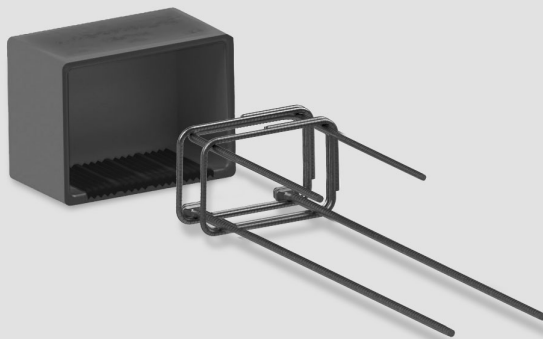


Ⓞ GB bi-Trapez box

Ⓞ D bi-Trapez-Box

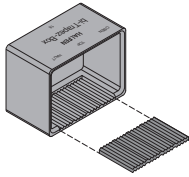
Ⓞ PL bi-Trapez-Box



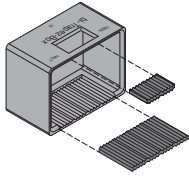
Assembly Instructions • Montageanleitung • Instrukcja montażu

English  
Deutsch  
Polski

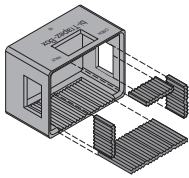
A – HALFEN HBB bi-Trapez box for on-site cast landing slabs



**HBB-O** with one bi-Trapez bearing® at the bottom of the box

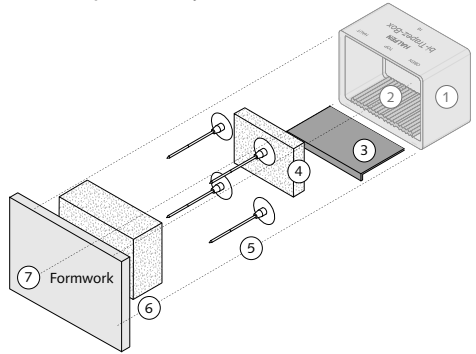


**HBB-OQ** with an additional bi-Trapez bearing® in the top of the box for vertical upward loads



**HBB-OQS** includes a bearing at the bottom of the box and in the top for additional vertical loads and two bi-Trapez bearings® fixed to the inner sides for additional horizontal loads

**HBB-O Scope of delivery:**



- ① bi-Trapez box  
HBB-O, -OQ or -OQS (see left)
  - ② bi-Trapez bearing®: one, two or four pieces, depends on box (see left)
  - ③ Protective (cardboard) strip
  - ④ Polystyrene filler
  - ⑤ Fixing nails to facilitate fitting to formwork\*
  - ⑥ Polystyrene installation block
  - ⑦ Formwork\*
- (\*formwork is not scope of delivery)

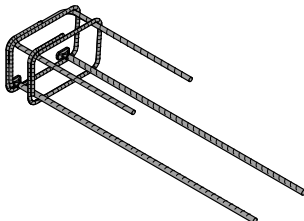


All versions are delivered with the bi-Trapez bearings® securely fixed in the bi-Trapez box.

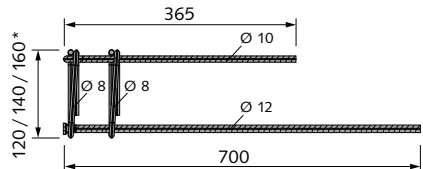
Available bi-Trapez boxes

Article name	Exterior dimension HBB Box h × b × t [mm]	For slab thickness d [mm]
HBB 16 -O / -OQ / -OQS	187 × 274 × 155	≥ 160
HBB 18 -O / -OQ / -OQS	207 × 274 × 155	≥ 180
HBB 20 -O / -OQ / -OQS	227 × 274 × 155	≥ 200

HALFEN HBB Reinforcement cage-Q-Unit



Article name	* For slab thickness d [mm]
HBB Reinforcement cage 16-Q-Unit	≥ 160
HBB Reinforcement cage 18-Q-Unit	≥ 180
HBB Reinforcement cage 20-Q-Unit	≥ 200



## A1 – Installation in brickwork

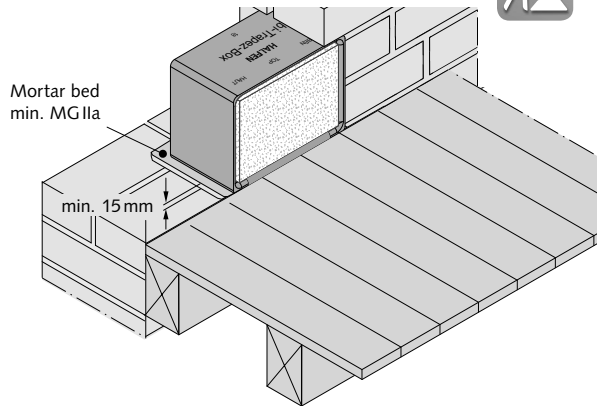


## 1.1

The HALFEN bi-Trapez box is positioned on the masonry with the polystyrene filler ④ and block ⑥ inserted. The brickwork around the box is then completed.

The cardboard protection strip ③ is left in the bottom of the box to protect the bearing.

The polystyrene filler and block keep the box in shape until the surrounding brickwork is finished, and are removed after the mortar has sufficiently hardened.

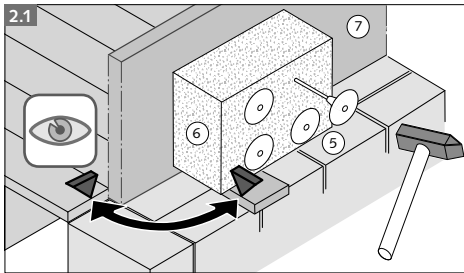


English

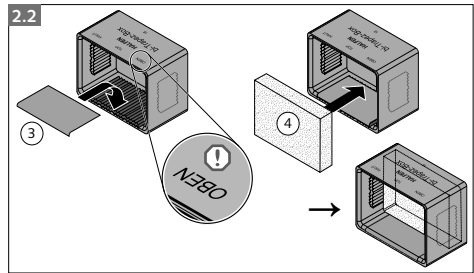
Deutsch

Polski

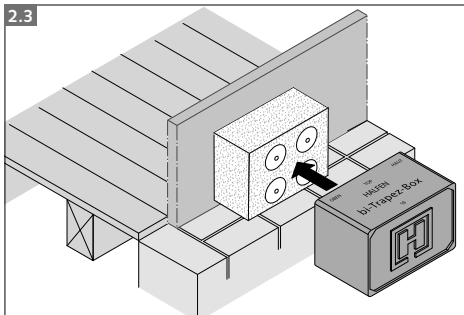
## A2 – Installation in reinforced concrete walls or slabs



