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# INSTALLATION GUIDE

# **TIMBER CURTAIN WALL**

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# TRANSOM INSERTION

### TIMBER CURTAIN WALL:

THE CURTAIN WALL ARRIVES ON SITE IN PRE-ASSEMBLED MODULES. A CURTAIN WALL ASSEMBLY (FACADE) CAN HAVE SEVERAL MODULES WHICH HELP TO FACILITATE TRANSPORTATION. ONCE ON SITE, THE ASSEMBLY MUST BE FINALIZED BY INSERTING THE CONNECTING TRANSOMS BETWEEN THE MULLION SECTIONS.

IT MAY OCCUR ON CERTAIN PROJECTS THAT TRANSOMS COME INTO CONFLICT WITH STRUCTURAL ELEMENTS SUCH AS COLUMNS, BEAMS, WALLS OR MECHANICAL INSTALLATIONS. IN SUCH CASES, THE \*SPECIAL METHOD\* MUST BE USED TO INSTALL THE TRANSOMS.

IN THE SPECIAL METHOD, THE TRANSOM NEEDS TO BE INSTALLED STARTING FROM THE OUTSIDE OF THE BUILDING AND SLID TOWARDS THE INSIDE. IF THIS METHOD IS USED. THEN THE CONNECTORS ON THE TRANSOM MUST BE MILLED ALL THE WAY THRU FROM ONE SIDE TO THE OTHER. WOOD BLOCKS WILL BE USED TO HIDE THE CONNECTORS ON THE INSIDE OF THE BUILDING AFTER INSERTION.

### ASSEMBLY AT THE BUILDING SITE:

(EXTRACT FROM RAICO MANUAL)

SLIDE THE TRANSOM IN BETWEEN THE MULLIONS ACCORDING TO THE METHOD TO BE USED.

#### 1) FOR THE CONVENTIONAL METHOD

STARTING FORM THE INSIDE OF THE BUILDING, SLIDE THE TRANSOM BETWEEN THE MULLIONS AND TOWARDS THE OUTSIDE OF THE BUILDING. PRESS THE TRANSOM UNTIL IT IS IN PLACE.

#### 2) FOR THE SPECIAL METHOD

STARTING FROM THE OUTSIDE OF THE BUILDING, SLIDE THE TRANSOM BETWEEN THE MULLIONS AND TOWARDS THE INSIDE OF THE BUILDING. PRESS THE TRANSOM UNTIL IT IS FLUSH WITH THE MULLION.

- THE NAIL SCREWS MUST BE EASY TO INSERT UP TO THE THREADS. (USE GREASE OR A SMALL AMOUNT 3) OF SOAPY WATER TO HELP THE INSERTION)
- TIGHTEN THE SPECIAL NAIL-SCREW. (MAKE SURE TRANSOM AND MULLION ARE FLUSH BEFORE 4) TIGHTENING)



### **CONVENTIONAL METHOD:**

(INSIDE VIEW)



HIDDEN MACHINING.



DIAGRAM 2: TRANSOM INSERTION FROM THE OUTSIDE OF THE BUILDING TO THE INSIDE, WITH VISIBLE MACHINING.

#### **DIAGRAM 1:** CONVENTIONAL TRANSOM INSERTION FROM THE INSIDE OF THE BUILDING TO THE OUTSIDE, WITH

# MEMBRANE INSTALLATION

### PERIMETER MEMBRANE:

ALL MULLIONS AND TRANSOMS AROUND THE PERIMETER ARRIVE AT THE JOB SITE WITH A MEMBRANE ALREADY PRE- INSTALLED ON THEM AT THE FACTORY. THIS METHOD ACCELERATES THE INSTALLATION PROCESS OF MODULES, AND ENSURES CONTINUOUS AND OPTIMAL SEALING, REFER TO THE DOCUMENTS SUPPLIED IN THE WORKSHOP SPECIFICATIONS TO COORDINATE THE ASSEMBLY AND ANCHORING OF TIMBER CURTAIN WALLS. ONCE ALL MODULES ARE ASSEMBLED AND INSTALLED, IT IS ESSENTIAL TO SEAL THE CURTAIN WALL WITH THE BUILDING ENVELOPE. PLEASE NOTE THAT ALL STEPS INDICATED ON THIS PAGE ARE ONLY TO ILLUSTRATE THE MEMBRANE OVERLAP ON THE CURTAIN WALL.



