1. WINDOW PURE SERIE- TILT & TURN WINDOW

1.1 Description

The puRE Tilt & Turn aluminum window is equipped with a shutter opening inward. This window, which offers exceptional insulation and structural performances, is designed according to the rain screen principle.

1.3 Materials

1. Extrusions

1. The frame

The frame is made of 6063-T5 tubular aluminum alloy. This increases the rigidity of walls whose thickness is 1.4 mm.

The aluminum extrusions of the frame will be joined by two strut bars made of 25% polyamide nylon fiberglass (37 mm width and 1.8 mm length). The strut bars will be crimped mechanically with aluminum extrusions in order to obtain a solid assembly resisting to a minimal charge in shearing of 400 Kg for 100 mm length.

The cavity of the thermal insulation will be filled with solid polystyrene to reduce the convection of the air between the hot part and the cold part of the frame, thus decreasing the total conductance (Ug) of the window frame.

The puRE series used the same frame for the fabrication of their tilt & turn windows, interior casement, hopper window and doors. This makes the fitting easier with our various types of openings in the same fenestration system.

The sill part of the window will be provided with drain holes to evacuate water.

The frame assembly will have a 51 mm height and a 152 mm depth.

2. The glass stopping

The interior glass stopping height of 12.5 mm will be made of 6063-T5 tubular aluminum alloy whose walls thickness is 1.4 mm.

They will be designed for an installation with pressure by interlocking and without screw, allowing the change of the sealed unit form the inside.

2. Weatherstrips

The tilt & turn window perimeter will be provided with 2 weatherstrips of 3 constant contact points between the frame and the shutter. The principal weatherstrip will be integrated to the frame and the other to the shutter.

Weatherstrips will be inserted by pressure in a groove adapted for this purpose allowing the easily replacement of this part in the event of break. They will be made as to fill the cavity located between the frame and the shutter. This will help reduce the convection of the air between the hot part and the cold part of the frame, thus decreasing the total conductance (Ug) of the window frame.

3. Hardware

The principal mechanism will be composed with a multiple system ensuring the stability of the shutter on the frame by two (2) or three (3) hold points depending of the windows dimensions.

The contemporary design of the cam locking handle is made of aluminum-zinc alloy. Overall dimensions of the handle will be 28 mm width by 152 mm height.

Shutter connector rod will be directly inserted in the aluminum extrusions of type «Euro Groove». To open like inside casement window, rotate the handle 90 degrees upward and to open like an inside tilt opening (hopper), turn the handle with a rotation of 180 °degrees.

To insure the closing position of the shutter, stainless steel keepers are installed on the frame and will be combined to the keeper pins of the shutter connection rod. The adjustment of the locking system will be directly on the keeper pins of the shutter connection rod.

The shutter will have two (2) internal hinges made in aluminum-zinc alloy with a total capacity of 80 kg/shutter.

The rotation pivot and the retaining plates used to fix the hinges on the frame and shutter, will be manufactured in stainless steel and allow an adjustment in height, width and depth.

Stainless steel fastening screws used for the hinges are going to be accessible when the shutter is open to allow the replacement of the screws in the event of break.

A controlled mechanism opening (to limit the opening to 100mm) could be installed to provide safe ventilation.

4. The screen

The screen will be installed and retained outside the window frame, by 4 hooks mechanically fixed to the window screen, opposite each opening shutter, and will be easily removable from the inside and outside.

The screen frame will be made of aluminum extrusion and assembled with square brackets fixed in by insertion in the aluminum frame.

The mesh made of fiberglass or aluminum, with sieve of 18 X 16 meshes / 625 mm2, hold to the frame by a polyvinyl chloride extrusion.

3. Interior and exterior finishes

All the visible outside aluminum of the frames and shutters will be painted with a painting of type:

Enamel finish Duracron® of color :
Black K90421
White K1285
Commercial brown K7390
Anthracite RAL7016

Available painting acrylic polyurethane bicomponent.
Anodized finish available.
Possibility of different interior and
exterior colors.
Customise colors (optional).

1.4 Products

1. The frame joints will be machined with precision assembled and sealed in factory so that they are watertight and represent clean lines.

2. The window sills slope of 6 degrees will assure the release of accumulated water towards the outside of the window frame.