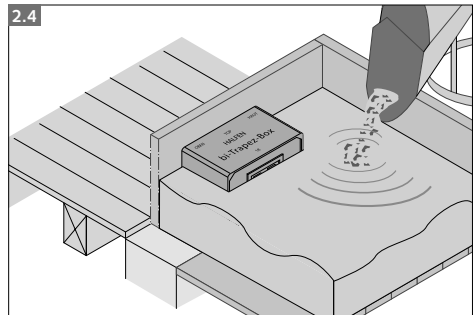
The polystyrene block ⑥ is attached to the formwork ⑦ using the fixing nails ⑤. **The bottom surface of the polystyrene block must be exactly aligned with the bottom surface of the slab.**



Place the protective strip ③ and the polystyrene filler ④ in the bi-Trapez box.



Slide the HALFEN HBB bi-Trapez box on to the polystyrene block.

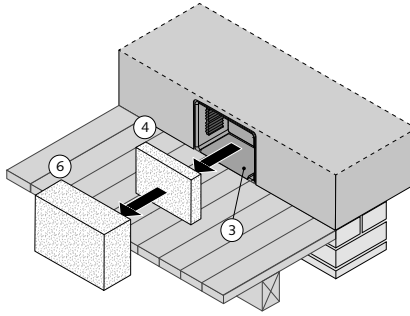


The bi-Trapez box is cast in the concrete slab or wall.



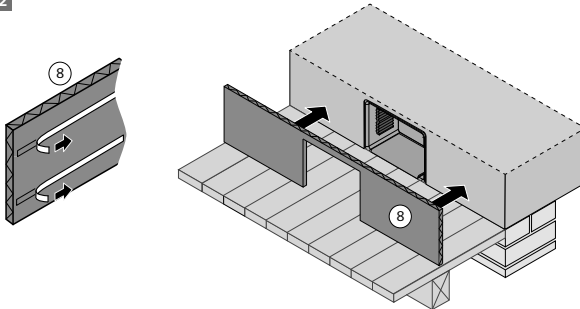
### A3 - Installation in stair landing slab (on-site cast)

3.1



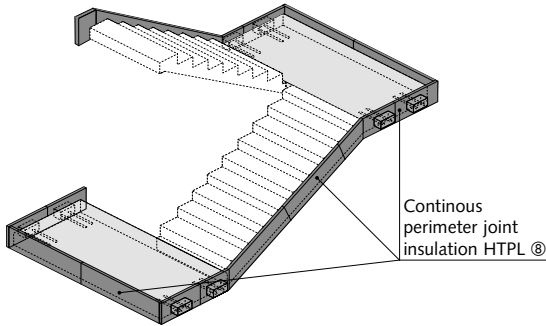
- 3.1** Install the formwork for the landing slab. Remove the polystyrene block<sup>④</sup> and the polystyrene filler<sup>④</sup> from the HALFEN HBB bi-Trapez box. Leave the protective cardboard strip<sup>③</sup> in the bi-Trapez box.

3.2



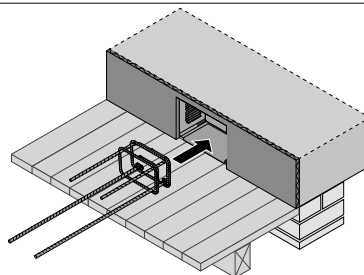
- 3.2** Install the insulation strips<sup>⑧</sup> between the landing slab and the adjoining walls. Make sure there are no gaps between the strips.

3.3



- 3.3** Install HTPL Insulation strips<sup>⑧</sup> in all joint between walls and planned stairs.

3.4



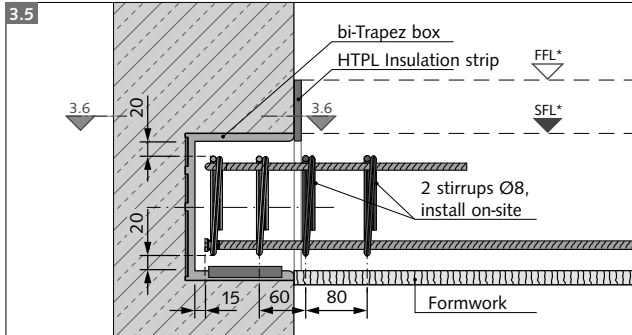
- 3.4** The protective cardboard strip<sup>③</sup> must be positioned correctly in the bi-Trapez box. Insert the HBB Reinforcement cage, including the spacers, completely into the box. (Spacers are not illustrated and not included in delivery)



**Ensure correct orientation of the reinforcement!**



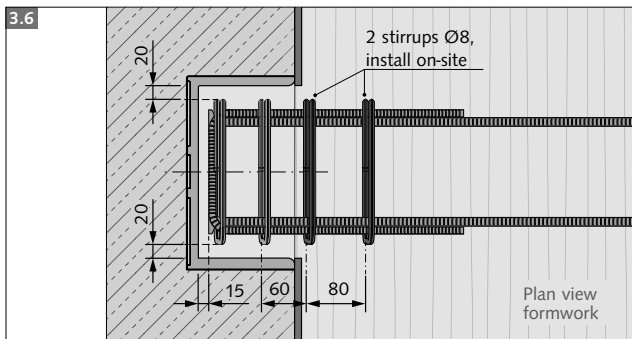
### A3 – Installation in stair landing slab (on-site cast) – continued



- 3.5 Vertical section:**  
Concrete cover  $c_{nom}$  in [mm]

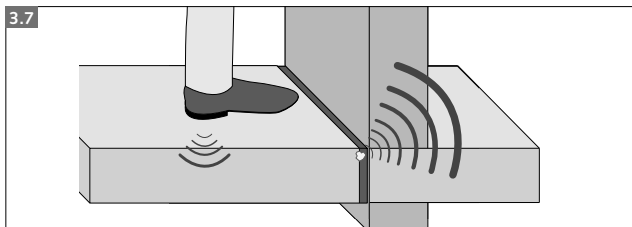
⚠ Ensure concrete cover is as illustrated!

