

# Certificate

## Certified Passive House Component

for cool, temperate climate, valid until 31.12.2018

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Category: **Balcony connection**  
**Slab thickness 160 - 240 mm**  
Manufacturer: **HALFEN GmbH**  
**40764 Langenfeld, GERMANY**  
Product name: **HIT-SP ZVX**

The following criteria were used in awarding this certificate:

### Efficiency Criterion

In two typical applications\*, the construction fulfills the requirement of

$$\Delta U_{WB} \leq 0.010 \text{ W/(m}^2\text{K)}$$

### Comfort Criterion

The inner surface must be warm enough to prevent mould as well as uncomfortable down-draught and radiation losses.

$$\theta_{i,\min} \geq 17^\circ\text{C}$$

Following heat transmission coefficients  $\Psi$  [W/(mK)] have been determined:

Product	Slab thickness [mm]			
	160	180	220	240
HIT-SP ZVX-0202-hh <sup>1)</sup> -100-30-06	0.096	0.096	0.104	0.104
HIT-SP ZVX-0202-hh <sup>1)</sup> -100-30-08	0.099	0.101	0.105	-
HIT-SP ZVX-0302-hh <sup>1)</sup> -100-30-06	0.098	0.102	0.106	-
HIT-SP ZVX-0502-hh <sup>1)</sup> -100-30-06	0.102	0.107	-	-

<sup>1)</sup> hh - slab thickness [cm]

\* The criterion was validated on both, a row house and a apartment dwelling.

(according to criteria "balcony connection" v2.1.1)

The certificate includes types with minor statical performance. Thermal bridge coefficients can be approximated by linear interpolation.

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