Sophisticated architectural design

**Pyramids and skylights**

A unique design of various shear blocks and connectors allows to design, fabricate and install different shapes and properly integrate them into the building envelope, whether is:

- Pyramids
- Curved surfaces
- Slopped surfaces
- Tilted and rotated surfaces

**Ultra heavy infill units installation**

Swivel brackets and mounts, continuous mullion reinforcers and heavy duty blocks make possible of heavy glass infill units installation up to up to 1100 lb with mullions spaced 11.5 ft apart.
Modern design

• Different facade design options: captured, «horizontal-line», semi-structural, structural.
• Integrated units: in-swing and out-swing windows, zero sight line operable units, manual and motorized skylights etc.

High thermal performances

• High performance thermal insulation achieved due to ALT F50 splitting seal and thermal breaks made from foamed materials.
• Integrated windows have high thermal insulation level due to utilization of multi chamber polyamide thermal breaks, PVC profiles and multi-contour sealing system.

Functionality

• Different options of infill types and thickness: from 1/8” to 2” (4-50 mm)
• Different options of integrated units

Effectiveness

• Special plastic and rubber fittings provide a necessary level of thermal compensation, effective transition and removal of condensate.
• A big number of connecting elements allow realization of various design solutions, utilization of different processing methods and different types of profiles’ connection.
Curtain wall system
The ALT F50 curtain wall system has been developed for fabrication of envelope translucent constructions of various complexity: curtain walls, inclined translucent surfaces, skylights, sun rooms.

A huge number of technical solutions have been contemplated while designing the system. Various door and window types can be integrated in the system.

### Product information

- **Internal visible width**: 1 ¹⁵⁄₁₆" (50 mm)
- **External visible width**: 1 ¹⁵⁄₁₆" (50 mm)
- **Mullion depth**: ¼" to 10 ¹⁄₂″ (12-270 mm)
- **Glazing thickness**: from ⁵⁄₃₂ up to 2 ³⁄₁₆″ (4-56 mm)
- **Max infill weight**: 1100 lb (500 kg)
- Glass fixing method: pressure plates and beauty caps
- **Types of opening elements**: All ALT window and door systems, integrated facade windows and smoke removal hatches
- **Thermal conductivity**: $U_f = 0.6 – 1.8$ W/m²K acc. to EN ISO 10077-2:2008

### System performance with 1” glass unit (tested acc. to ASTM E283-04, ASTM E330-14, ASTM E331, ASTM E541)

- **Sound transmission**: STC 33, OITC 27 (pressure captured)
- **Air infiltration**: 6.24 psf / 0.15 L/s/m²
- **Water penetration resistance**: 12.0 psf
- **Design pressure**: 70.0 psf
- **Uniform load structural test**: 105.0 psf

### System components and color options

- **Aluminum extrusions**: EN AW 6063 T6 AlMgSi F20
- **Seals**: EPDM DIN 7863
- **Gaskets**: PVC-U-HI long-lasting, low temperatures resistant, plasticized material with low thermal conductivity and long endurance period
- **Insulating moldings**: PVC-U-HI long-lasting, temperature resistant, plasticized material with low thermal conductivity
- **Mounts and brackets**: Aluminum, stainless steel and other corrosion resistant materials
- **Coating types**: Qualicoat grade powder coating, over 200 RAL colors, special customized colors. Qualanod grade anodizing, 9 colors
ALT F50 design options

Semi-structural glazing
ALT F50 SSG
Imitation of structural glazing
The main difference of this solution is that instead of 1 15/16” pressure plates and beauty caps narrow and almost invisible moldings are used. Plain, glass adjoining profiles create an illusion of structural glazing.

Semi-structural glazing
ALT F50 HL
«Horizontal line»
In this facade modification, a vertical or a horizontal line is outlined with the help of various massive shield bars (oval, hemispheric or rectangular), therefore adding some horizontal or vertical volume. Along other lines the clamping bars are replaced by seam sealing or the space between the IGUs is filled up by silicon seam sealant.

Structural glazing
ALT F50 SG
This system allows fabrication of all-glass look facades of any configuration without aluminum profiles on the outside surface. Insulated glass is fixed to mullions with hidden clamps.

High thermal performance
Due to a good arrangement of different materials and four sealing contours high thermal insulation parameters of the facade are achieved.

High thermal performance
Due to utilization of multi chamber 3/8” (34 mm) polyamide thermal breaks in the profiles, thermal conductivity factor of a typical section «frame-leaf» is decreased to $U_f = 1.9/1.7 \, \text{W/(m}^2\cdot\text{K})$ which is much higher than the indexes of European equivalents in facade windows segment.
ALT F50 integrated windows

Integrated windows «Hidden sash» type ALT F50
This F50 system solution provides possibility to manufacture integrated outside opening windows. The sash can be furnished with fittings providing awning or parallel-set-aside opening types. Manual mechanism or chain electric drive can be used as an opening element.

Visible integrated window ALT F50
This ALT F50 system integrated window assumes installation of a rectangular IGU which is followed by appearance of aluminum line of 1 5/8” (41 mm) thickness. This option preserves all technological advantages of the «hidden sash».

«Hidden sash» without thermal insulation
Window with a single glazed unit is used in facades without thermal insulation.

ALT F50 smoke removal hatch
These windows are installed into the inclined facades and used to equalize pressure inside and outside of a premise, and to provide ventilation and smoke removal. It is recommended to use an electric power drive for the hatch opening and closing. Due to extended surface of the frame profile the rack and chain drives produced by well known European manufacturers can be applied with the hatch.

Relation of Uf(W/m²·K) section to the finfill unit thickness

![Graph](image)