3. Shutter joints will be cut at a 45 degrees angle, sealed and mechanically assembled by square brackets fixed by crimping in the shutter so that they are watertight and represent clean lines.

4. The shutter is designed to receive double glass sealed units with a total thickness of 22.2 mm. Also available sealed unit with integrated blinds: 35.12 mm thick.

5. The sealed unit will be pressed on the outside shutter and on interior glazing stop against a thermoplastic elastomer (TPE) pressure extrusion to obtain a contact by compression to the inside and outside perimeter of each sealed unit.

6. Interior extrusions of the frame will be pre-bored in factory in prevision to be fixed to the building structure.

7. The windows will be built with precision and squareness respecting a maximum tolerance of (+/-) 1.5mm for windows measuring 1.8 m or less diagonally, and (+/-) 3 mm for windows measuring over 1.8 m.

8. Each window will be packed in a transparent protective film and the corners will be secure with polystyrene thermoforming parts attached to the frame.

9. If there are several sections to the window, all the sections will be lined to the same frame using an aluminum mullion mechanically fixed at the frame (structural mode).

10. To answer the various needs, 3 mullions will be available to make the composition of the window: 73 mm (outside flat appearance), 102mm or 152 mm.

11. Glazing replacement will be made from the inside.

1.5 Glazing

1. The sealed unit will be built with two (2) transparent simple glasses of 3 mm thickness or more, separated by a space filled with argon obtained by a non-conductor divider with integrated desiccators.

2. The interior glass foil of the sealed unit (face 3) will be made of glass with low emissivity. A crackling process is used in combination with the argon gas to improve energy rate of the window.

3. The air gap will be approximately of 16.6 mm (according to the thickness of the glass sheets) providing a thickness of 22.2 mm to the sealed units.

4. The sealed units will be installed on support blocks (EPDM hardness 90) of appropriate dimensions. These shims will be placed at opposite corners (2 shims at the bottom hinge and 2 on the side of the shutter near the top of the handle) to make sure that the shutter is properly squared.

5. A free space of 6 mm will be left on the perimeter of the sealed unit allowing the necessary tolerance.

6. The thickness of the glazing will meet with requirements of the applicable National Building Code.

Options

1.5.1 Glass

Glass with double seal made up of two (2) transparent glass sheets of 3 mm, 4 mm, 5 mm or 6 mm of thickness (double glazing).

Tinted glass color: bronze, gray, frosted or sand glass.

Tempered glass of 3 mm, 4 mm, 5 mm or 6 mm of thickness.

Laminated or wired safety glass of 6 mm of thickness.

Thermoformed surface glass of 6 mm of thickness.

Any other glass available on request.

1.5.2 The frame

The interior frame moulding extension will be built in “J” shape and made of aluminum extrusions of 14 mm. They will be mechanically fixed on the interior window frame to receive the gypse or a wooden frame to paint or cover with PVC.

The 38 mm and / or 63 mm interior frame moulding extension and the 38 mm moulding outside frame extension made of aluminum extrusions will be mechanically fixed on the surface of the interior frame and / or outside of the window, to ensure better adhesion and sealing with the membrane installation.

1.5.3 Grids

The grids, made of rolled aluminum, will be sealed between the two (2) glass sheets of the sealed unit of the window.

Variety of grids: Georgian, tubular, square, flat. Various widths and finishes are available too.

The grids, made of aluminum, will be covered with enamel baking finish of the same color on the two (2) faces or of different color on the outside and inside face.

1.5.4 Crossbar

The crossbar will be settled on the outside and on the inside of the sealed unit, one opposite the other. The interior of the glazing will be filled by an aluminum part similar to a divider.

The crossbar section is made of A6063-T5 aluminum alloy whose wall measures 1.5 mm of thickness, will be assembled on the outside and inside face of the glass by a ribbon with reserve double and sealed over its width. Widths available: 44.45 mm and 22 mm.

1.6 Cards of maintenance

A card indicating the necessary instructions for cleaning and the maintenance of the windows will be provided upon delivery of your order.

1.7 Guarantee

A certificate of the manufacturer's warranty will be provided upon delivery of your order.
The manufacturer reserves the right to modify the characteristics of his products without notice.