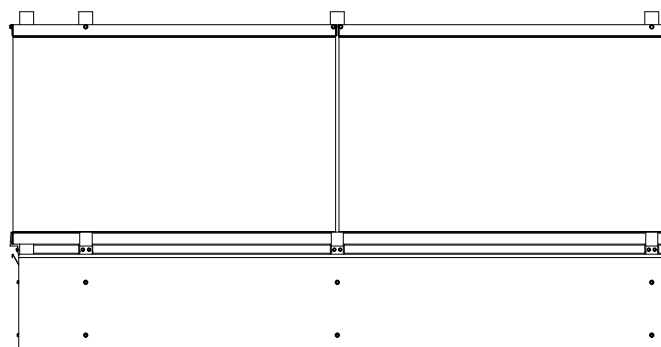
Glass fixing profile stopper screw positions.

Screws are to be installed from inside the balcony as close to the column as possible.

STEP 6. FASTEN BALCONY SHEET COVER.

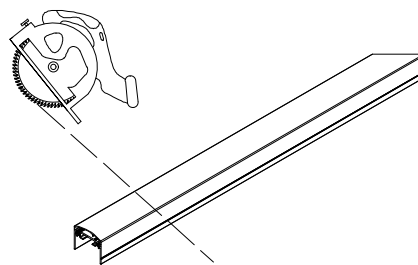
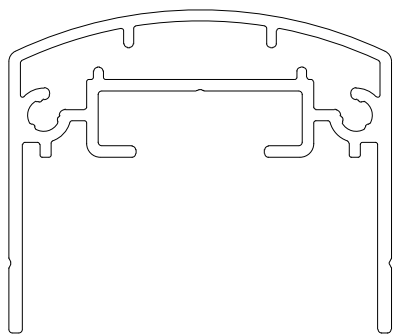


Use double sided tape for all the column length between column and sheet cover, otherwise the sheet will be noisy with large wind gusts. It is necessary to use 2 self drilling screws per column while fastening sheet cover.



STEP 7. CUT AND FIX THE HANDRAIL

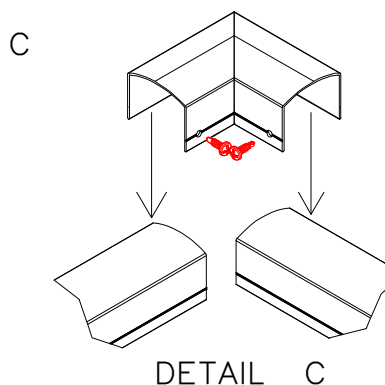
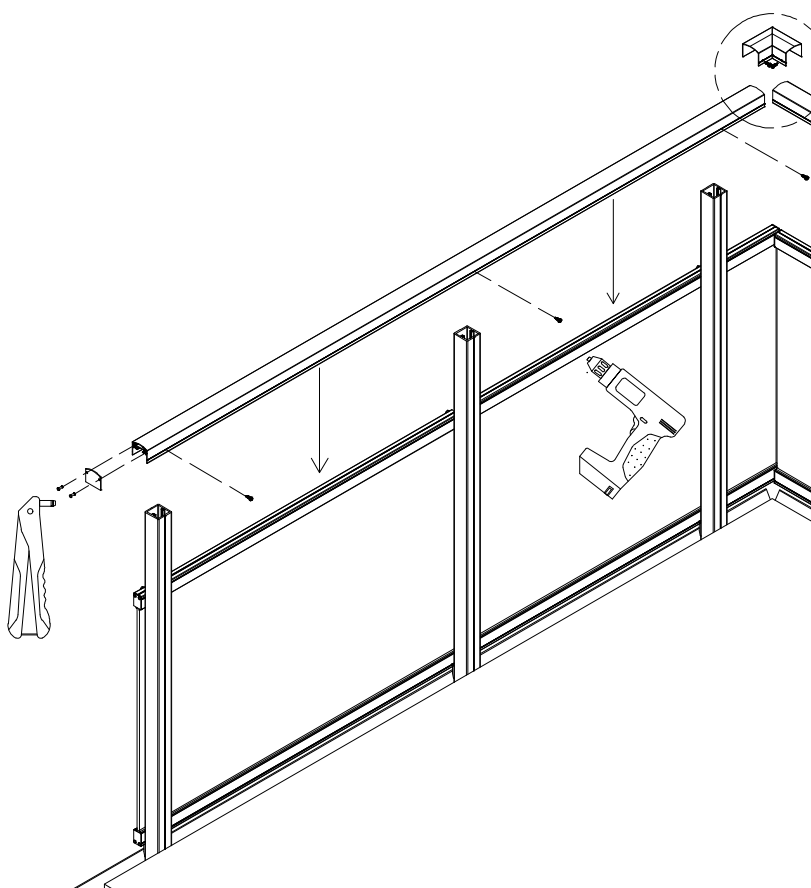
HANDRAIL 51X43



Cut the handrail to desired length.