### STEP 1:

REMOVE THE BASE GASKET PROFILE TO EXPOSE THE OVERLAPPING MEMBRANE AREA. REMOVE THE BASE PROFILE THAT WAS ALREADY INSTALLED ON THE MULLION, AND KEEP IT NEARBY WITH THE 2 SCREWS. CUT WITH AN EXACTO KNIFE THE LENGTH NEEDED FOR THE LEFT MEMBRANE. THE LONGITUDINAL OVERLAP MUST BE AT LEAST 50mm (2"). PLEASE SEE TECHNICAL DATA SHEET.



PICTURE 2: SEE DESCRIPTION OF STEP 2



PICTURE 3: SEE DESCRIPTION OF STEP 3

STEP 3:

**RIGHT MEMBRANE** 

PRESS TO ADHERE THE LEFT SECTION MEMBRANE DIRECTLY ONTO THE WOOD MULLION, FOLLOWING THIS. OVERLAP THE RIGHT SIDE ON TOP OF THE LEFT SIDE. AND BOND THE TWO MEMBRANES TOGETHER.



PICTURE 4: SEE DESCRIPTION OF STEP 4

IT'S THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL THE MEMBRANE PROPERLY AND TO FOLLOW THE OVERLAP INDICATED IN THE WORKSHOP DRAWINGS APPROVED BY THE ARCHITECT. IN NO CIRCUMSTANCES SHALL THE CONTRACTOR USE NON-SEALED PLANS FOR THE INSTALLATION OF TIMBER CURTAIN WALLS. WHEN BONDING THE MEMBRANE ONTO THE ENVELOPE OF THE BUILDING, SIMPLY FOLLOW THE INSTRUCTIONS OF THE MANUFACTURER BEFORE REMOVING PROTECTIVE COATING.

### STEP 2:

MAKE THE SAME ADJUSTMENT TO THE RIGHT SECTION MEMBRANE. PLEASE REFER TO STEP #1

### STEP 4:

WHEN THE MEMBRANES ARE GLUED AND BONDED TOGETHER. REINSTALL THE BASE PROFILE ON THE MULLION WITH THE 2 SCREWS. REPLACE THE MULLION GASKET FIRST AND THEN THE TRANSOM GASKET AFTER. MAKE SURE THAT THE GASKETS ARE WELL INSERTED ABOVE THE BASE PROFILE.

#### NOTE:

ENSURE THAT THE EPDM SEALING FOAM PIECES ARE IN PLACE AND THEY HAVE NOT BEEN DAMAGED WHEN HANDLING THE GASKETS. REPLACE IF NECESSARY (SEE DIAGRAM 4/ PAGE 3).

# **CHECKING GASKETS**



REFER TO ASSEMBLY PLANS AND DRAINING PLANS FOR THE SEALING PIECE PART NUMBER TO BE USED. THE RAICO CODE IS WRITTEN ON THE BAGS PROVIDED WITH THE DELIVERY AT THE JOB SITE.

MAKE SURE EPDM SEALING FOAMS FOR TRANSOMS ARE IN PLACE AND IN GREAT CONDITION AT THE END OF THE GASKET. IF EPDM SEALING FOAM ARE DAMAGED OR REMOVED, REPLACE WITH A NEW ONE.

DIAGRAM 4: CHECKING GASKETS



SKIP TO PAGE 10.



# **PRESSURE PLATES INSTALLATION**

## **GENERAL INSTRUCTIONS**

**BEFORE INSTALLING THE PRESSURE PLATES:** 

- CHECK THE CONDITION OF THE EPDM SEALING FOAM PIECES LOCATION AT THE 1-END OF THE PRESSURE PLATES (SEE DIAGRAM 8).
- LUBRICATE THE GASKETS WITH SILICONE BASED LUBRICANT (SEE DIAGRAM 7). 2-
- 3-SEE THE ASSEMBLY INSTRUCTIONS ON THE NEXT PAGE.



## LUBRICATE THE GASKETS:

IDEALLY, SPRAY GASKET PRESSURE PLATES WITH SILICONE LUBRICANT BEFORE INSTALLING THEM. THIS WILL ALLOW THE GASKET TO SLIDE ON GLASS AND DECREASE THE FRICTION RESISTANCE BETWEEN RUBBER AND GLASS. ALWAYS INSPECT SEALING GASKETS AFTER INSTALLATION, IF THE GASKETS ARE NOT PERFECTLY SMOOTH, THEY MUST BE REMOVED AND REPLACED.

