CERTIFICATE

Certified Passive House Component

ID: 1187gl03 …. 1190gl03 valid until 31. December 2025

Passive House Institute
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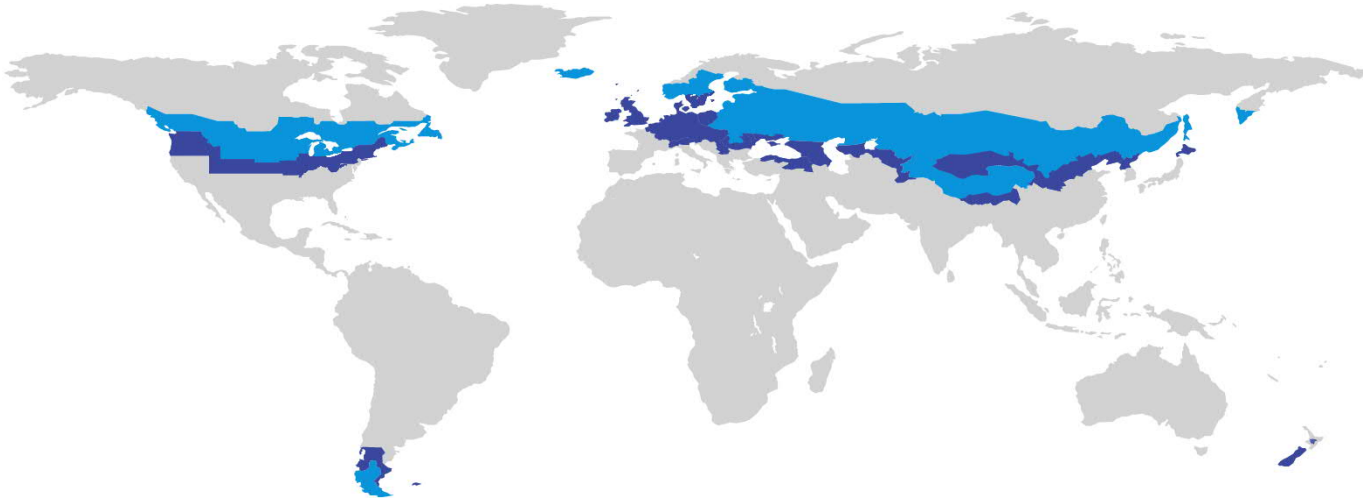

Category	**VIG in combination with 3rd pane and gas filling**	see table on page 2
Manufacturer	**EAGON Windows & Doors Co., Ltd.** **INCHEON, REPUBLIC OF KOREA**	
Product name	**EAGON Super VIG**	

Glazing configuration	**5| gap (Vak) |:5 | gap (div) |:5**
Coating (name)	**IR-selective coating**
ε_{normal} (eps_normal)	**0.013**

This certificate was awarded based on the following criteria:

Climate zone **2 cold climate**
(VIG + Ar) and (VIG + Kr) are suitable for arctic climate, too

U-value requirement **$U_g \leq$ 0.60 W/m²K**
maximum allowed Ug-value for this climate zone
(for details see table on page 2)

Comfort criterion **$t_{comfort, min}$ -25 °C**
Minimum allowed design-outside temperature to fulfil
the comfort requirement (for details see table on page 2)

Efficiency criterion **g/U_g = 1.16**
The ratio g/Ug describes the energy efficiency of the glazing
for details see table on page 2

cold climate

ph **A+**

CERTIFIED COMPONENT
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Product name **EAGON Super VIG**

Total energy throughput, optical transmission and selectivity

The total energy throuput, optical transmission and the selectivity of a glazing system depend mainly on the coatings, the position of the coatings and the thickness of the glass panes. The values are calculated according to ISO 15099 for the glazing configuration given for this product.

Total energy throughput	(g-value or SHGC)	see table below
Optical transmission	(T_{vis})	see table below
Selectivity, S	(T_{vis} / g)	see table below

Heat transfer coefficient, thermal comfort, efficiency classes

The overall heat transfer coefficient in the centre of the glazing package, Ug, depends on the temperature difference between inside and outside, the depth of the gap between glass panes, the gas filling inside the gap, the thickness of the glass panes and the quality of the coatings (eps_normal), if present. It is calculated according ISO 15099 for the given coatings and glazing configuration.

Coating: **IR-selective coating** ε_{normal} **0.013** Glazing configuration **5| gap (Vak) |:5 | gap (div) |:5**

Climate zone	 arctic	 cold	 cool-temp.	 warm-temp.	 warm	 hot	 very hot	The comfort criterium is achieved down to	**g/Ug**	**Passive House Efficiency Class reached**	**g**	**T_{vis}**	**S** T_{vis} / g
	Design temperature for the energy balance of the building [°C]												
	-15	-5	0	5	10	15	20	$t_{comfort, min}$					
gap	**Overall heat transfer coefficient Ug [W/(m²K)]**							**[°C]**	[m²K/W]				
VIG	0.51	0.51	0.51	0.51	0.51	0.51	0.51	-25	0.94	phB	0.48	0.70	1.48
VIG + air *)	0.47	0.47	0.47	0.47	0.47	0.47	0.47	-25	0.96	phA	0.45	0.64	1.42
VIG + Ar **)	0.36	0.35	0.35	0.35	0.35	0.35	0.35	-25	1.10	phA	0.38	0.57	1.49
VIG + Kr **)	0.35	0.33	0.33	0.32	0.32	0.32	0.32	-25	1.16	phA+	0.38	0.57	1.50

*) low-e coating with ε_{normal} = 0.013 on surface #3 **) low-e coating with ε_{normal} = 0.013 on surface #3 and #5

Passive House Efficiency Classes	g/U_g [m²K/W]
phA+	1.10
phA	0.95
phB	0.80
phC	0.65
phD	0.50
phE	0.30

Please note:
The minimum design temperature for comfort requirement is given according to the coldest daily average temperature of a test-reference-year. For the energy balance of a building (PHPP), the monthly average temperatures of the climate zone and the according Ug-values (see table) are relevant. The Ug-values are calculated according to ISO 15099. Boundary conditions for temperature and surface heat transfer coefficients are chosen for each climate zone, see certification criteria.
For proper function in a Passive House, these glazings should be used in a well-designed Passive House window frame. A thermally separating spacer has to be used at the glazing edge to reduce thermal bridges.