Elegance 72
Unitised curtain walling
Elegance 72 is a unitised curtain walling system that brings together the benefits of factory production control, with the speed of on-site installation. Modular units are manufactured and fully glazed in workshop conditions, where quality can be strictly controlled. The fixing lugs are built into the perimeter, ensuring ease of handling during transportation and arrival on site.

Installing the modular panels takes far less time than constructing a traditional stick-build system, and for installations where scaffolding is unavailable or impractical, cranes can be used to lift the panels into position quickly, efficiently and above all safely.

Elegance 72 can incorporate windows and doors from the Sapa Building System range, as well as Elegance SC Solar Control and solar power generation through our Building Integrated Photovoltaic system, thus providing a complete facade solution for any building type or style.

Elegance 72 unitised curtain walling provides efficient “Floor to Floor” facade refurbishment, with a fast and thermally efficient solution that minimises disruption to the building users.
Elegance 72
Unitised Curtain Walling

Energy

- Elegance 72 offers the highest standard of thermal insulation thanks to the combination of the 28 or 36 mm polyamide strips and specially developed gaskets as shown in detail.
- Elegance 72 can accommodate glass and panels depths from 6 to 50 mm.
- The high thermal performance level improves the overall building insulation, leading to a lower total energy consumption, thereby helping our environment.

Extreme weather performances

- The Elegance 72 is able to accept tolerances and building movements caused by thermal expansion as well as wind and seismic loads, without compromising the weather performance, with a nominal vertical expansion of 10 mm, and a horizontal expansion up to 22 mm, depending on the type of gaskets and frame profiles.
- Zone drainage, where each pane acts as an individual self draining unit.
- Fully drained and pressure equalised for optimal weather performance.
- 1500 Pa static water (the highest ever tested by Taylor Woodrow).
- Weather resistance: A4 (EN 12152); R1500 (EN 12154); 3000 Pa (EN 13116).

Testing

- In order to ensure confidence amongst specifiers and contractors, Sapa Building System has carried out comprehensive testing to EN and CWCT Standards.
- The results were so good, that it was the first time the international testing institute Taylor Woodrow had gone to 1500 Pa on a static water test.
Elegance 72
Off site manufacturing, on site speed and safety

Production

- Modular units are manufactured and glazed in the factory. This ensures an optimised:
  - Production process
  - Labour cost
  - Maximum control on quality
  - Not influenced by the weather
- Fast glazing without screwing by using different external glazing beads.

Installation

- Modules are installed one floor level at a time.
- The units are craned or winched into position and secured from the inside of the building, reducing costs and encouraging safer working conditions.
- Dry connections between expansion gaskets for water tightness up to 1500 Pa.
- The storage of facade materials and glass handling equipment on site can be completely eliminated - a major advantage for constrained city centre sites.
- Significantly improved quality and performance, as the facade modules are completed off-site in a controlled factory environment.
Cost Effective

- There are cost savings on site preliminaries and scaffolding.
- The option of standardisation for economies of scale and material optimisation.
- Faster programme times leading to earlier occupation and a faster return on investment for developers.
- Construction is less affected by inclement weather.
- More efficient control of materials, including less wastage, loss and damage.
- The facade panels are manufactured off-site and craned into position, making this a highly efficient solution where site access is restricted.
Freedom in design

- A wide range of decorative cover caps (bull nose, rectangular, aerofoil, etc) gives the freedom to design visually interesting fenestrations.
- By combining different cover caps for horizontal and vertical applications, a wide diversity of external features are possible.
- Bespoke profiles can be created for an internal design feature.
- Elegance 72 is fully compatible with Elegance 52, meaning all profiles of Elegance 52 can be used as integral mullions and transoms.
- These can be flush with the module frame, or be specifically different to emphasis the vertical or horizontal design, complementing the total building design.
- Several situations such as 90°/variable angle modules can be created with minimal use of material, allowing slim sightlines.
- By using the various profiles, in combination with the extensive range of colours, the number of different options are practically unlimited.
- Suitable for both new build and refurbishment.
- The system is also available structurally glazed or structurally clamped, for a flush glazed appearance, or with horizontal/vertical covers to provide greater emphasis on the respective line.

Custom made

- The proven core of the Elegance 72 system provides the technical base for all possible designs, and the expert team from SBS can value engineer profiles depths to achieve the most efficient solution.

Project support

- Sapa Building System’s experienced project Team will advise you on the best product solutions.
- We can help you with pricing, strength calculations, building connections, thermal simulations, etc.
- Specific project solutions can be developed.
- Samples, catalogues, technical specifications and digital drawings are available.
The Elegance 72 unitised system was selected for the complete refurbishment of the Residence of the Civil Engineering Faculty owned by Slovak University of Technology in Bratislava (Slovakia).

