BE-SMART

Together for Active and Efficient Buildings

The BE-Smart project has received funding from The European Union's Horizon 2020 research and innovation programme under grant agreement No 818009.

Saint Gobain Glass Production for BIPV

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BIPV front Glass processing

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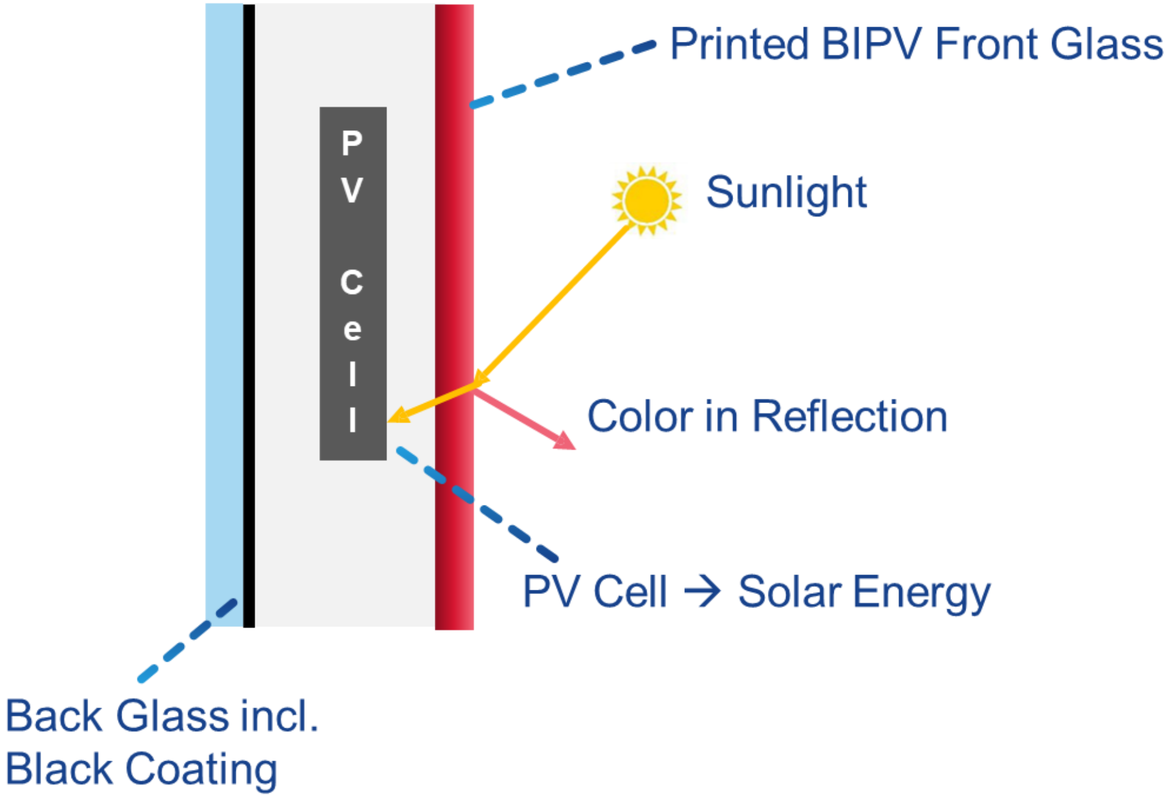
BIPV module



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BIPV front Glass processing

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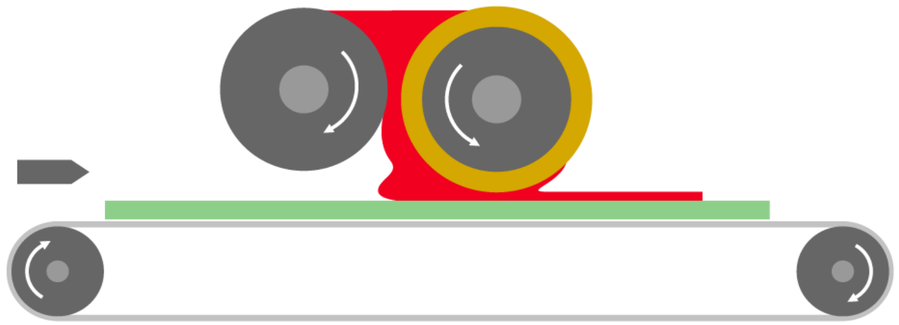
Roller Coating



Applications

- for covering large areas (such as spandrels)
- edge enameling
- ideal for large quantities

