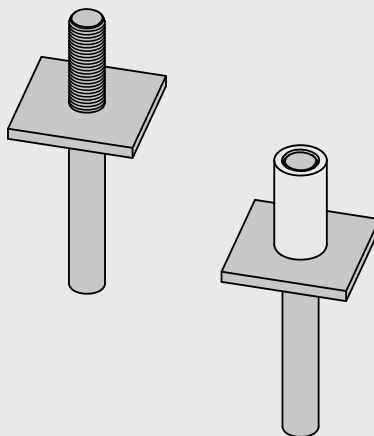


- Ⓒ GB Top Fixing Dowel
- Ⓒ D Winkelplattenanker
- Ⓒ PL Trzpień do płyt kątowych

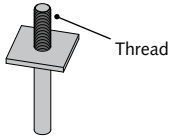


Assembly Instructions • Montageanleitung • Instrukcja montażu

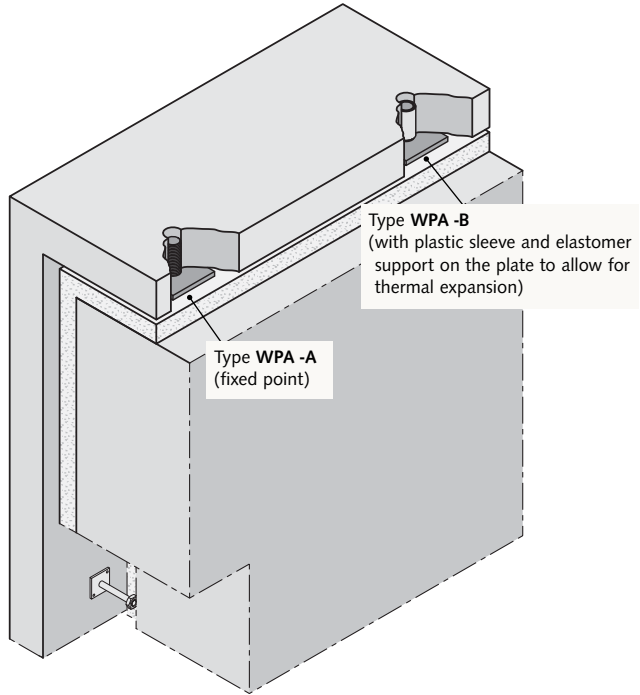
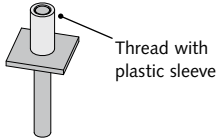
English  
Deutsch  
Polski

WPA Top fixing dowel

WPA-A



WPA-B



The top fixing dowel allows height adjustment of  $\pm 20$ mm.

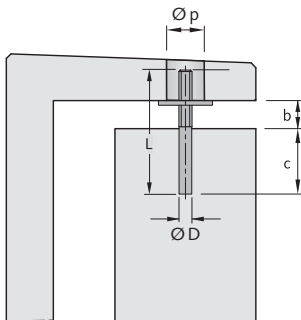
**Load group 5.0 to 16.0:**

- b = 20 mm: +20 mm; -5 mm
- b = 30 mm: +20 mm; -15 mm
- b  $\geq$  40 mm:  $\pm 20$  mm

**Load group 22.0 to 34.0:**

- b = 30 mm: +20 mm; -10 mm
- b  $\geq$  40 mm:  $\pm 20$  mm

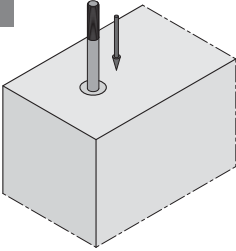
One dowel must be fitted with a plastic sleeve to allow for thermal expansion.



