

LIBERTA™ SOLAR FACADE



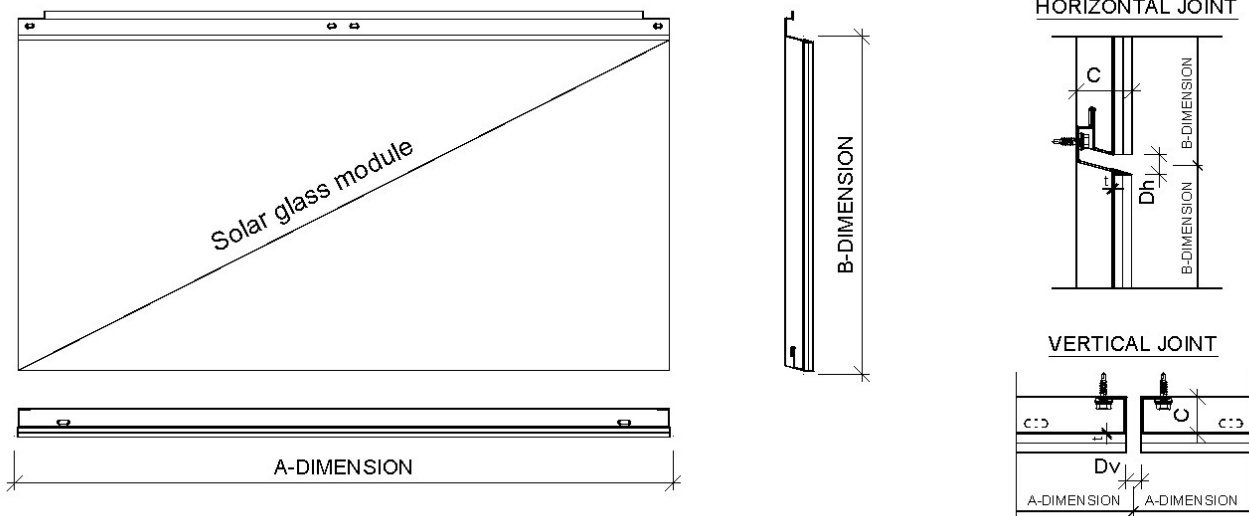
Energise your façade with architecturally impressive Liberta™ Solar for building integrated photovoltaic panel systems.

BE INSPIRED!

Experience the shape and the detail on the finished facade surface. Energise your facade with Liberta solar. Visualize the material and colours in different lighting, and from various perspectives, with the Ruukki Design Palette Visualiser.

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TECHNICAL INFORMATION



TECHNICAL SOLUTION

- Libertá Solar panel is a fully integrated system (building integrated photovoltaic BIPV) to facade which converts solar radiation directly to electricity. System is not dependent on solar heating, only on radiation. It can produce electricity also in such conditions where there is no direct solar radiation for example on cloudy or foggy weather.
- Produced electricity is used directly to real-estate own purposes or fed to general grid.
- Used PV (photovoltaic) modules are based on CIGS (copper indium gallium selenide) film technology which is more and more prevailing technology in solar cells.
- Libertá Solar panels convert radiation directly to electricity. Electricity is gathered via cables behind the wall and it is transmitted to inverter which converts the electricity into alternating current (AC).
- No visible cables, no penetrations to wall (all cables are in space behind the panels)
- Two option for connection to grid:
 - When feed-in-tariff is in use, all energy is fed to the grid and bought back what needed
 - When feed-in-tariff is not in use, energy is fed for building own energy need or part of it

Product	Libertá Solar Panel
A-dimension:	1198 mm (glass module width 1190mm)
B-dimension:	798 mm (glass module height 790mm)
Area	0.96 m ²
Weight	< 25 kg / m ²
Depth (C):	39 mm
Horizontal joint (Dh):	8 mm

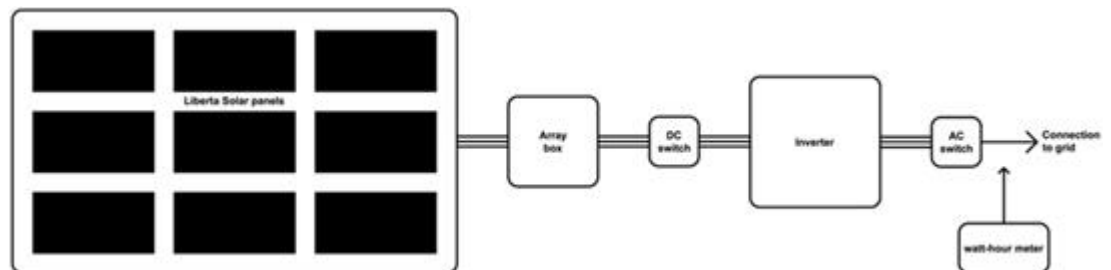
Vertical joint (Dv):	8 mm
Fastening holes:	Oval 5 x 10 mm
Ventilation holes (in panel lower edge):	Oval 5 x 15 mm
Fasteners:	Concealed
Starting fillet:	Required

Power generation	
Module power class:	140-145 Wp
Minimal power per m ²	146 Wp
Net area per 1 kWp:	7,1 m ²

Case study:

Calculations with Liberta Solar, in Finland - Helsinki region, integrated on facade to South

	per 1 m ²	per 100 m ²	per 400 m ²
Power:	0,146 kWp	14,7 kWp	58,1 kWp
Modules:	1,04 pcs	105 pcs	415 pcs
Grid feed-in/a:	95 kWh	9973 kWh	39 270 kWh
CO2 emissions avoided/a	83 kg	8794 kg	34 630 kg



COLORS & COATINGS

Colours and coatings	
Solar glass module:	Nearly black surface, closest RAL colour is Traffic black 9017
Bonding components:	Black sealing
Panel frame (steel):	Colour RR45 Metallic graphite, coating Hiarc matt

Primary manufacturing materials	Material thickness
Solar glass module (laminated glass*)	7.3 mm
Bonding components	7 mm
Steel frame with Hiarc coating	1.2 mm (frame total depth 25 mm)

* Laminated glass is a type of safety glass that holds together when shattered. In the event of breaking, it is held in place by an interlayer between its two layers of glass. The interlayer keeps the layers of glass bonded even when broken, and its high strength prevents the glass from breaking up into large sharp pieces.

DESIGN TOOLS

ACCESSORIES

Liberta Solar facade system completed with support studs, flashings, fasteners and electrical components provides a fully finished facade, as well easy and quick installation.

INSTRUCTIONS

CERTIFICATES & APPROVALS

REFERENCES



JÄNIKSENLINNA WATER UTILITY

The south wall of the building is equipped with a Ruukki Liberta Solar facade cassette. The solar panels located in the wall produce electricity that is used to respond to the water demand. In addition...

[View case](#)