Fasten handrail to columns using self-drilling screws.

Optional endplates are installed with rivets.

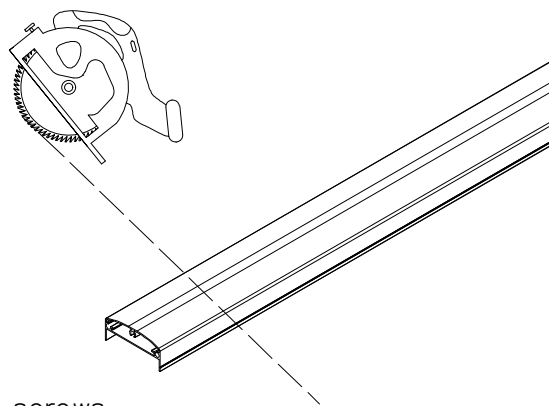
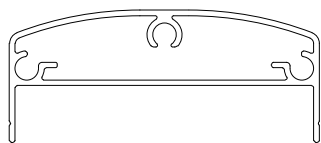


DETAIL C

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 7. CUT AND FIX THE HANDRAIL

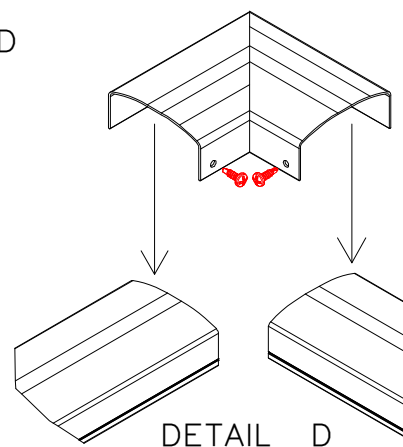
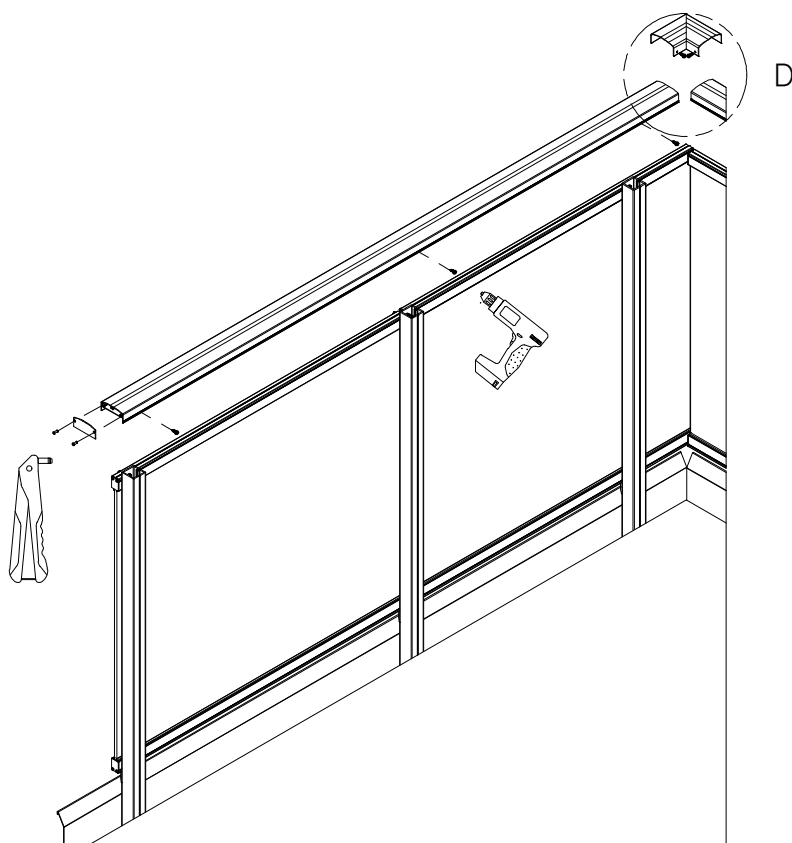
HANDRAIL 82x35



Cut the handrail to desired length.