Advantages

- Precisely adjustable and uniform paint application
- high visual density and homogeneous appearance

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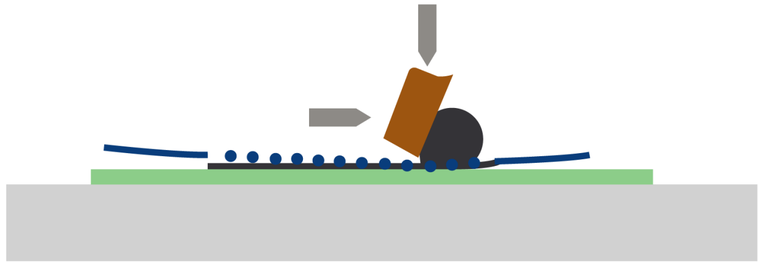
Roller Coating

How it works

The enamel is **pressed using a scraper through the open parts of the mesh onto the glass**.

First, the mesh is technically prepared in **open sections (to be printed)** and closed sections (not to be printed). The open sections form the motif to be printed in this respect with the aid of the colour.



Advantages

- Application of special design patterns
- covering larger areas
- The enamel thickness precisely adjustable
- Lesser enamel consumption compared to other techniques
- Ideal for high volumes
- Suitable for design and edge printing.

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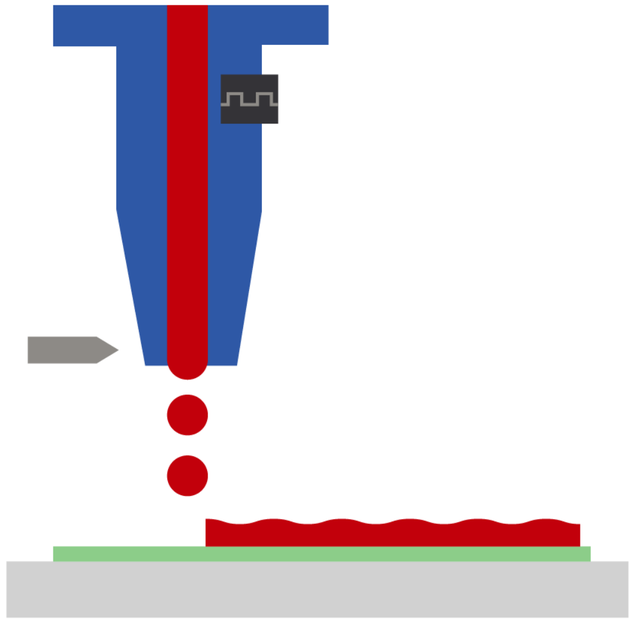
Digital printing



How it works

The technology includes:

- digital glass printer
- digital ceramic ink
- image processing software

The printer is equipped with **print heads with nozzles and ink fixation** (immediate drying of the droplets) allowing a **single pass process** even for multi-colour designs.

A piezo-electric pulser releases single ink droplets very precisely. The digital printing ink is adapted to the printer hardware using **very fine nozzles.**

Advantages

- high design flexibility
- no silk-screen or roller costs
- images or design pattern

