

TELESCOPIC OPENING SYSTEM FOR ROOF ACCESS

Technical Data Sheet

PRODUCT DESCRIPTION

The Shams telescopic opening system for roof access consists of a white lacquered aluminium frame hinged to the upstand. One or two gas springs are fitted depending on the size of the dome, allowing an opening angle from 70° to 90° according to the overall dimensions.

The system is equipped with a special white telescopic opening lock. A padlockable interior or exterior locking option is available on request.

The opening system can be installed on any Shams upstand made of PVC, FRP (fiberglass reinforced polyester) or galvanized steel, in both square and rectangular formats and in different heights of 150, 180 or 300 mm.

The maximum recommended size for roof access domes is 150 × 150 cm in the square format and 100 × 200 cm in the rectangular format.

The system is compatible with all Shams domes (PMMA, HeatStop and compact polycarbonate) as well as with Shams TRP metal lids.

TECHNICAL CHARACTERISTICS – ALUMINIUM FRAME

The aluminium profiles used for the frame are manufactured from an alloy designed to provide a minimum tensile strength of 215 MPa. Their main fields of application are the building and transport industries, where they offer good mechanical strength and load distribution.

Typical applications include windows, roof domes, partitions and containers, among others.

SPECIAL PROPERTIES OF THE ALUMINIUM ALLOY

- Formability: good.
- Machinability: moderate; improved in T6 temper.
- Weldability: suitable for all common welding methods.
- Corrosion resistance: good.
- Surface treatment: suitable for all types of surface treatments.
- Anodising: good.

TYPICAL PHYSICAL PROPERTIES OF THE ALUMINIUM ALLOY

Property	Value
Density	2.70–2.71 kg/dm³
Modulus of elasticity	69 kN/mm²
Shear modulus	26 kN/mm²
Coefficient of linear expansion (20–100 °C)	23 µm/(m·°C)
Thermal conductivity (20 °C)	200 W/(m·K)
Specific heat capacity (0–100 °C)	880–900 J/(kg·K)
Electrical resistivity (20 °C)	33 nΩ·m
Electrical conductivity (20 °C)	52 % IACS
Solidus temperature	625–635 °C
Solvus temperature	475–490 °C

TECHNICAL CHARACTERISTICS – GAS SPRINGS

The opening system uses pre-calibrated gas springs with different forces depending on the size and weight of the dome. The main characteristics of the standard gas springs used are shown in the following table:

Parameter	100 N model	120 N model	150 N model
Rod diameter Ø1 (mm)	8	8	8
Cylinder diameter Ø2 (mm)	18	18	18
Stroke L1 (mm)	140	140	230
Extended length L6 (mm)	365	370	550
Force (N)	100	120	150
Force ratio	0.90	1.08	1.35
Eye diameter ØA (mm)	8.0	8.10	8.10
Colour	Black	Black	Black
Bracket thickness (mm)	5	5	5

The values shown are based on the technical data provided by the raw material suppliers and correspond to tests carried out under standard conditions. Shams reserves the right to introduce modifications derived from product development and improvement.