Fasten handrail to columns using self-drilling screws.

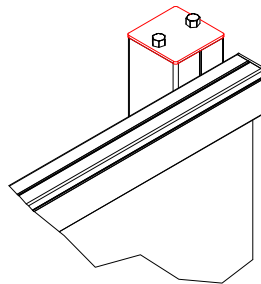
Optional endplates are installed with rivets.



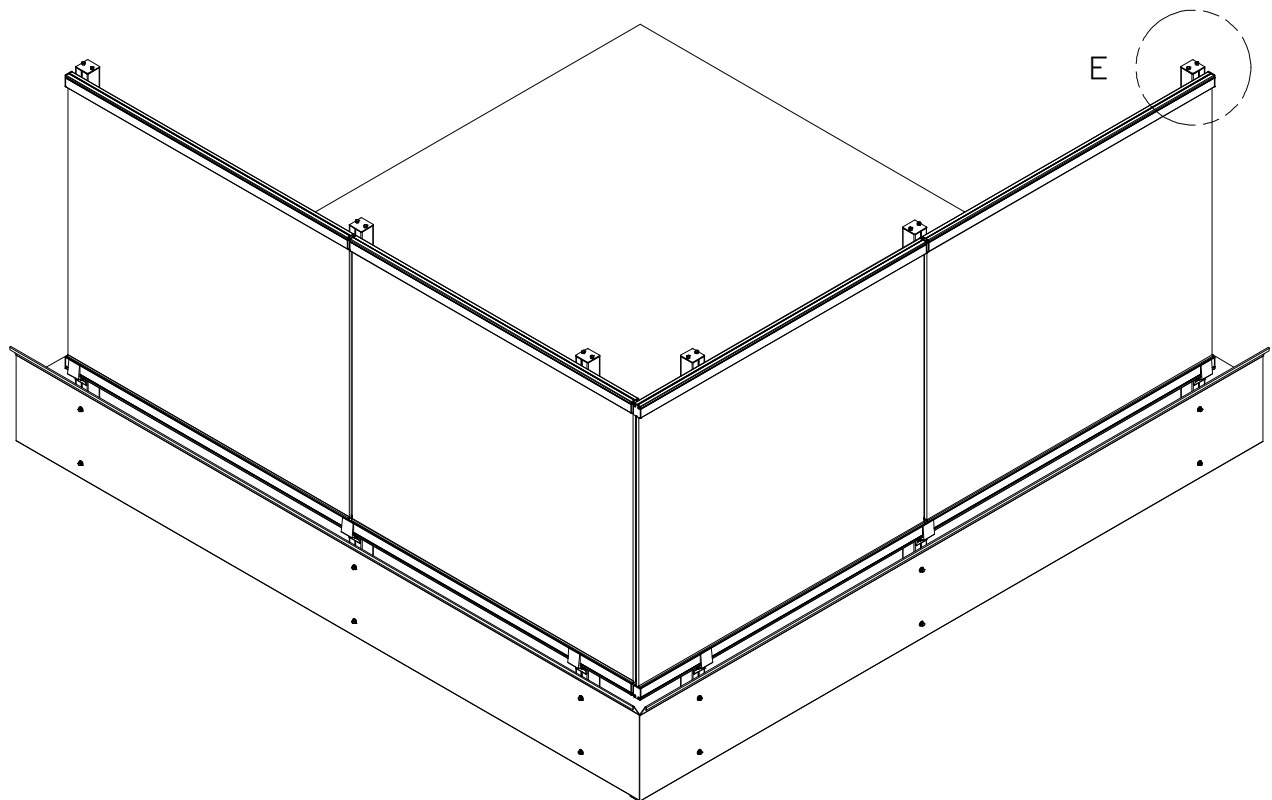
The corner piece is fastened to the handrail with self drilling screws. In case the corner piece overlaps a column, secure both the corner and the handrail to the post by the same screw.