\* FFL= finished floor level  
SFL= structural floor level

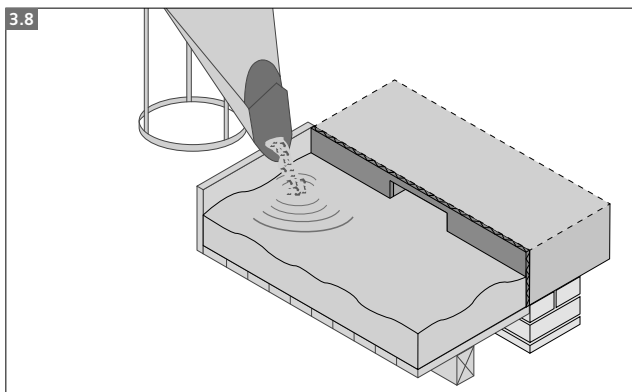


- 3.6 Horizontal section:**  
Concrete cover  $c_{nom}$  in [mm]

⚠ Ensure concrete cover is as illustrated!



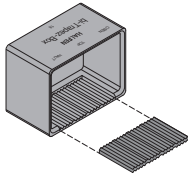
- 3.7**
- ⚠ Care must be taken with all connection joints to avoid sound bridges caused by concrete residue or other contamination bridging the insulation!



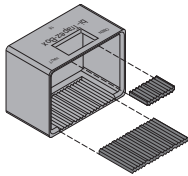
- 3.8** Install the on-site reinforcement according to the reinforcement plan.  
**Tie and secure the HBB Reinforcement cage.**  
Pour the concrete for the stairs landing slab.



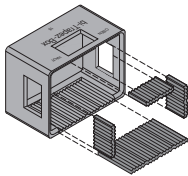
## B – HALFEN HBB bi-Trapez-Box for precast landing slabs



**HBB-F** including one bi-Trapez bearing<sup>®</sup> in the bottom of the box



**HBB-FQ** with an additional bi-Trapez bearing<sup>®</sup> in the top of the box for vertical upward loads



**HBB-FQS** includes a bearings in the bottom of the box and at the top for additional vertical loads and two bi-Trapez bearings<sup>®</sup> fixed to the inner sides for additional horizontal loads

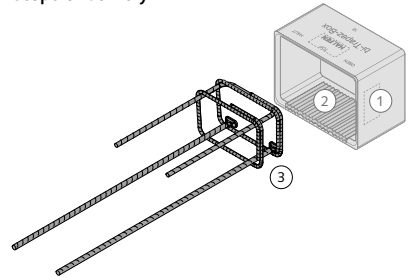


All types are delivered with the bi-Trapez bearings<sup>®</sup> securely fixed in the bi-Trapez-Box.

### Available bi-Trapez-Boxes

Article name	Inner dimension HBB Box h×b×t [mm]	For slab thickness d [mm]
HBB 16 -F / -FQ / -FQS	160×250×140	≥ 160
HBB 18 -F / -FQ / -FQS	180×250×140	≥ 180
HBB 20 -F / -FQ / -FQS	200×250×140	≥ 200

### HBB-SET Scope of delivery:

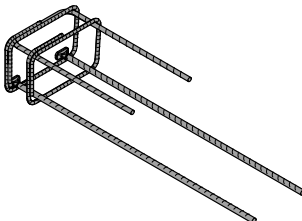


- bi-Trapez box  
HBB-F, -FQ or -FQS (see left)
- bi-Trapez bearing<sup>®</sup>: one, two or four pieces, depends on box (see left)
- HBB Reinforcement cage-Q-Unit

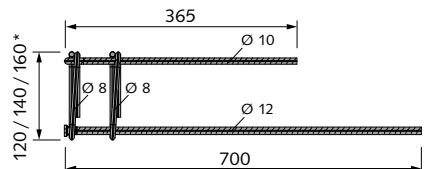
### Available HBB-Sets

Article name	For slab thickness d [mm]
HBB 16-SET	≥ 160
HBB 18-SET	≥ 180
HBB 20-SET	≥ 200
HBB 16-SET-Q	≥ 160
HBB 18-SET-Q	≥ 180
HBB 20-SET-Q	≥ 200
HBB 16-SET-QS	≥ 160
HBB 18-SET-QS	≥ 180
HBB 20-SET-QS	≥ 200

## HALFEN HBB-Reinforcement cage-Q-Unit

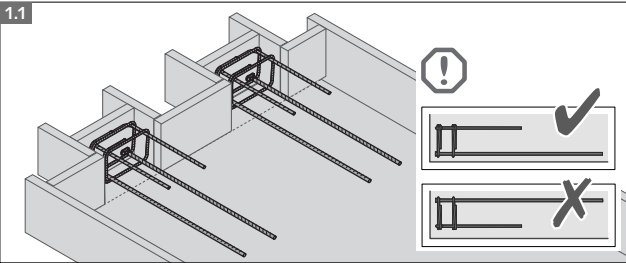


Article name	* For slab thickness d [mm]
HBB Reinforcement cage 16-Q-Unit	≥ 160
HBB Reinforcement cage 18-Q-Unit	≥ 180
HBB Reinforcement cage 20-Q-Unit	≥ 200

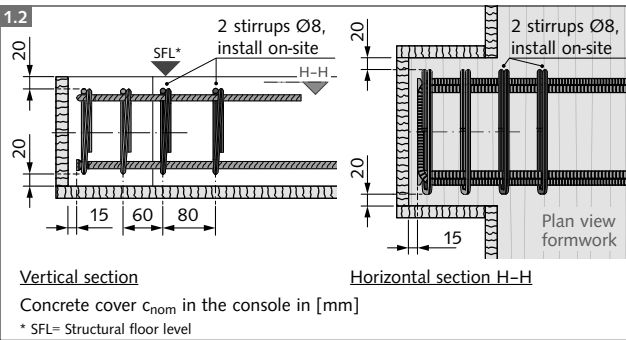




**B1 - In the precast plant**



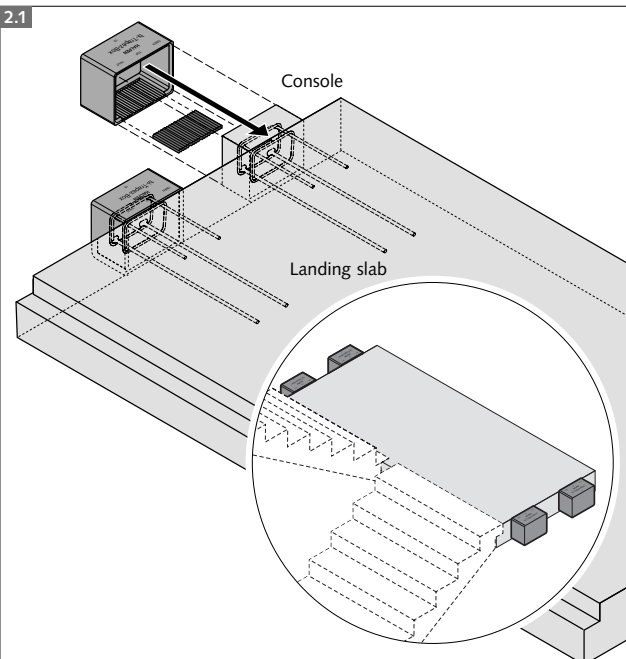
**1.1** The stair landing slab is cast with consoles with the inner dimensions of the HBB Box ( $h \times b \times t$ , see table)  
The reinforcement cages are installed, with spacers, at this stage (spacers are not illustrated and not included in delivery).



