


# Certificate

valid until 31.12.2019

 **Passivhaus  
Institut**  
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**Low Energy  
Component:**

**Halfen Balcony Connection  
HIT-HP ZVX & SP ZVX  
180 mm slab thickness**

**Hersteller: HALFEN GmbH  
Liebigstraße 14 40764 Langenfeld**

**The following criteria were used in awarding this certificate:**

### Efficiency Criterion

In two typical applications<sup>\*)</sup>, the construction is

$$\Delta U_{WB} < 0.025 \text{ W/(m}^2\text{K)}$$

### Comfort Criterion

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

$$\theta_{i,min} > 17.00 \text{ } ^\circ\text{C}$$

**The following thermal data were determined:**

HALFEN HIT ISO-Element	minimum temperature of the inner surface $\theta_{Si,min}$ [°C]	thermal bridge coefficient $\Psi$ [W/(mK)]
HIT-HP ZVX-0404-18-100-35-06	18.45	0.18
HIT-HP ZVX-0804-18-100-35-08	18.34	0.20
HIT-SP ZVX-0302-18-100-35-08	18.87	0.11
HIT-SP ZVX-0404-18-100-35-06	18.71	0.14
HIT-SP ZVX-0804-18-100-35-08	18.62	0.15

<sup>\*)</sup> The criterion was validated on both, a row house and a apartment dwelling.

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

