Forster Thermfix Vario 45mm & 60mm (E30 + E60, EI30 + EI60 + EI90)

System Provider:
Fraser Global Trading (Pty) Ltd, South Africa.

Manufactured by:
Manufactured by Forster approved Fabricators, list of fabricators available from above contact.

Product reference:
Forster Thermfix Vario 45mm or 60mm is a thermally insulated, fully drained dry/pressure glazed curtain walling system suitable for non fire, fire integrity only and fire integrity/insulation applications.

Forster Thermfix Vario has an elevation face width of both 45mm and 60mm, with various profile box depths of between 50mm to 150mm depending on the size and application of the curtain wall to be designed.

Glazing thickness ranges from between 6mm and 60mm, with the glass/panels held by glazing pads and the pressure gaskets.

Thermfix Vario SV has been specifically designed for sloped glazing applications, and has a glass/infill thickness of between 30mm to 37mm.

Thermfix Vario offers several differing types of external capping details, both in material choice and in Visual profile.

General Use, Vertical (Non fire & up to EI90):
Thermfix can be used for all curtain walling requirements both internally for screens and atria and externally for screens/staircases and building facades, and can be non fire rated or fire rated for integrity and/or insulation up to EI90 dependant on relevant test data.
All fire test data complies with BS476 or BS-EN 1634.
Thermfix can incorporate non fire rated flush fitting windows, non fire and fire integrity &/or insulation single doors, double doors or double acting doorsets depending on test data.

General Use, Sloped (Non fire):
For sloped roof applications Thermfix Vario SV is to be used as this is specially designed for this type of application. This system allows the inclusion of manual and automatic opening roof vents, and can be used in conjunction with normal Thermfix Vario vertical applications. Thermfix Vario SV is not for use in fire rated applications.
Inclines for sloped curtain walling must be sufficient to allow easy drainage, and therefore Vario SV can be used for inclines between 15 and 60 degrees from the horizontal position.

General Note:
For most applications it is required that structural load calculations are required to determine the internal box profile section to be used. The size of this box will be determined by issues such as spans, tie-back locations and wind load factors. Please consult with the fabricator, or, a representative of Forster who can assist with these calculations.

Physical test data:
Thermfix Vario complies with prEN 13830 product standard, thereby fulfilling the requirements of CE marking, and has been tested to achieve the following standards:
Water tightness EN 12154/ENV 13050, static RE1200, Dynamic 313Pa/938Pa
Air permeability EN 12152 class AE
Resistance to wind load EN 13116, Design load 1.25KN/m2, safety load 1.875Kn/M2
Impact resistance EN 14019, class E5 / I5

Distributed exclusively by Fraser Global Trading (Pty) Ltd

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Fire tested and assessed to BS 476 / BS EN 1634
Thermal transmittance EN 12412-2, Uf = 1.5 – 2.4 W/(m2 k)
Acoustic insulation up to Rw,r = 45 dB
Ballistic testing to M1 – M3 standard

Materials:
Steel
Profiles are supplied in standard black, Pre-Galvanized (GV-VC yellow chromated) finish or galvanized finish.

Stainless Steel
Profiles are available in mill finish Stainless, to 304 standard. Profiles can be finish polished to various requirements

Construction Method:
Thermfix Vario is a thermally insulated mullion/transome construction, fabricated by a welded and/or slotted arrangement. This is determined by size, application, use, or specifier/fabricators recommendation.

The system weatherproofing is fitted to the steel parts of the construction, with the glass/panel fitted onto stainless steel retainers in pre-selected segments. The stainless pressure bar including system weather proofing will be fitted on the outside by means of stainless steel locking screws. Locking screws in conjunction with the spacers guarantee a controlled locking pressure for the system weather proofing.

Pre finish
Internal/External applications
Thermfix Vario frame sections can either be etched primed, Two-Pack primed, Zinc rich primed or hot dip-galvanized prior to powder coating depending on requirements.

Finish:
Standard finish to be Polyester powder coated to RAL/BS……. .

Glazing details:
Fire integrity & insulation
Single or double glazed units can be accommodated for fire integrity & insulation requirements. Minimum glass thickness will generally be from approx 6mm and a maximum of 60mm for single and double glazed units.

Examples of fire integrity/insulation glass used in Forster fire tests for EI30 are;
16mm Schott Pyranova, 15mm Pilkington Pyrostop, or 16mm Contraflam N2.
For EI60 examples are 21mm Glaverbel Pyrobel, 23mm Pilkington Pyrostop or 23mm Contraflam N2.
EI90 application examples are Paraflam 90 and Pyrostop 90.

Please note that maximum area sizes do apply and may differ between suppliers.

Double glazed units have been tested and are available for external uses or for when a level of sound reduction is required.
Other combinations are also available incorporating low `E` glasses and tints. Only glasses that have been fully tested for fire integrity & insulation may be used.

Internal/External glazing applications
Please note that for external fire integrity & insulated glazing it is generally thicker than for internal applications. For example, for EI30 Schott Pyranova is 15mm thick for internal applications and 19mm thick for external applications, whilst for EI60 Pilkington Pyrostop is 21mm thick for internal use and 27mm thick for external applications.

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Non fire
Single or double glazed units can be accommodated with generally a minimum glass thickness from approx 6mm to a maximum of 60mm for single and double glazed units. Various combinations of double/triple glazed units can be accommodated for either sound reduction or light transmission requirements.

Panel details:
Fire integrity/insualtion
Panels can be constructed to achieve integrity and insulation, these need to be as a minimum, each wall thickness of 2mm steel and with a rockwool infill (eg. EI30 minimum 120kg/m3).
As a guide, the panels can be welded to the face of the profiles by slug welding or by crush folding top and bottom to produce a profile flange, welding to the profile in the glazing areas.
Note that the panel size/thickness/filling may change depending on the fire requirement, please consult with Forster who can assist with these details.

Non Fire
Various constructed panel variations can be incorporated with the Presto system, and these can be made from steel faced two panel trays, flat steel/plastic sheets or timber panels.

Doors & windows within Thermfix:
Various combinations of doors and opening vents can be incorporated into the Thermfix curtain walling system. Combinations that can be utilized are;
Non fire non thermally broken Presto doors and windows
Fire integrity Presto doors
Thermally broken non fire rated Therm Clima/Tur doors and windows, and
Fire integrity and insulated Fuego Light doors.

Please refer to the specification details pertaining to each of the required systems in regard to profiles, ironmongery and test data etc.

Fire
When specifying and using fire integrity & insulated doors, certain ironmongery must be used to comply with the fire test data. Those items must always be Forster hinges, Forster locking mechanisms and (unless it is a double acting door) a tested door closer, usually from the Dorma/Geze ranges. To ensure compliance please contact our Forster Technical Advisor or distributor.

Frame fixing to structure:-
Fixing of curtain walling can be achieved in several ways dependant upon building design and in which manner the curtain wall is to be retained to the structure.
The framing can be retained to floor levels, structural steel work, block/concrete and within timber constructions by utilizing individually designed welded or screwed on fixing/clamp brackets from the profile box to the adjoining structure, or by spigot joint methods.

When fixing into concrete/stone/brick type material it is recommended that fixings should be at least 50mm in from an edge to prevent breakout of the structure/fixing.