**1.2** **Ensure concrete cover is as illustrated!**

The reinforcement for the stair landing slab is installed according to the reinforcement plan.  
**Tie and secure the HBB-Reinforcement cage.**  
Pour the concrete for the stair landing slab.

**B2 - On-site installation**



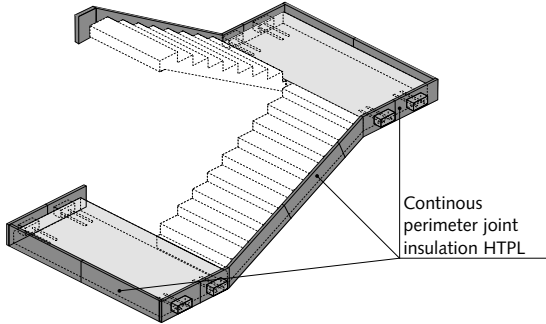
**2.1** Slide the HALFEN HBB bi-Trapez boxes on to the consoles.

Figures 2.1 - 2.5 are design examples. The information provided by the structural engineer is always decisive.



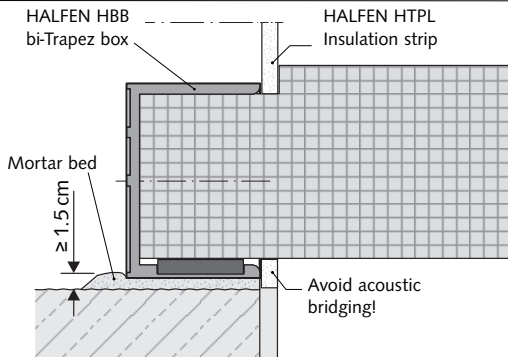
## B2 - On-site installation (continued)

2.3



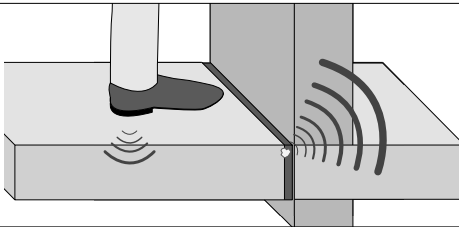
- 2.3** Install HTPL Sound absorbing strips in all joints between the slab and walls and cover the gaps between the HTPL Strips with HALFEN Adhesive tape.

2.4



- 2.3** Place the prefabricated element with the HALFEN bi-Trapez boxes at the intended position on the pre-prepared mortar beds. (min. MGIIa according to DIN EN 1996, thickness  $\geq 1.5$  cm).

2.5



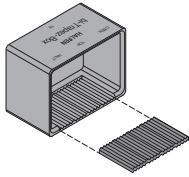
2.5



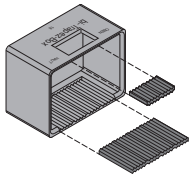
Care must be taken at all connections to avoid sound bridges caused by concrete residue or other contamination bridging the insulation!



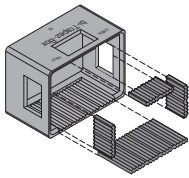
## A – HALFEN HBB bi-Trapez-Box für Ortbetonpodeste



**HBB-O** inkl. eines bi-Trapezträgers®  
im Boden



**HBB-OQ** bei zusätzl. abhehenden  
Lasten inkl. je eines bi-Trapez-  
trägers® im Boden und im Boxen-  
deckel



**HBB-OQS**  
bei zusätzl. abhehenden und seit-  
lichen Lasten inkl. je eines bi-Trapez-  
trägers® im Boden und im Bo-  
xendeckel sowie zweier Elemente  
in den Seitenwänden.

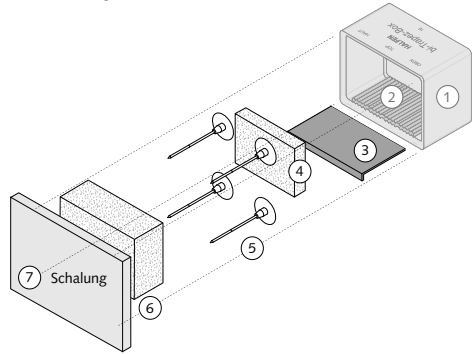


Die bi-Trapezträger® sind bei allen Bestellvarianten  
werkseitig in die bi-Trapez-Box eingeklebt.

## Lieferbare bi-Trapez-Boxen

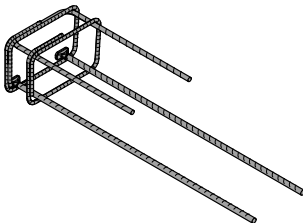
Artikelbezeichnung	Außenmaße der HBB Box h × b × t [mm]	Für Podest- stärke d [mm]
HBB 16 -O / -OQ / -OQS	187 × 274 × 155	≥ 160
HBB 18 -O / -OQ / -OQS	207 × 274 × 155	≥ 180
HBB 20 -O / -OQ / -OQS	227 × 274 × 155	≥ 200

## Lieferumfang HBB-O:

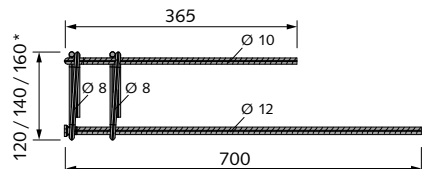


- ① bi-Trapez-Box  
HBB-O, -OQ oder -OQS (s. links)
- ② bi-Trapezträger®: ein, zwei oder vier Stück,  
je nach Box (s. links)
- ③ Schutzstreifen (Pappe)
- ④ Polystyrol-Einlage
- ⑤ Spezialnägeln zur einfachen Befestigung an der Schalung\*
- ⑥ Polystyrol-Montageblock
- ⑦ Schalung  
(\*Schalung nicht Teil des Lieferumfangs)