STEP 7. WITHOUT HANDRAIL OPTION

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



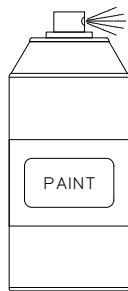
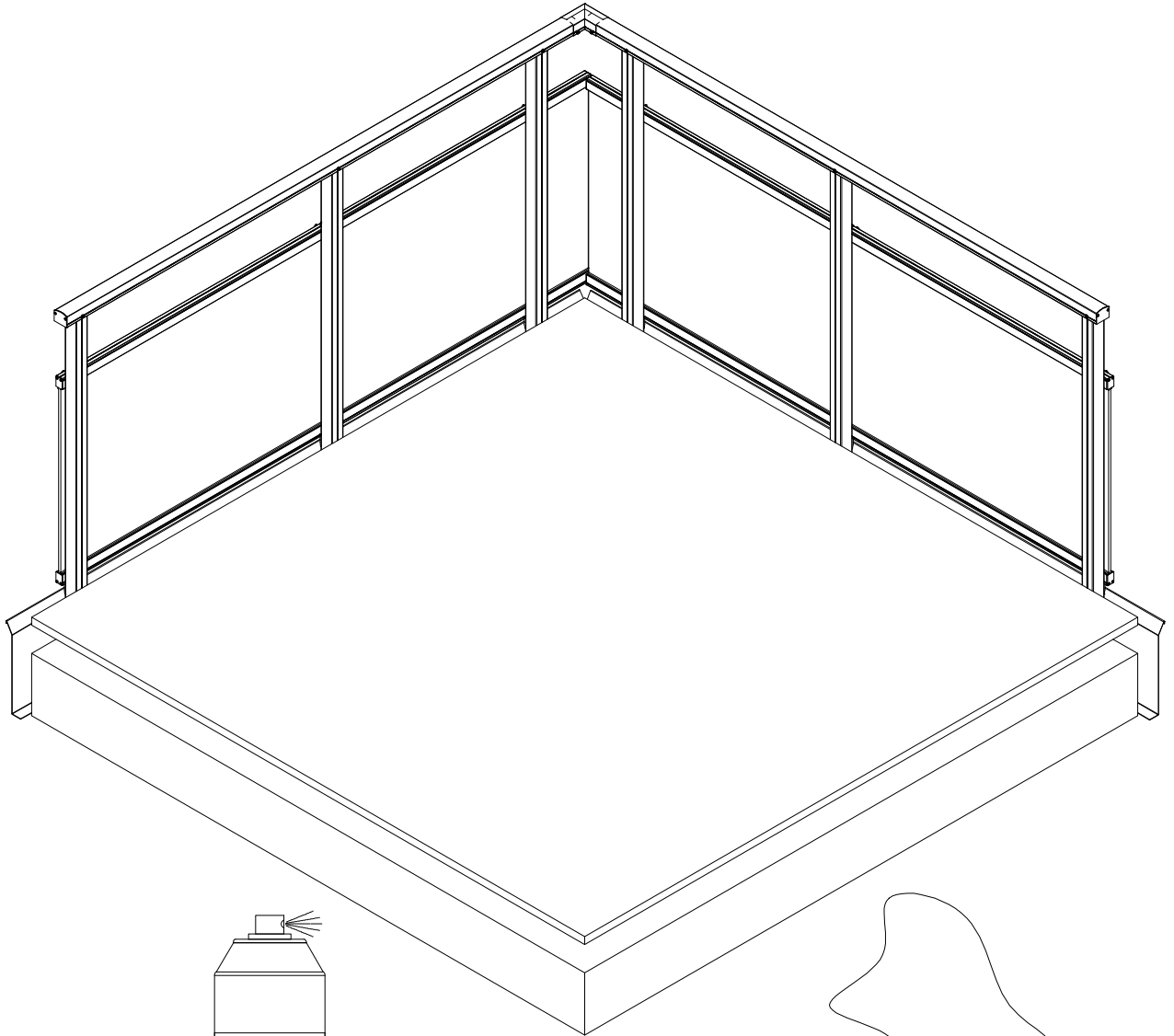
DETAIL E



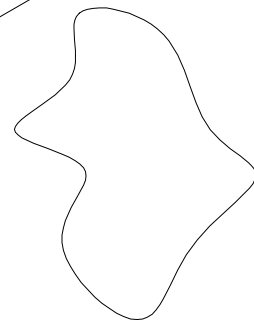
STEP 8. FINISH THE BALCONY ASSEMBLY

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-PAINT 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!

