

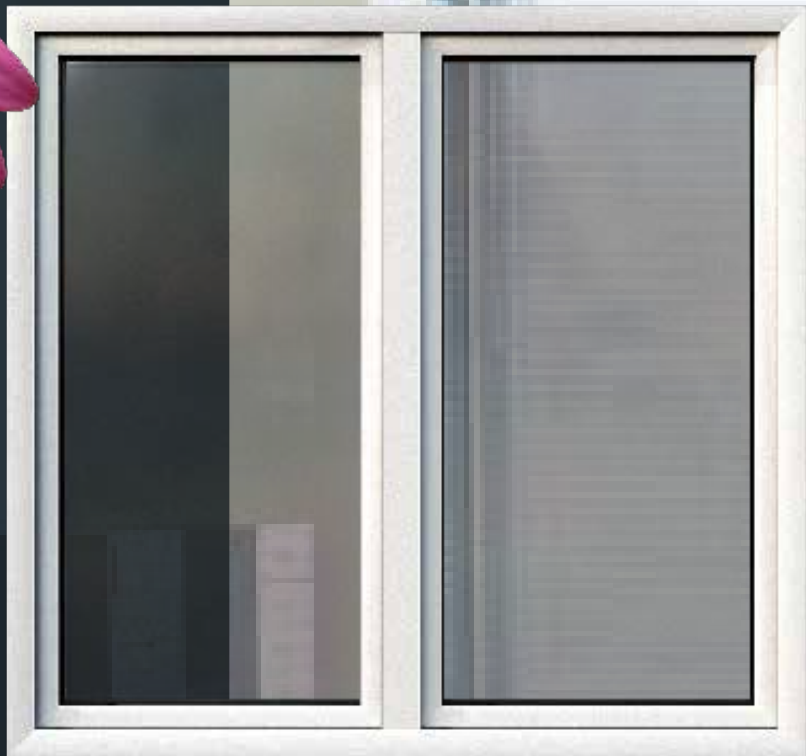


ALUMINUM TILT & TURN FRAME  
**180000** Ultra K



**EPAL** S.A.

DOORS • WINDOWS



### **The new series of EPAL**

has innovative design using double thermal break, which is a combination of casted and polyamide thermal-brake, thus lowering further the U value.

There is an option to choose between double, triple (with double spacer) and quadruple (with triple spacer) glazing panels. Profiles are manufactured in a square shape and are equipped with a perimetrical mechanism ROTO NT "from the German Company ROTO.

## 18000 Ultra K

### **Frames of EPAL 18000 Ultra K series:**

- *Accompanied with open shutters, roller shutters and insect screens.*
- *Mitered corners.*
- *Frames are equipped with 2 rubber gaskets made of EPDM to provide perfect waterproofing and insulation.*
- *Perimetric locking. Ability to lock up to 12 points (based on the dimensions of the frame) with a single turn of the security handle, providing the highest security level of the market. All the locking mechanisms are supplied from ROTO NT of the German company ROTO Frank.*
- *The frames can be colored in two-tone (internal and external side have different color).*
- *It is made of specific materials and components that meet specific high quality standards.*
- *It is manufactured under controlled production processes that ensure consistent and high quality.*
- *Frames are installed in a reliable way and without problems.*
- *Our technicians provide continuous and immediate support and service 24/7.*



### The properties of EPAL 18000 Ultra K series guarantee:

- High levels of thermal insulation by using double or triple glaze panels, aluminum profiles with increased thermal capacity, perimeteric installation of 2 rubbers made of EPDM for precise fit and cooperation.
- High levels of soundproofing capacity (soundproofing levels can reach 49 dB, depending on the used type of glaze panels) according to tests performed from Aristotle University of Thessaloniki (ISO 140 and ISO 717 standards.)
- Advanced levels of water-tightness and air-tightness (class A9 – DIN EN 1026, DIN 1027, DIN EN 12207 – 12208, DIN EN 12210 – 12211). Based on tests conducted by the German institute IFT Rosenheim.
- Great resistance to mechanical stresses during use and high functionality.
- Top-class aesthetics due to the variety of colors and the quality of the powder coating.

The installation of the “EPAL 18000 Ultra K” frames is performed by qualified technical personnel of EPAL on any surface due to the special configuration of the frame, by adding special foaming insulation materials with stainless steel screws, to prevent corrosion.

### Technical Information

The aluminum profiles of the “EPAL 18000 Ultra K” series are made of aluminum suitable for the manufacturing of doors and window frames (according to DIN 1748 standards).

Aluminum Specification (DIN 1748)				
ALLOY	HARDNESS (Brinell)	BREAKING STRESS (N/mm <sup>2</sup> )	YIELD STRESS (N/mm <sup>2</sup> )	ELONGATION A10(%)
AlMgSi05F22	70	125	160	10

### The profiles of “EPAL 18000 Ultra K” series are designed by EPAL:

- They are patented with intellectual property rights registered in I.P.O. (Industrial Property Organization).
- They are manufactured using extrusion forming dies, which are designed and owned by EPAL and are rigorously controlled in terms of permitted deviations
- They are used exclusively by EPAL.

The aluminum profile sections (frame and sash) of “EPAL 18000 Ultra K” series have the following technical characteristics		
TECHNICAL CHARACTERISTICS OF FRAME		
Width of frame (in)	Height of frame (in)	Weight of frame (lb)
3.330	2.362	4.556

The aluminum profile sections (frame and sash) of “EPAL 18000 Ultra K” series have the following technical characteristics		
TECHNICAL CHARACTERISTICS OF SASH		
Width of sash (in)	Height of sash (in)	Weight of sash (lb)
3.330	3.090	4.556

The aluminum frames of “EPAL 18000 Ultra K” series are powder coated in EPAL’s advanced and state-of-the-art powder coating paint plant. All the surfaces of the frames are being processed for better paint adhesion and ensure high quality and durability.

### The glaze panels we use

EPAL uses glaze panels from Pilkington, Saint Gobain and Guardian.

The glaze panels used for EPAL 18000 Ultra K series are custom made, in various types based on the requirements of the destination. (I.e. hot or cold climates)

The “EPAL 18000 Ultra K” series is equipped with double-glazed or triple-glazed insulating glass panels in various dimensions (thickness and spacer) according to customer requirements.

The adhesion of the double glaze panels is achieved with the use of Butyl PIB (which is an adhesive sealant). The Butyl PIB sealant is extremely resistant in temperature changes (from -300° C up to

80° C). In addition to the Butyl PIB, there is a two component sealant which is applied externally on every side of the window. In this way, the humid or outside air are prevented from entering the unit and reach the gas which is placed between the panels. As a result, the fogging of windows is prevented over time.

The glaze panels used in EPAL 18000 Ultra K series can achieve:

- Thermal insulation with a corresponding reduction of heating and air-cooling costs by 35% and 40% respectively, in comparison with common used double glaze panels.
- High levels of soundproofing capacity (factor up to 49dB).
- Great permeability of natural light.