## HALFEN HBB-Bewehrungskorb-Q-Unit



Artikelbezeichnung	* für Podestdicken d [mm]
HBB-Bewehrungskorb 16-Q-Unit	≥ 160
HBB-Bewehrungskorb 18-Q-Unit	≥ 180
HBB-Bewehrungskorb 20-Q-Unit	≥ 200





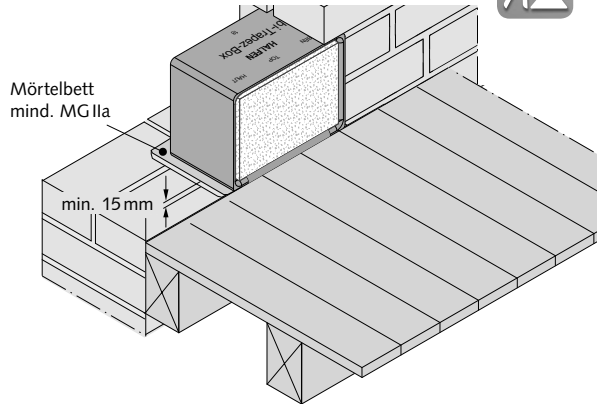
## A1 – Einbau in Mauerwerk

## 1.1

Die HALFEN bi-Trapez-Box wird mit den eingelegten Polystyrolblöcken ④ und ⑥ in der Wand positioniert und ummauert.

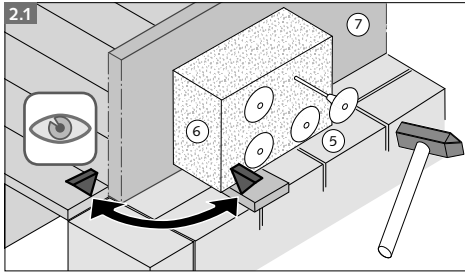
Der eingelegte Schutzstreifen ③ schützt hierbei die Profilierung im Boxenboden vor Verschmutzung.

Die Polystyrolkörper garantieren beim Ummauern die Formhaltigkeit der Box und werden nach Aushärten des Mörtels entfernt.



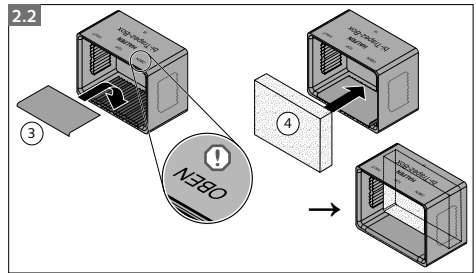
## A2 – Einbau in Stahlbetondecke oder -wand

## 2.1



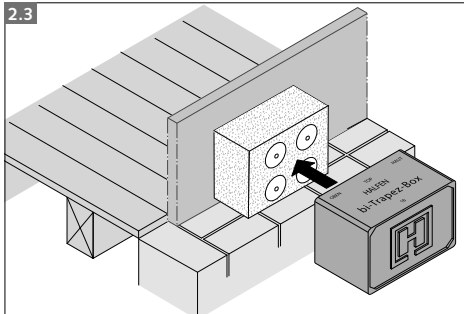
Den Polystyrol Montageblock ⑥ an der vorgesehenen Stelle mit den Spezialnägeln ⑤ an der Schalung ⑦ befestigen.  
**Die Unterkante des Polystyrolblocks muss genau in Höhe der Unterkante des Betonpodestes liegen.**

## 2.2



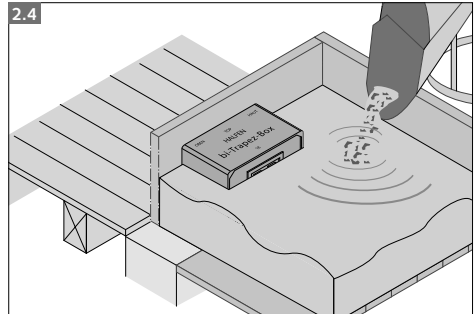
Der Schutzstreifen ③ und die Polystyroleinlage ④ werden in die bi-Trapez-Box eingelegt.

## 2.3



Die HALFEN HBB bi-Trapez-Box wird auf den Polystyrolblock aufgeschoben.

## 2.4

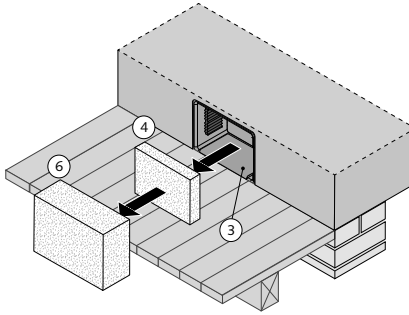


Die bi-Trapez-Box wird mit in die zu erstellende Betondecke oder -wand einbetoniert.



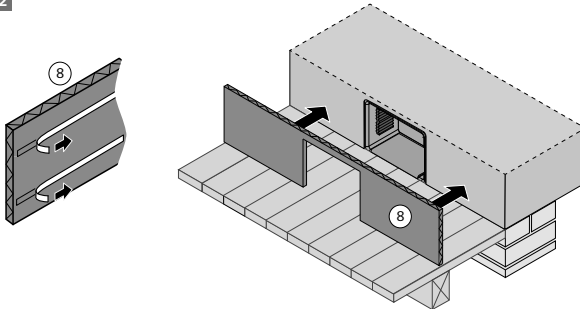
## A3 – Einbau in Treppenpodest (Ortbeton)

3.1



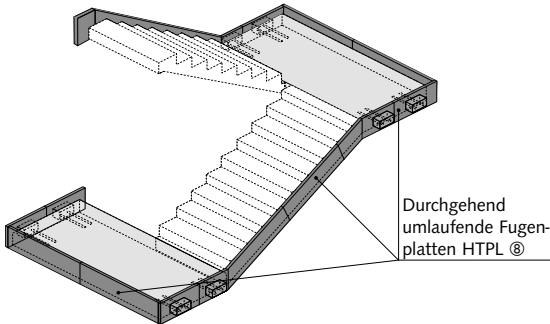
- 3.1** Podestschalung errichten. Polystyrolblock ⑥ und Polystyrol-Einlage ④ aus der einbetonierten HALFEN HBB bi-Trapez-Box entfernen. Der Schutzstreifen ③ bleibt in der bi-Trapez-Box.