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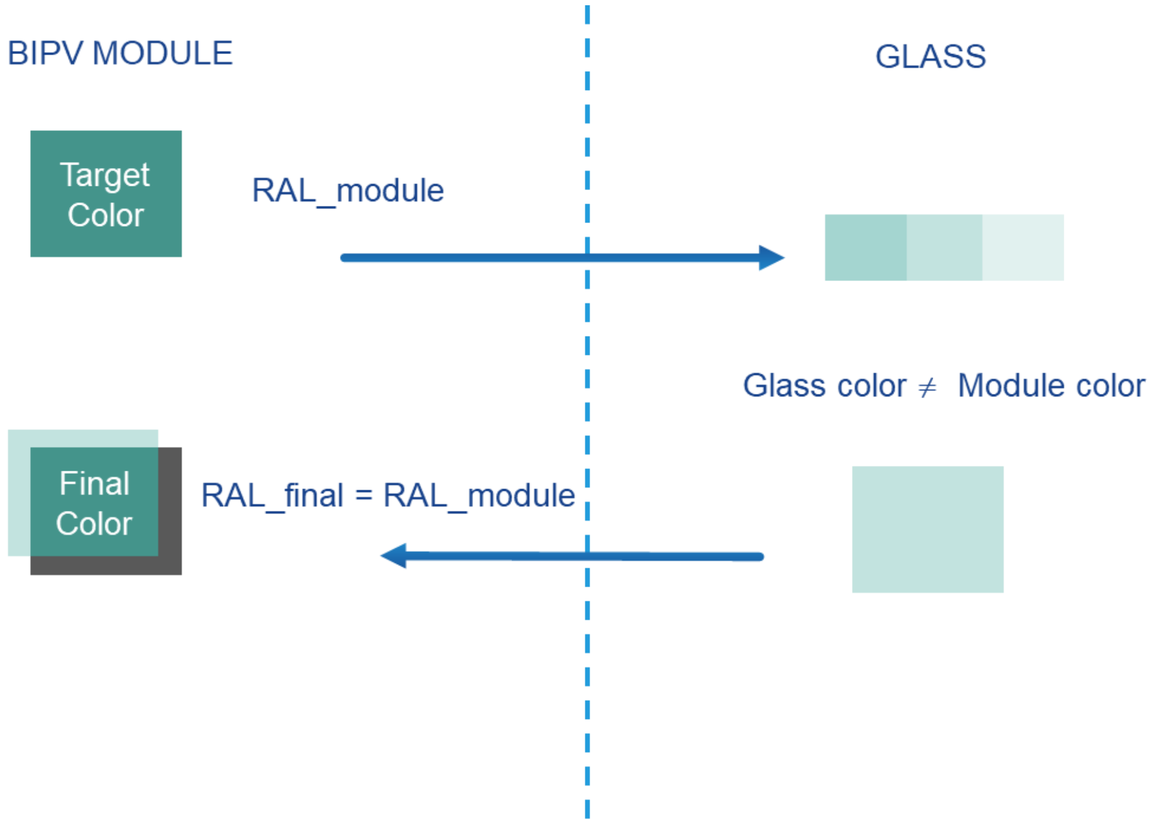
Colour for BIPV



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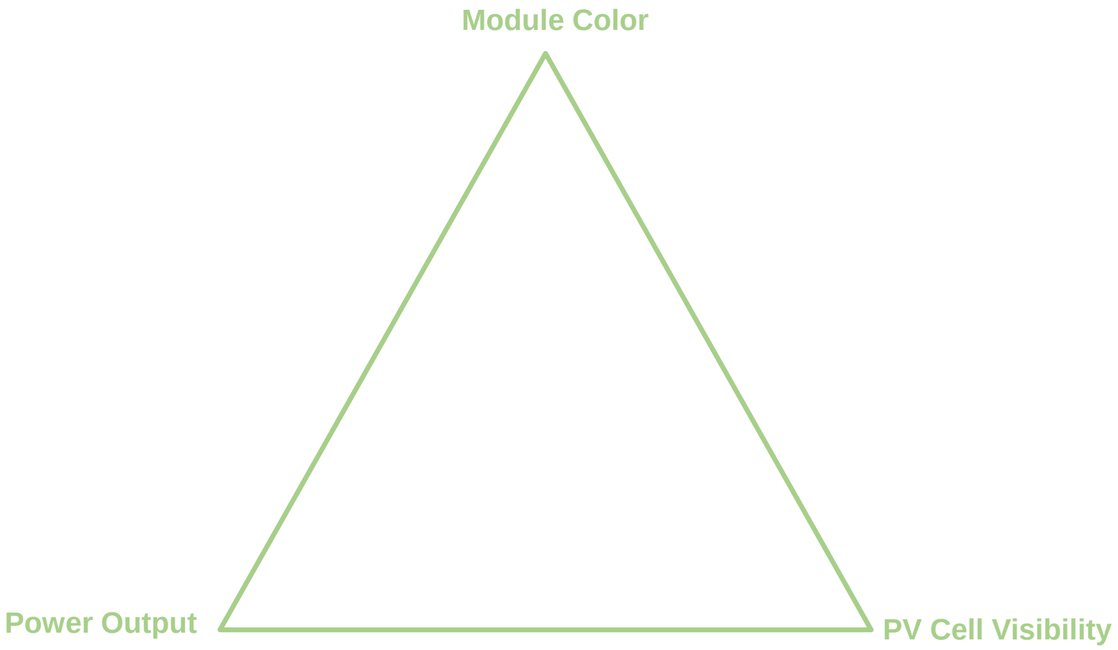
Optimisation of three parameters



