

500 Series Thermally Broken Curtain Walling System - SPECIFICATIONS

1. Scope

This specification defines the basic design concept, construction, materials, fittings and performance of WGL 500 series Curtain Wall and sloped glazing.

2. Design Concept

The profiles and components in this range have been specially designed to provide a simple form of thermally insulated construction that will have a universal application.

Built-in features, such as complete pressure equalisation of glazing cavities allowing adequate drainage to meet BSI performance criteria.

Designed to be compatible with WGL 800 series casement, parallel and tilt/turn window systems and WGL 200 and 800 series door systems.

In addition to vertical glazing this construction can also be extended into sloped (roof) glazing using the same mullion members.

3. Materials

Aluminium alloy 6063 TE & TF, stainless steel and appropriate high quality seals used throughout.

4. Finishes

The construction allows for fabrication of all exposed members from pre-finished lengths of aluminium extrusion.

These exposed profiles will be available in a range of finishes:

- a) Anodised to BS 3987, Grade AA25. Etched and anodised natural self-colour, black, bronze and standard colour range.
- b) Synthapulvin standard colour range.
- c) Non-standard colours are available upon request.
- d) Synthapulvin paint finish to a marine/ swimming pool environment finish.

5. Construction

Many years of practical experience have been built into the form of 'stick' construction adopted, which consists of main mullion members with intermediate transom rails fitted on to prepared brackets to form the basic framing grid. The infill of glass, panels, opening lights or doors is then applied and the installation completed by the fitting of the pressure plates and cappings.

6. Glazing/Infill

The range was designed for a basic 24mm glass or panel thickness, but more recently has been adapted to suit 28mm glass or panel thickness to aid compliance with Building Regulation Part L. It is also arranged so that by varying the pressure plate spacer tubes any thickness between 6mm and 38mm can be accommodated.

A range of opening lights and doors can be directly accommodated in the vertical glazing.

7. Performance (thermal)

In its double glazed condition the inside structural members are separated and insulated from the outside capping resulting in an effectual thermal barrier giving a thermal transmittance value for the aluminium framing of approximately 3.0watts per square metre per degree centigrade. This aluminium framing 'U' value coupled with the use of appropriate 'U' value glass/ panel (ie; low 'E' and/or argon filled cavity) will enable the system to comply with Building Regulation Part L.

8. Performance (weather)

The unique construction allows for a very effective inside seal between glass and aluminium. This, combined with pressure equalisation and drainage, means that any correctly installed Curtain Wall framing will be completely watertight under the CWCT standard test criteria plus the dynamic test to;

Test Standard Classification / Declared value

Air permeability CWCT / BS EN 12152 - A4

Watertightness CWCT / BS EN 12154 - R7

Wind resistance CWCT / BS EN 13116 –

±2400 pascals serviceability

±3600 pascals safety

Impact resistance BS EN 14019 - E5/15

For wind resistance, the Curtain Wall framing will meet any specified requirement subject to the introduction of deeper mullions/transoms and possibly the adjustment of spans and fixings.

9. Performance (inserts)

As will be appreciated, the thermal and weather performance of any insert will depend on the unit concerned and the appropriate technical details should be consulted.

10. Important note

Additional technical assistance regarding methods of application and the suitability of this product will be given if required.