3.2



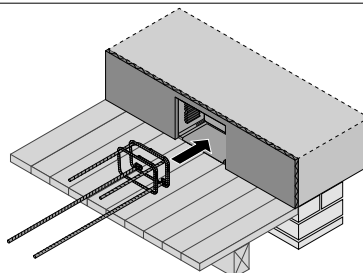
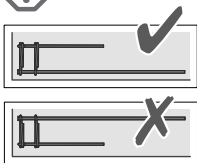
- 3.2** In die Fugen zwischen Podest und tragender Wand lückenlos HTPL Fugenplatten ⑧ einbauen.

3.3



- 3.3** HTPL Fugenplatten ⑧ umlaufend auch in der Fuge zwischen Wand und geplanter Treppe einbauen.

3.4



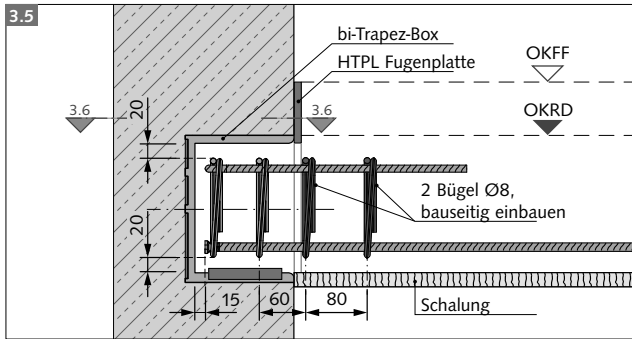
- 3.4** Der Schutzstreifen ③ muss ordnungsgemäß in der bi-Trapez-Box eingelegt sein. Nun den HBB-Bewehrungskorb-Q-Unit inkl. Abstandhaltern (nicht dargestellt, nicht im Lieferumfang enthalten) vollständig in die Box einschieben.



**Korrekte Ausrichtung des Korbes beachten!**

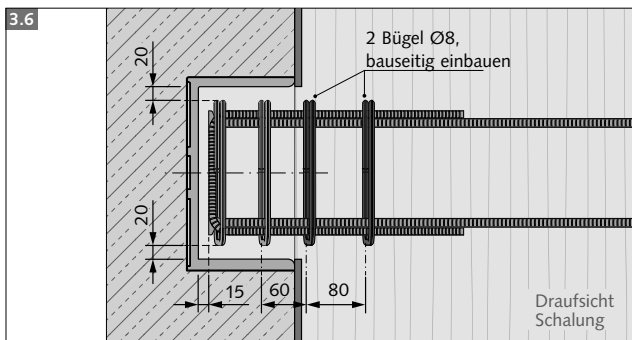


## A3 – Einbau in Treppenpodest (Ortbeton) – Fortsetzung



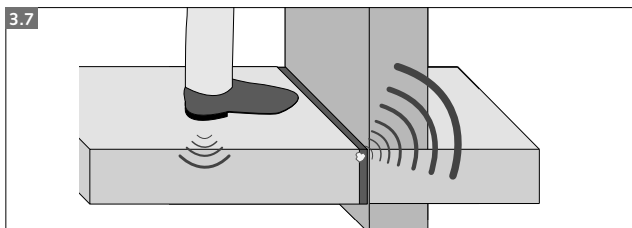
3.5 Vertikalschnitt:  
Betondeckung  $c_{nom}$  in [mm]

! Betondeckung wie dargestellt gewährleisten!



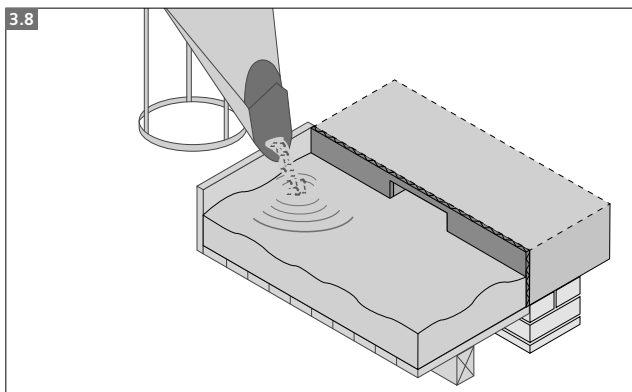
3.6 Horizontalschnitt:  
Betondeckung  $c_{nom}$  in [mm]

! Betondeckung wie dargestellt gewährleisten!



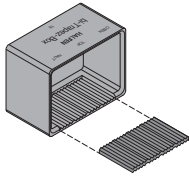
3.7

! Bei allen Anschlüssen ist darauf zu achten, dass Schallbrücken durch Verunreinigungen oder eindringenden Beton vermieden werden!

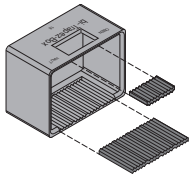


3.8 Bauseitige Bewehrung entsprechend Bewehrungsplan verlegen. **HBB-Bewehrungskorb feströdeln.** Anschließend Treppenpodest betonieren.

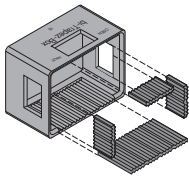
## B – HALFEN HBB bi-Trapez-Box für Fertigteilpodeste



**HBB-F** inkl. eines bi-Trapezlagers® im Boden



**HBB-FQ** bei zusätzl. abhebbenden Lasten inkl. je eines bi-Trapezlagers® im Boden und im Boxendeckel



**HBB-FQS** bei zusätzl. abhebbenden und seitlichen Lasten inkl. je eines bi-Trapezlagers® im Boden und im Boxendeckel sowie zweier Elemente in den Seitenwänden.

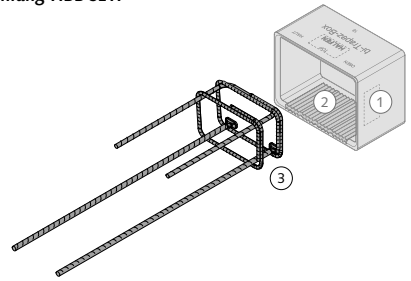


Die bi-Trapezlager® sind bei allen Bestellvarianten werkseitig in die bi-Trapez-Box eingeklebt.