Sapa Building System provided a unitised solution with unique adapted designs. Single and double skin curtain walling facades were used on this project, with the following boundary conditions:

- Internal frame based on window-principle curtain wall (glazed form inside)
- Max dimensions of a single unit: 1.5 x 3.8 m
- Ventilated area between internal and external skin (wire mesh removable / changeable from inside)
- Distance between internal and external skin: from 180 to 300 mm

Sapa meets project requirements

Within a short period of time, the new system was ready to be delivered. Alongside the regular Elegance 72 version, several new profiles were specifically designed. The curtain wall was equipped with ventilated units, the pictures below explain the principle. Each unit is ventilated separately using natural stack effect between outer and inner skin.

Benefits of the refurbishment with Elegance 72

- “Floor to Floor” refurbishment with minimal disruption to the building user.
- Specific thermal features reduce exploitation costs in both cooling and heating seasons.
- External layer of glass protects the inner skin from wind actions, improving windows operability and natural ventilation.
- Effective noise reduction in urban settings.
- The 3000 m² of unitised curtain walling was installed within 12 months of receiving the first concept drawings.
- Unit fabrication in the workshop.
Highly sustainable new headquarters for the Co-operative Group in Manchester city centre. At 46,500 m², this is the largest commercial office building in Manchester and the highest scoring BREEAM ‘Outstanding’ office in the UK, setting a new national benchmark in sustainable design within the commercial sector. The project was designed using the latest BIM (Building Information Modelling) software and techniques.

Sapa meets project requirements

In accordance with the project requirements, Sapa Building System offered the Elegance 72 solution. Project requirements were as follows:

• external skin inclined (up to 5th level) and sloped (above the 6th level), toroidal on plan
• external modules are parallelogram in shape
• each vertical member is a slightly different angle
• each surface creates a 3D element
Sapa Building System meets project requirements

For this particular project, the curtain wall not only had to meet the requirements for weather performance, but also a number of other elements challenging the city of Istanbul. These included high wind loads associated with high-rise buildings in the region, air tightness for occupational quality, openings with security for user comfort and most notably the accommodation of seismic movements caused by earthquakes.

Unitised Curtain Walling system Elegance 72

For the whole project (6 buildings with heights between 20 and 61 storeys) 100,000 m² of aluminium elements were fabricated, delivered and installed on the building site. IT outward opening windows were incorporated within the Elegance 72 project solution. Achieved performance levels, confirmed by test reports: water tightness: 1200 Pa, wind resistance: 3000 Pa (safety: 4500 Pa), earthquake seismic movement tests according to AAMA 501.4-09.
Sylvius
Building headquarters of Astellas, Leiden, Netherlands
Spine tower
High-rise project in Istanbul, Turkey
Elegance 72
Technical data

Dimensions

<table>
<thead>
<tr>
<th>Min sightline</th>
<th>72 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min sightline transom</td>
<td>52 / 72 mm</td>
</tr>
<tr>
<td>Min sightline inward opening window</td>
<td>161 mm</td>
</tr>
<tr>
<td>Min sightline outward opening window</td>
<td>130 mm</td>
</tr>
<tr>
<td>Profile depth element</td>
<td>85 - 177 mm*</td>
</tr>
<tr>
<td>Max size element single unit (W x H)</td>
<td>1500 x 4000 mm</td>
</tr>
<tr>
<td>Max size element double unit (W x H)</td>
<td>2400 x 4000 mm*</td>
</tr>
<tr>
<td>* adaptable to project requirements</td>
<td></td>
</tr>
</tbody>
</table>

Glazing

| Rebate height | 21 mm |
| Infill thickness with 36 mm strip | 6 - 50 mm |
| Infill thickness with 28 mm strip | 6 - 38 mm |
| Glazing method | dry glazed with EPDM gaskets or silicone |

Performances

- 1.7 ≤ Ut ≤ 3.1 W/m²K
- 1.9 ≤ Um ≤ 3.4 W/m²K
- A4 (EN 12152)
- R1500 (EN 12154)
- 3000 Pa
- 4000 wind safety (EN 13116)
- RC3 (EN 1627: 2011)
- E5 (EN 14019)

Finishes

- Over 400 powder coated paint colours in matt, gloss or satin.
- Unique wood effect, textured and textured metallic ranges are available.
- Anodised finish is also an option.
- Accessories can be supplied in corresponding colours to match the profiles.
- It is possible to have bi-colour finishes, so that the external finish does not dictate the internal colour.
- Our surface finishes meet the highest standards of Qualocoat or Qualanod.
Elegance 72
Technical drawings
Sapa offers architects, specifiers, metal fabricators, investors and home-owners worldwide an extensive range of innovative, reliable and aesthetically pleasing aluminium systems for curtain walling, doors, windows and building integrated photovoltaics. Sapa is one of the largest suppliers of aluminium building systems in Europe and is part of the global aluminium company Hydro.

Windows, Doors, Sliding Systems, Curtain Walls, Conservatories, Balustrades, Gates, Solar Shading and BIPV

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