#### RAICO'S SEALING PIECE TO BE USED:

REFER TO ASSEMBLY PLANS AND DRAINING PLANS FOR THE SEALING PIECE PART NUMBER TO BE USED. THE RAICO CODE IS WRITTEN ON THE BAGS PROVIDED WITH THE DELIVERY AT THE JOB SITE.



# **PRESSURE PLATE INSTALLATION**

## **GENERAL INSTRUCTIONS:**

#### 1. CONTINUOUS PRESSURE PLATES MUST BE INSTALLED FIRST.

- NOTE 1: ENSURE THAT HORIZONTAL PRESSURE PLATE WITH THE VENTILATION/ DRAIN OPENINGS ARE INSTALLED IN THE RIGHT ORIENTATION (DOWNWARDS FACING) REFER TO **DIAGRAM 10**.
- NOTE 2: FOR LARGE HEIGHT PROJECTS (OVER 6 METERS (19.68FT)), THE PRESSURE PLATE MUST BE SPLICED TOGETHER AND SEALED ACCORDING TO THE SPECIFICATIONS PROVIDED ON PAGE 8 ON THE INSTALLATION GUIDE. (REFER TO **DIAGRAM 14 / 15**)
- 2. TECHNICAL SPECIFICATIONS TO BE FOLLOWED (EXTRACTED FROM RAICO'S MANUAL)
  - 2.1. USE A SCREWDRIVER WITH AN ADJUSTABLE TORQUE LIMITER SET TO 4,5Nm (3.3FT/LBS).
    SCREWS SHOULD BE SCREWED IN AT A SPACING OF 250mm C/C (9 7/8") (PRESSURE PLATE IS ALREADY PRE-DRILLED).
  - 2.2. CHECK THE APPEARANCE AND SHAPE OF THE EXTERIOR GASKET AND THE PRESSURE PLATE AFTER TIGHTENING.
    GASKETS MUST NOT BULGE OUT OF THE SIDE, AND THE PRESSURE PLATE MUST REMAIN STRAIGHT WITH NO DEFLECTION OR BOWING.
    IF NECESSARY, SLIGHTLY REDUCE OR INCREASE THE TORQUE TO ACHIEVE IDEAL PRESSURE ON THE GLASS.
  - 2.3. THE PRESSURE IS CORRECT IF THE EXTERIOR GASKET SHOWS NO DISTORTION AND LIES EVENLY IN ITS PLACE AND DOES NOT LIFT BETWEEN SCREWING POINTS. (REFER TO **DIAGRAM 9.1**).
  - 2.4. WHEN SCREWING IN THE PRESSURE PLATE, THE SCREWS SHOULD BE DRIVEN IN AT ALL THE SAME HEIGHT, AND SHOULD NOT DIFFER MORE THAN 0.5mm (1/64")IN TOTAL LENGHT. (REFER TO **DIAGRAM 9.1**)
- 3. CHECK THE ALIGNMENT OF THE VERTICAL AND HORIZONTAL PRESSURE PLATES (SEE **DIAGRAM 10**).





# **PRESSURE PLATE INSTALLATION**



EXCESS MATERIAL MUST BE REMOVED FROM TRANSOM PRESSURE PLATES THAT HAVE GASKET FLAPS. PLEASE FOLLOW INSTRUCTIONS BELOW:

> 1) IDENTIFY THE EXCESS FLAP MATERIAL TO BE REMOVED. EVERYTHING EXCEEDING THE EDGE OF THE PRESSURE PLATE SHOULD BE REMOVED.

2) WITH THE AID OF LONG NOSED PLIERS, CLAMP ONTO THE EXTRA MATERIAL THAT OVERHANGS THE EDGE OF THE PRESSURE PLATE. (USE THE CLOSEST RIB BELOW THE SEAL, AND DELICATELY PULL IT BACK FROM ONE SIDE TO THE OTHER ALONG THIS RIB-LINE)



**DIAGRAM 11:** RESULT OF INSTALLED PRESSURE PLATES

DIAGRAM 12: REMOVAL OF GASKET FLAP

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# **CAP PROFILE INSTALLATION AND ASSEMBLY**

## **ASSEMBLY INSTRUCTIONS:**

(EXTRACT FROM RAICO'S MANUAL)