## Lieferbare bi-Trapez-Boxen

Artikelbezeichnung	Innenmaße der HBB Box h×b×t [mm]	Für Podeststärke d [mm]
HBB 16 -F / -FQ / -FQS	160×250×140	≥ 160
HBB 18 -F / -FQ / -FQS	180×250×140	≥ 180
HBB 20 -F / -FQ / -FQS	200×250×140	≥ 200

## Lieferumfang HBB-SET:

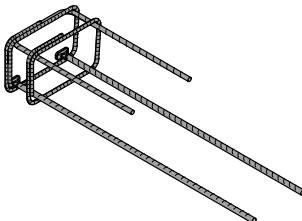


- 1 bi-Trapez-Box HBB-F, -FQ oder -FQS (s. links)
- 2 bi-Trapezlager®: ein, zwei oder vier Stück, je nach Box (s. links)
- 3 HBB-Bewehrungskorb-Q-Unit

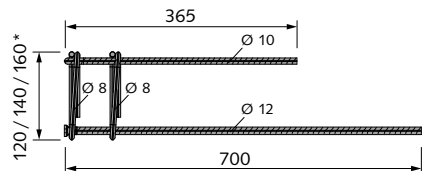
## Lieferbare HBB-Sets

Artikelbezeichnung	Für Podestdicke d [mm]
HBB 16-SET	≥ 160
HBB 18-SET	≥ 180
HBB 20-SET	≥ 200
HBB 16-SET-Q	≥ 160
HBB 18-SET-Q	≥ 180
HBB 20-SET-Q	≥ 200
HBB 16-SET-QS	≥ 160
HBB 18-SET-QS	≥ 180
HBB 20-SET-QS	≥ 200

## HALFEN HBB-Bewehrungskorb-Q-Unit

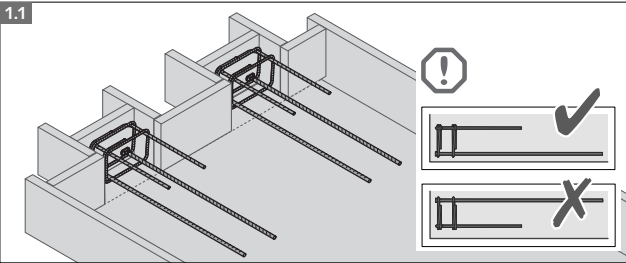


Artikelbezeichnung	* für Podestdicke d [mm]
HBB-Bewehrungskorb 16-Q-Unit	≥ 160
HBB-Bewehrungskorb 18-Q-Unit	≥ 180
HBB-Bewehrungskorb 20-Q-Unit	≥ 200

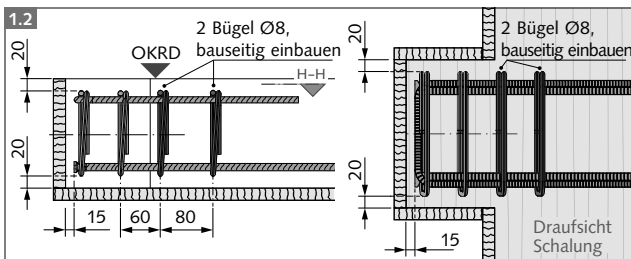




## B1 – Im Fertigteilwerk



- 1.1** Das Treppenpodest wird mit Konsolen mit den Innenmaßen der HBB Box ( $h \times b \times t$ , siehe Tabelle) hergestellt. Der HBB Bewehrungskorb-Q-Unit wird dabei inkl. Abstandhaltern (nicht dargestellt, nicht im Lieferumfang enthalten) eingebaut.



Vertikalschnitt

Betondeckung  $c_{nom}$  in der Konsole in [mm]

Horizontalschnitt H-H

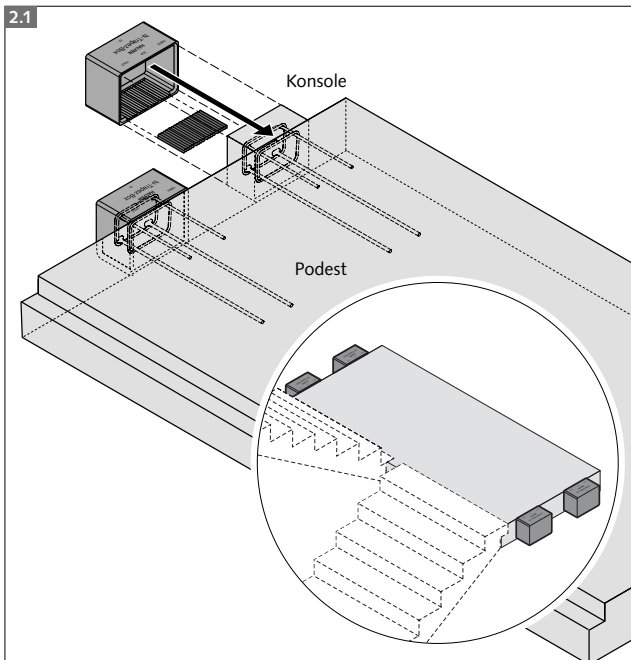
## 1.2

**Betondeckung wie dargestellt gewährleisten!**

Anschließend ist die Bewehrung des Treppenpodestes gem. Bewehrungsplan zu verlegen.

**HBB-Bewehrungskorb feströdeln.**  
Treppenpodest betonieren.

## B2 – Auf der Baustelle



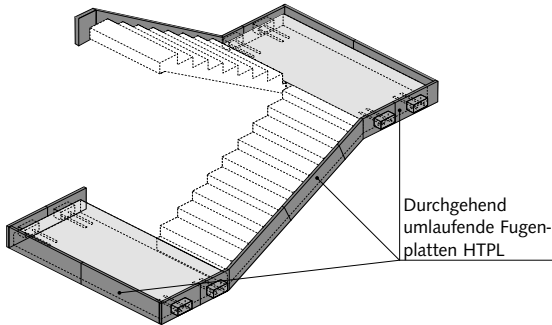
- 2.1** HALFEN HBB bi-Trapez-Boxen auf die Konsolen schieben.

**i** Die Abbildungen 2.1 - 2.5 sind Ausführungsbeispiele; in jedem Fall sind die Angaben des Tragwerksplaners maßgebend.