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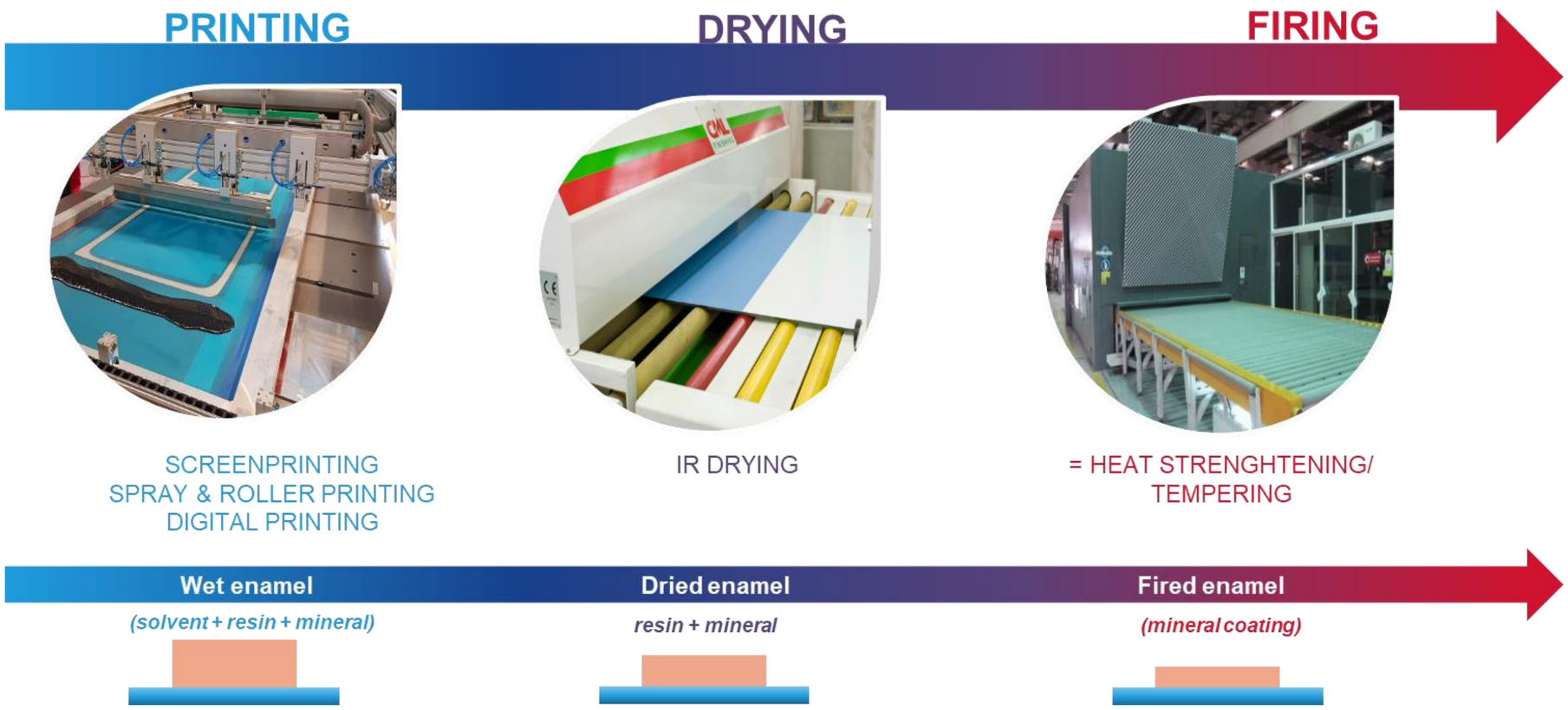
Glass Printing Process



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Heat-Treated Glass - Products Overview

Annealed glass

Verre recuit
Unvorgespanntes glas
-

Breaks easily, typically in long sharp shards.

Heat-strenghtened glass

Verre durci
Teilvorgespanntes glas (TVG)
PLANIDUR®

Resistant to breakage, 2x as strong as annealed glass, breaks in large shards.

Tempered / thoughened glass

Verre trempé
Einzelsicherheitsglas (ESG)
SECURIT®

Resistant to breakage, 4x as strong as annealed glass, shatters completely in small pieces, typically vacates the frame after impact.

Laminated glass

Verre feuilleté
Verbund-sicherheitsglas (VSG)
STADIP®

Resistant to penetration, breaks upon impact, tends to keep shards intact upon and after breakage. Two or more pieces of glass adhered together by interlayer.

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Thank you for your attention.