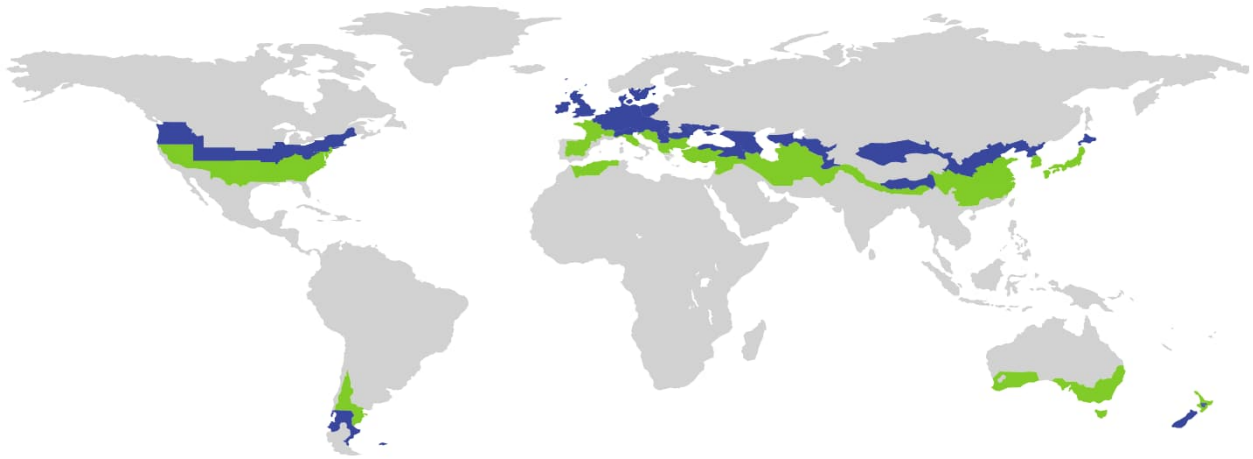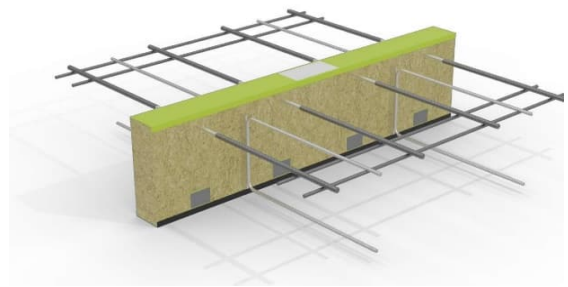# CERTIFICATE

Certified Passive House Component

ID: 2339bc03 valid until 31. December 2025

Passive House Institute
Dr. Wolfgang Feist
64342 Darmstadt
GERMANY

Category	**Balcony connection**
Type	**Cantilevered**
Manufacturer	**Peikko Group Corporation**
	FIN-15101 Lahti
	FINLAND
Product name	**EBEA®**

This certificate was awarded based on the following criteria for the climate zone

Hygiene and comfort criterion

The minimum temperature factor of the internal surfaces is

$f_{Rsi=0.25m^2K/W} \geq$ 0.86

Energy criterion

The linear thermal bridge loss coefficient is

$\Psi \leq$ 0.25 W/(mK)

Efficiency criterion

The heat losses depending on the possible load bearing
do not exceed

Eff.t. $\leq$ 10.00 W/(kNmK)

cool temperate climate

**CERTIFIED
COMPONENT**

Passive House Institute

Determined values

Product	h [mm]	d [mm]	$\lambda_{,C.min}$ [W/(mK)]	$\lambda_{,eq}$ [W/(mK)]	$\Psi_{,WB}$ [W/(mK)]	M_{Rd} [kNm/m]	f_{Rsi} [-]	Eff.t. [W/(kNK)]	Efficiency class
EBEA100_6X10_Q3*	160	120	3.0	0.218	0.211	-23	0.93	9.15	phC
EBEA100_6X10_Q3*	200	120	3.0	0.211	0.250	-34	0.92	7.35	phC
EBEA100_6X10_Q2*	240	120	2.6	0.176	0.244	-45	0.92	5.40	phB

* validated through 3D-FEM-Simulation

$\lambda_{,C.min}$	=	Min. conductivity reinf. Concrete
$\lambda_{,eq}$	=	Equivalent conductivity balcony connection
$\Psi_{,WB}$	=	Linear thermal bridge coefficient
f_{Rsi}	=	Temperature-factor
Eff.t.	=	Efficiency-value
M_{Rd}	=	Design resistance

Using the equivalent thermal conductivity λeq, linear thermal bridge loss coefficients can be determined for other connection situations using 2D FEM simulations. The minimum thermal conductivity of the reinforced concrete λC.min of the balcony is to be used for the cantilever slab and the false ceiling. The rectangular replacement geometry of the balcony connection element has the dimensions of height h and width d, as well as the thermal conductivity λeq.
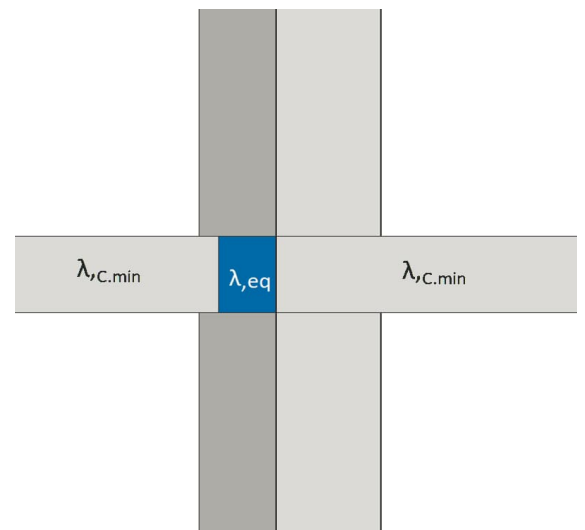
Notice

The thermal bridge loss coefficients can be interpolated approximately linearly. Calculations and boundary conditions according to the criteria and algorithms "Certified Passive House Component – Balcony Connection, Version 2.1"