Type range and dimensions

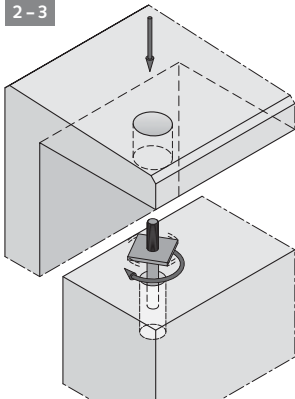
Load range max V [kN]	Thread M	Ø D × L [mm]	b [mm]	c [mm]	Ø p [mm]
5	M24 × 1.5	22 × 295	20-80	160	60
8	M28 × 1.5	27 × 295	20-80	160	70
11.5	M30 × 1.5	29 × 330	20-80	190	70
16	M35 × 1.5	34 × 335	20-80	190	70
22	M39 × 1.5	40 × 365	30-80	220	80
34	M45 × 1.5	44 × 395	30-80	250	80

1



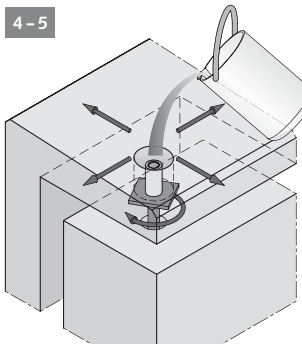
1. A recess (corrugated sheathing tube) is provided in the precast concrete element for the threaded dowel, the dowel is grouted in, perpendicularly, using concrete / mortar with a strength class of at least C30/37 as defined in DIN EN 1992-1-1.  
Alternatively, the dowel may also be cast directly into the concrete ensuring it remains completely perpendicular.

2-3



2. A recess is provided in the precast corner panel to grout the dowel after final alignment.
3. Remove any protective cover from the threaded dowel and ensure the thread is clean; the threaded plate is screwed on and pre-adjusted.

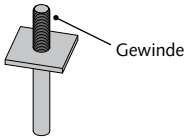
4-5



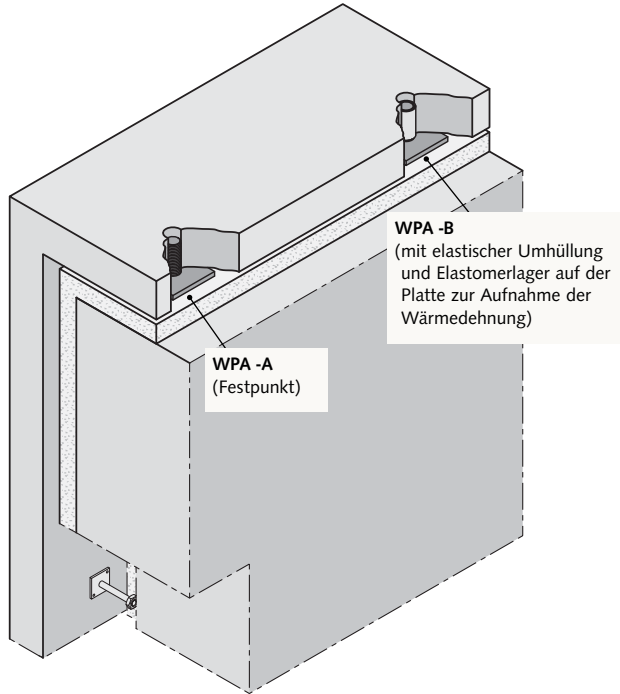
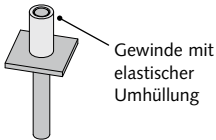
4. The precast corner panel is adjusted.  
Horizontal alignment is possible within the limits of the (grout) recess; for vertical alignment the threaded plate is turned up or down, respectively.
5. After the panel is aligned the recess is filled (strength class  $\geq$  C20/25 as defined in DIN EN 1992-1-1).  
Secure the position of the panel until the concrete / mortar has hardened.

## WPA Winkelplattenanker

## WPA-A



## WPA-B



Der Winkelplattenanker erlaubt eine Höhenjustierung von bis zu  $\pm 20$  mm.

**Laststufen 5,0–16,0:**

b = 20 mm: +20 mm; -5 mm

b = 30 mm: +20 mm; -15 mm

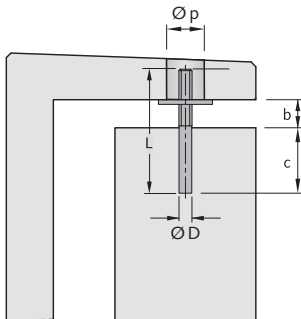
b  $\geq$  40 mm:  $\pm 20$  mm

**Laststufen 22,0–34,0:**

b = 30 mm: +20 mm; -10 mm

b  $\geq$  40 mm:  $\pm 20$  mm

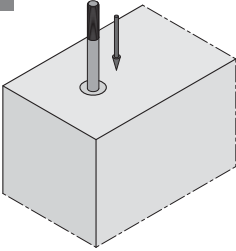
Zur Aufnahme der Wärmedehnung ist ein Anker immer elastisch umhüllt.



