

## m<sup>2</sup> Double glazing - flat glass

Double glazing - flat glass is a glazing system that combines two sheets of flat glass separated by a sealed gas-filled cavity. These systems are also commonly referred to as insulated glass units (IGU). An aluminium spacer is used to separate the glass panes, attached to the glass with an adhesive. The cavity is then filled with an inert gas. Argon, xenon and krypton are the most commonly used gases.

The double glazed system is typically used to improve the acoustic or thermal performance of a window. The thickness of each glass pane generally ranges from 3 to 10 mm and the gas-filled cavity typically ranges from 6 to 12 mm.

The same glass thickness is usually used for both panes, but in some circumstances the thickness may vary. Laminated or toughened glass can also be used in place of flat glass. Various coatings (such as low-e) can also be applied to the glass surfaces to improve its thermal, acoustic or privacy characteristics.

<b>Category</b>	Glass
<b>Type</b>	Glass
<b>Functional unit</b>	m <sup>2</sup>
<b>Specific heat</b>	840 J/(kg·K)
<b>Density</b>	2 600 kg/m <sup>3</sup>

**Common uses**  
Windows

**Process name**  
Glazing, double (2-IV), U<1.1 W/m<sup>2</sup>K, at plant/RER U/AusSD U

**Input-output sector**  
Glass and Glass Product Manufacturing

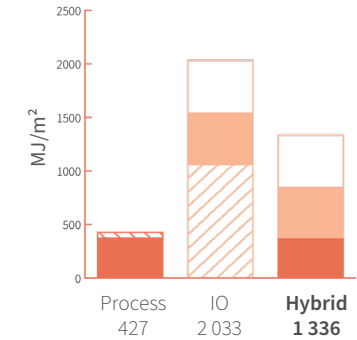
**Further information**  
[doi.org/10.26188/5da55375f3452](https://doi.org/10.26188/5da55375f3452)

### Material variations

	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions (kgCO <sub>2</sub> e/unit)
Double glazing - flat glass, 4:6:4	m <sup>2</sup>	1 336	1 558	101
Double glazing - flat glass, 4:12:4	m <sup>2</sup>	1 336	1 558	101
Double glazing - flat glass, 6:6:6	m <sup>2</sup>	1 441	1 671	108
Double glazing - flat glass, 6:12:6	m <sup>2</sup>	1 441	1 671	108

### TOP THREE INPUTS

- 10.2% Road Transport
- 7.8% Flat glass, coated, at plant/RER U/AusSD U
- 7.1% Flat glass, uncoated, at plant/RER U/AusSD U

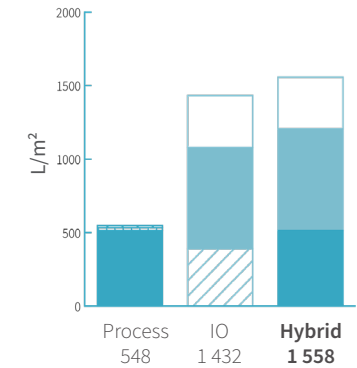


### ENERGY

1 336  
MJ/m<sup>2</sup>

### TOP THREE INPUTS

- 17.9% Zeolite, powder, at plant/RER S/AusSD U
- 5.9% Flat glass, coated, at plant/RER U/AusSD U
- 5.7% Flat glass, uncoated, at plant/RER U/AusSD U

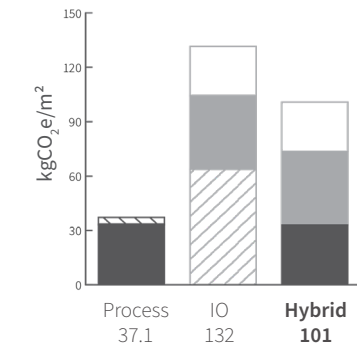


### WATER

1 558  
L/m<sup>2</sup>

### TOP THREE INPUTS

- 9.8% Flat glass, coated, at plant/RER U/AusSD U
- 9.0% Flat glass, uncoated, at plant/RER U/AusSD U
- 6.4% Oil and gas extraction



### GREENHOUSE GAS EMISSIONS

101  
kgCO<sub>2</sub>e/m<sup>2</sup>