- STICK THE \*JOINT SEALING PLATE\* CENTERED BETWEEN THE GLASS SECTIONS AT THE JOINT OF PRESSURE PLATE. .
- ROLL THE PRESSURE PLATE GASKET ONTO THE PRESSURE PLATE PROFILE (WHEN THERE IS A JOINT IN THE PRESSURE PLATE, BE SURE TO HAVE THE GASKET OVERLAP PAST THE JOINT 50mm (2"))
- SEAL THE GASKET JOINT WITH SEALING COMPOUND (NO. 952015 FOR EPDM GASKETS, 952020 FOR SILICONE GASKETS). •
- GLUE THE PRESSURE PLATE GASKET PIECE NO. 014035(50), 014036 (56) OR 014037(76) TO BOTH ENDS OF THE PRESSURE PLATE.
- SCREW THE PRESSURE PLATE INTO THE SCREWING CHANNEL LOCATED ON THE MULLION/TRANSOM ACCORDING TO THE RAICO . SPECS AND DOCUMENTS.
- APPLY METAL GLUE TO THE INSIDE OF THE CAPS WHERE THEY WILL BE SPLICED TOGETHER. PRESS DOWN THE \*INTERIOR JOINT • PLATE\* INTO THE GLUE AND ALLOW TO SET ON ONE CAP PROFILE ONLY. ( LEAVE 10mm (3/8") SPACE WITH GLUE AT THE END OF THE SECOND CAP, SO GLUE WONT SQUEEZE INTO THE SPLICE)
- WITH A SPACING OF 5mm (3/16") BETWEEN THE TWO CAPS, PLACE THEM BOTH OVER THE PRESSURE PLATE, AND PRESS/ CLIP • THEM BOTH IN.



PRESSURE PROFILE



# **CAP PROFILE INSTALLATION AND ASSEMBLY**

#### (REFER TO THE ASSEMBLY PLAN) BELAY SHEETS INSTALLATION:

BELAY SHEETS ARE USED ON MULLION CAP PROFILES IF THE LENGTH EXCEEDS 6 METERS(19.68FT) OR IF THE CAPS HAVE A TENDENCY TO DROOP OR DEFLECT DOWNWARDS. (KEEPS THE CAP STRAIGHT AND PERPENDICULAR). BELAY SHEET PROFILES WILL BE SUPPLIED AT THE BEGINNING OF THE PROJECT, AND IT IS ALWAYS POSSIBLE TO CONTACT UNICEL ARCHITECTURAL CORP. TO OBTAIN AN ADDITIONAL QUANTITY DURING THE INSTALLATION PROCESS.

#### MORE THAN 6 METERS (19.68FT) LONG CAP PROFILE:

INSTALL BELAY SHEET AT THE BASE AND THE HEAD OF THE CAP PROFILE NEAREST GROUND. PLAN 4 BELAY SHEETS FOR A MIDDLE CAP PROFILE CURTAIN WALL AND 2 BELAY SHEETS FOR PERIMETER CAP PROFILES.

#### CAP PROFILE WITH DOWNWARD DEFLECTION:

INSTALL BELAY SHEET ON EACH SIDE OF THE PROBLEMATIC CAP PROFILE. INSTALL THE REQUIRED NUMBER OF BELAY SHEET TO ALLOW COVER PROFILES TO BE MAINTAINED IN PLACE.







- STEP 1: INSTALL VERTICAL CAP PROFILE FIRST.
- STEP 2: PRESS THE BACK OF THE BELAY SHEET ONTO THE MULLION CAP PROFILE AND CENTER IT ON THE PRESSURE PLATE.



- STEP 3: PRE-DRILL WITH 3mm (1/8") DRILL BIT IN THE SMALLEST HOLE (TEMPLATE HOLE).
- STEP 4: ROTATE THE BELAY SHEET AND SCREW IT WITH THE SUPPLIED SCREW #902 511.



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DIAGRAM 17: RESULT OF INSTALLED CAP PROFILE



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## **GLASS INSTALLATION:**

- STEP 1: TEMPORARILY FIX THE GLASS PANES WITH ASSEMBLY AID NO. 015230 OR TEMPORARY PRESSURE PLATES AND PRESS INTO PLACE.
- STEP 2: ADJUST THE SCREWING WRENCH SG NO. 170750 TO RELEVANT INFILL THICKNESS. MAKE SURE YOU HAVE 24MM (31/32")GAP BETWEEN THE GLASS.
- STEP 3: INSERT THE TOGGLES INTO THE GLAZING POCKET WITH THE SUPPLIED RAICO TOGGLE TOOLS. TURN IT CLOCKWISE AS FAR AS THE STOP INTO U-PROFILE IN THE EDGE JOINT.
- STEP 4: ONCE ALL THE TOGGLES ARE IN THE U-CHANNEL THEY CAN BE SCREWED ON WITH THE SUPPLIED SCREWS. ONCE TIGHTNED, ALL THE INTERIOR GASKETS SHOULD BE FIRM TO TOUCH AND HAVE A THICKNESS OF 15MM (5/8") (COMPRESSION OF 1mm (1/32")).