## Typenauswahl und Abmessungen

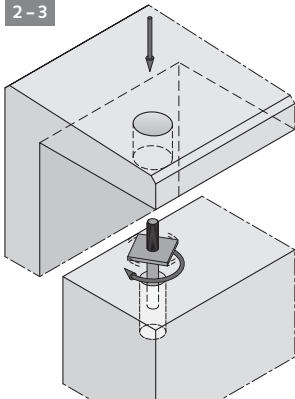
Laststufe max V [kN]	Gewinde M	$\text{Ø D} \times \text{L}$ [mm]	b [mm]	c [mm]	$\text{Ø p}$ [mm]
5	M24 × 1,5	22 × 295	20–80	160	60
8	M28 × 1,5	27 × 295	20–80	160	70
11,5	M30 × 1,5	29 × 330	20–80	190	70
16	M35 × 1,5	34 × 335	20–80	190	70
22	M39 × 1,5	40 × 365	30–80	220	80
34	M45 × 1,5	44 × 395	30–80	250	80

1



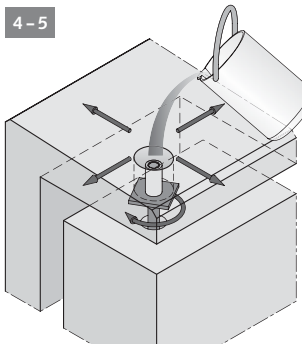
1. Im Rohbauteil wird eine Aussparung (Hüllwellrohr) für den Gewindebolzen vorgesehen, in welche dieser mit Beton/ Mörtel der Festigkeitsklasse  $\geq C30/37$  gem. DIN EN 1992-1-1 senkrecht einbetoniert wird. Alternativ kann der Gewindebolzen direkt senkrecht in das Rohbauteil einbetoniert werden.

2-3



2. Im Fertigteil wird eine Aussparung für den Verguss des Gewindebolzens nach dem Ausrichten vorgesehen.
3. Das Gewinde wird freigelegt, die Gewindeplatte aufgedreht und vorjustiert.

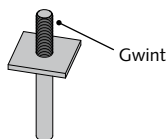
4-5



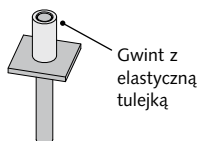
4. Die Winkelplatte wird versetzt. Justiert wird horizontal in der Vergussaussparung, vertikal mit der Gewindeplatte.
5. Nach der Justierung wird die Aussparung der Winkelplatte vergossen (Festigkeitsklasse  $\geq C20/25$  gem. DIN EN 1992-1-1). Bis zur Aushärtung des Vergussbetons / -mörtels ist die Lage der Winkelplatte zu sichern.

## WPA Trzpień do płyt kątowych

## WPA-A



## WPA-B



Trzpień do płyt kątowych umożliwia regulację wysokości  $\pm 20$  mm.

