Technical specifications

PowerGlaz

Romag
GLASS SPECIALIST

PowerGlaz is Building Integrated Photovoltaics designed for use on glazed facades and glass roofs.

Developed from space age technology, PowerGlaz (Building Integrated Power Glass) converts daylight into electricity. Because there are no moving parts it has a long life expectancy and perhaps more importantly, it does not produce CO2 emissions.

Romag's 6MWp Photovoltaic (PV) laminating line is the first automated PV line in the UK and is the largest in Europe.

SEMI-TRANSPARENT CRYSTALLINE PHOTOVOLTAIC LAMINATES

Romag's semi-transparent crystalline photovoltaic (PV) laminates can be used in everyday buildings to replace standard architectural glass. The advantages of the substitution of standard architectural glass for PV glass laminates are:

- photovoltaic laminates serve the dual purpose of replacing conventional materials whilst simultaneously harnessing energy from daylight to generate electricity.

- The initial cost of the solar installation is offset during construction and the electricity generated by the PV laminates continues to lower electricity costs during the lifetime of the building.

- By specifying the density of the of the PV cells for each individual installation it is possible to optimise the amount of natural light or shading within the building's interior.

BALANCING PV AND LIGHT

When integrated at the beginning of the projects design process, a plan can be designed that maximises the benefits of PV, in terms of both electrical performance and as a substitution for conventional building materials. By specifying the number of PV cells to be used and the spacing between each cell, it is possible to control the amount of electricity the building will generate and the amount of ambient light that will enter the building.

DESIGN FLEXIBILITY

PowerGlaz laminates used as a standard building material allow solar laminates to be integrated in a variety of ways, such as windows, atria, facades and roofs. The PowerGlaz can be unobtrusive or be placed strategically to add to the building's visual appeal. These custom installations offer multi-functionality - meeting specifications for light transmission, electrical and thermal performance, as well as creating an integrated, aesthetically pleasing appearance.

MULTIPLE USES

In addition to generating electricity, the PV laminates can be used for weather protection and solar shading control. Furthermore traditional glaziers who need no special training can handle the substitution of standard architectural glass for PowerGlaz. Which can also be installed into standard frames.

SOLAR THERMAL DESIGN

Solar thermal design can be incorporated into the building's façade by allowing air to pass behind the solar façade where it is then heated. The air flows back into the building providing heat. The solar thermal system also acts to cool the PV façade; thus maximising the electric production of the solar cells.

WARRANTIES

The modules described in this data sheet are covered by a limited warranty, which guarantees at least 90% of rated minimum power output for 10 years.

MECHANICAL CHARACTERISTICS

PowerGlaz laminates are custom made for each individual installation. Cells are of a standard size but spacing can be varied in each direction e.g. 6mm horizontal and 20mm vertical, according to the customer's requirements. The front piece of glass is generally a heat strengthened low iron white glass.

The electrical wiring system has been developed to fit into any traditional building support framework system without the need for specialist electricians. Electrical contact busbars that connect cells together can generally be fixed together horizontally or vertically to gain optimum aesthetic appeal.

PowerGlaz can be incorporated into double glazed units. The second piece of glass can be of any type; a Low E coating can also be incorporated to improve thermal performance.

Maximum Panel Size: 3300 x 2200.

The structural properties of PowerGlaz are the same as ordinary laminated glass of a similar size and thickness.

ARCHITECTURE

Architectural glass assumes many forms and functions and is one of the most dynamic materials used in construction. PowerGlaz enables conventional glass to be substituted with an energy efficient renewable energy source within a standard glazed structure.

Architectural applications for PowerGlaz include:

- **Atria**
- **Curtain Walling**
- **Double Glazing**
- **Structural Glazing**
- **Skylights**
- **Windows**
- **Glass Canopies**

All our products are appropriately BS Kite marked including BS 6206 class A and BS EN1279 : 2002.

Tel: +44 (0) 1207 500 000 **Fax: +44 (0) 1207 591 979**
E-Mail: info@romag.co.uk **Website: www.romag.co.uk**