# SG2 INSTALLATION WITH HDPE TRIM:

Ś	STEP 1:	TEMPORARILY FIX THE HDP PERIMETER SIDE WITH ASSI PLACE.
:	STEP 2:	ADJUST THE SCREWING WR INFILL THICKNESS. MAKE SU THE GLASS AND THE H
:	STEP 3:	INSERT THE TOGGLES INTO SUPPLIED RAICO TOGGLE THE STOP INTO U-PROFILE.
:	STEP 4:	SCREW THE TOGGLE TRIM E TRIM AT THE SAME TIME AS

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PE WITH THE FLASHING AT THE EMBLY AID NO. 015230 AND PRESS INTO

RENCH SG NO. 170750 TO RELEVANT URE YOU HAVE 24mm (31/32") GAP BETWEEN HDPE TRIM.

) THE GLAZING POCKET WITH THE TOOLS. TURN IT CLOCKWISE AS FAR AS

BETWEEN THE GLASS AND THE HDPE THE GLASS INSTALLATION.

## **INSULATING BLOCK INSTALLATION:**

- STEP 1: AFTER INSTALLING ALL THE GLASS FITTINGS, REMOVE THE ASSEMBLY AID OR THE TEMPORARY PRESSURE PLATE.
- STEP 2: INSTALL THE SUPPLIED INSULATION BLOCK INTO THE GLAZING TOGGLES WITH AN EXACTO KNIFE.
- STEP 3: AFFIX THE ADHESIVE SURFACE TO THE CAP OF THE INTERIOR GASKET.



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### SILICONE STRUCTURAL INSTALLATION:

- STEP 1: APPLY STRUCTURAL GLAZING SILICONE OVER THE INSULATION BLOCK TO FILL THE CAVITY IN BETWEEN THE GLAZING UNITS. THE SILICONE JOINT MUST BE AT LEAST 8mm (5/16").
- STEP 2: THE SAME STEPS ARE APPLIED FOR THE PERIMETER DETAILS WITH THE COMPENSATION PROFILE.



### WEEP HOLES FOR PU RESIDENTIAL COLLEGES PROJECT:

ADD TWO WEEP HOLES AT THE SILL OF EACH VERTICAL MULLION'S LOCATION, ONE AT THE CENTER OF THE GLAZING AND ONE 3 INCHES FROM THE CORNER, FOR EACH GLAZING UNIT ON THE LOWER TRANSOM. THE WEEP HOLES SHOULD HAVE A MINIMUM OF A 9.525mm (3/8") OF INSIDE DIAMETER.

THE WEEP HOLES SHOULD BE CLEAR OF ANY SEALANT AND SHOULD ALLOW TO VENTILATE AND DRAIN ANY WATER THAT COULD BE IN THE CAVITY AROUND THE CURTAIN WALL. THE FOLLOWING DETAIL IS SHOWING THE SILL DETAIL. THE RED MARKS SHOW THE WEEP HOLE, GOING THROUGH THE SEALANT AND THE BACKER ROD. THE WEEP TUBE SHOULD BE PLACED AT THE LOWEST POINT OF THE SEALANT JOINT. WATER AND AIR SHOULD HAVE A CLEAR PATH FROM THE CAVITY TO OUTSIDE.

EACH WEEP HOLE IS ALIGNED WITH THE CURTAIN WALL DRAINING CHANNEL FOR OPTIMAL EFFICIENCY. BACKER ROD AND SEALANT JOINT CAN BE APPLIED AT THE PERIMETER. ANY WEEP HOLES SHOULD STAY CLEAR OF ANY SEALANT OR BACKER ROD.





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THE WEEP HOLES SHOULD BE CLEAR OF ANY SEALANT AND SHOULD ALLOW TO VENTILATE AND DRAIN ANY WATER THAT COULD BE IN THE CAVITY AROUND THE CURTAIN WALL. THE FOLLOWING DETAIL IS SHOWING THE SILL DETAIL. THE RED LINE SHOWS THE WEEP HOLE, GOING THROUGH THE SEALANT AND THE BACKER ROD. THE WEEP TUBE SHOULD BE PLACED AT THE LOWEST POINT OF THE SEALANT JOINT, WATER AND AIR SHOULD HAVE A CLEAR PATH FROM THE CAVITY TO OUTSIDE.