**Klasy obciążeń 5,0–16,0:**

b = 20 mm: +20 mm; -5 mm

b = 30 mm: +20 mm; -15 mm

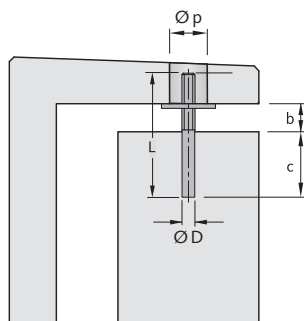
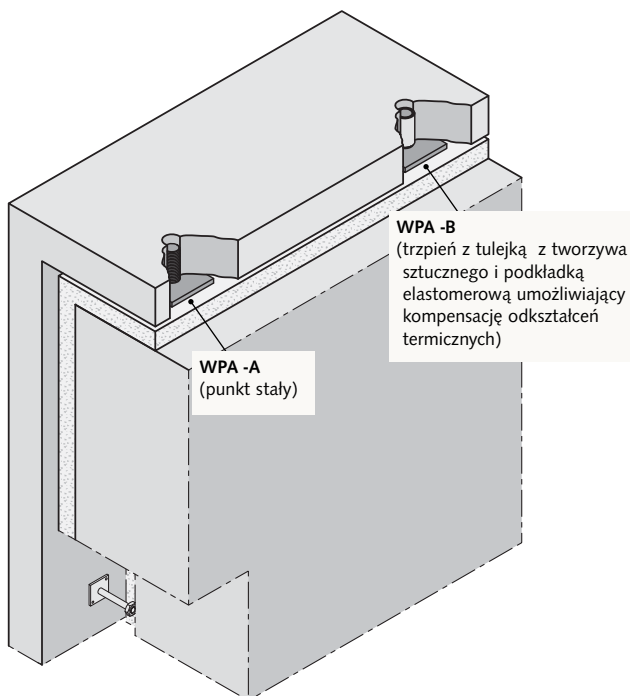
b  $\geq$  40 mm:  $\pm 20$  mm

**Klasy obciążeń 22,0–34,0:**

b = 30 mm: +20 mm; -10 mm

b  $\geq$  40 mm:  $\pm 20$  mm

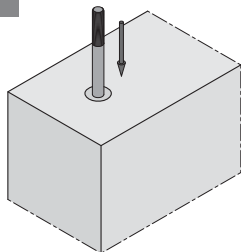
Dla kompensacji odkształceń termicznych jeden trzpień umieszczony jest w tulejce elastycznej.



## Wybór typu i wymiary

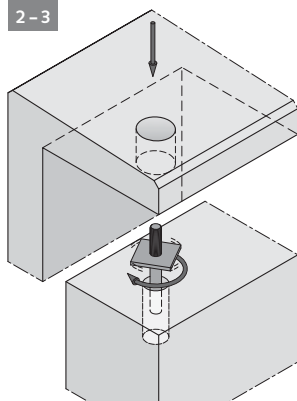
Klasa obciążeń max V [kN]	Gwint M	$\text{ØD} \times \text{L}$ [mm]	b [mm]	c [mm]	$\text{Øp}$ [mm]
5	M24 × 1,5	22 × 295	20–80	160	60
8	M28 × 1,5	27 × 295	20–80	160	70
11,5	M30 × 1,5	29 × 330	20–80	190	70
16	M35 × 1,5	34 × 335	20–80	190	70
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34	M45 × 1,5	44 × 395	30–80	250	80

1



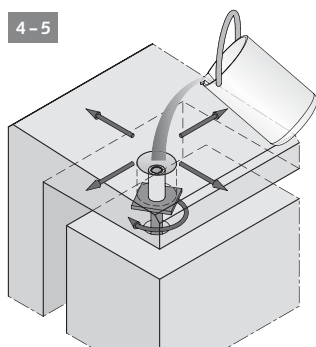
1. W elemencie betonowym wykonać otwór, w którym pionowo należy zabetonować trzpień gwintowany przy użyciu mieszanki betonowej o wytrzymałości  $\geq C30/37$  zgodnie z EN 1992-1-1. Trzpień może być również zabetonowany podczas wykonywania elementu konstrukcyjnego.

2-3



2. W prefabrykacie przewidziany jest otwór do zabetonowania trzpienia.
3. Przed montażem oczyścić gwint, nakręcić płytkę gwintowaną i wyregulować jej położenie.

4-5



4. Osadzić prefabrykat - płytę kątową. Regulacja w poziomie możliwa jest poprzez przesuw w otworach montażowych, w pionie - przez obrót płytek regulacyjnych.
5. Po ustawieniu i regulacji prefabrykatu, wypełnić otwory montażowe mieszanką betonową o wytrzymałości  $\geq C20/25$  zgodnie z EN 1992-1-1. Położenie prefabrykatu musi być stabilne do czasu związania betonu.

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