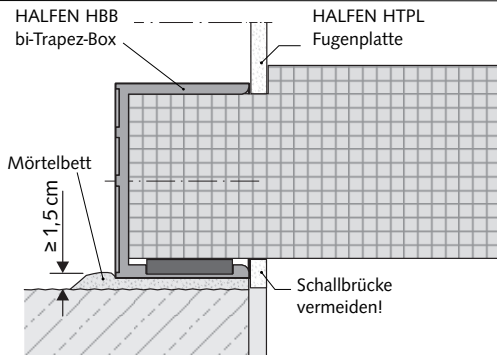
## B2 – Auf der Baustelle (Fortsetzung)

2.3



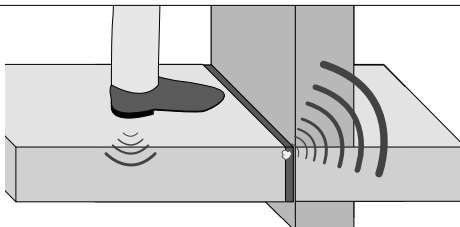
- 2.3** Schalldämmplatten HTPL umlaufend in alle Fugen zwischen Podest und Wand einbauen und Stöße zwischen den HTPL Platten mit Klebeband abkleben.

2.4



- 2.3** Das mit den HALFEN bi-Trapez-Boxen bestückte Fertigteil an der vorgesehenen Position auf die vorbereiteten Mörtelbetten (mind. MGIIa nach DIN EN 1996, Dicke  $\geq 1,5$  cm) auflagern.

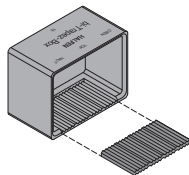
2.5



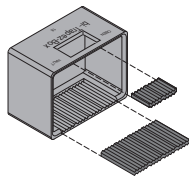
2.5

- !** Bei allen Anschlüssen ist darauf zu achten, dass **Schallbrücken durch Verunreinigungen oder eindringenden Beton vermieden werden!**

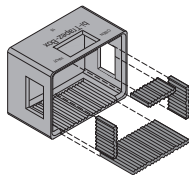
## A – HALFEN HBB bi-Trapez-Box dla podestów betonowych na budowie



**HBB-O**  
łącznie z wkładką elastomerową®  
na dnie.



**HBB-OQ**  
przy dodatkowych obciążeniach  
podnoszących, łącznie z wkładką  
elastomerową bi-Trapezlager® na  
dnie i pokrywie skrzynki.



**HBB-OQS**  
przy dodatkowych obciążeniach  
podnoszących i bocznych, łącznie  
z wkładką elastomerową  
bi-Trapezlager® na dnie, pokrywie  
i ściankach bocznych skrzynki.

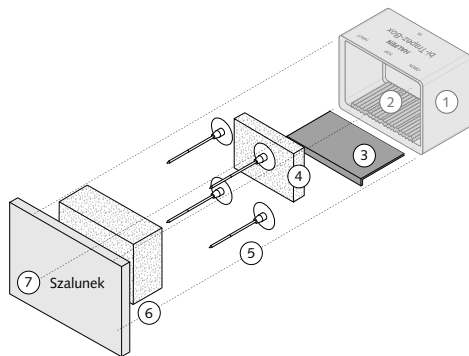


Wkładki elastomerowe bi-Trapezlager® są  
wklejane do skrzynek, we wszystkich wariantach  
zamówień.

## Rodzaje skrzynek bi-Trapez-Box

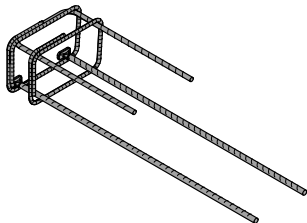
Oznaczenie artykułu	Wymiary zewnętrzne skrzynki HBB h × b × t [mm]	Grubość podestu d [mm]
HBB 16 -O / -OQ / -OQS	187 × 274 × 155	≥ 160
HBB 18 -O / -OQ / -OQS	207 × 274 × 155	≥ 180
HBB 20 -O / -OQ / -OQS	227 × 274 × 155	≥ 200

## Zakres dostawy HBB-O:

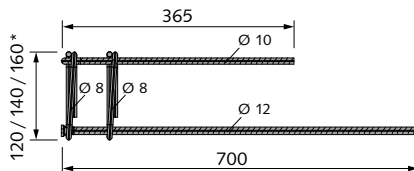


- 1 Skrzynka bi-Trapez-Box HBB-O, -OQ lub -OQS (patrz po lewej)
- 2 Wkładka elastomerowa bi-Trapezlager®: jedna, dwie lub cztery sztuki na skrzynkę (patrz po lewej)
- 3 Wkładka ochronna z tuktury
- 4 Wkładka styropianowa
- 5 Specjalne gwoździe do mocowania w szalunku\*
- 6 Blok styropianowy
- 7 Szalunek (\*szalunek nie jest częścią dostawy)

## HALFEN zbrojenie HBB-Q-Unit



Oznaczenie artykułu	* Grubość podestu d [mm]
Zbrojenie HBB 16-Q-Unit	≥ 160
Zbrojenie HBB 18-Q-Unit	≥ 180
Zbrojenie HBB 20-Q-Unit	≥ 200





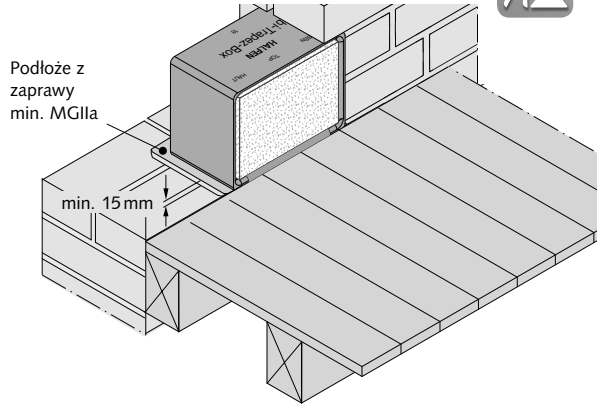
## A1 – Montaż w ścianie murowanej



## 1.1

Ustawić skrzynkę HALFEN bi-Trapez-Box wraz z zamontowanym blokiem styropianowym ⑥ i ⑦ i obmurować. Wkładka ochronna ③ chroni profilowane na dnie skrzynki przed zabrudzeniem.

Elementy styropianowe gwarantują przy pracach murarskich zachowanie kształtu skrzynki, po stwardnieniu zaprawy są usuwane.

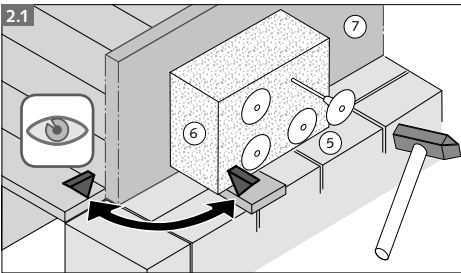


English

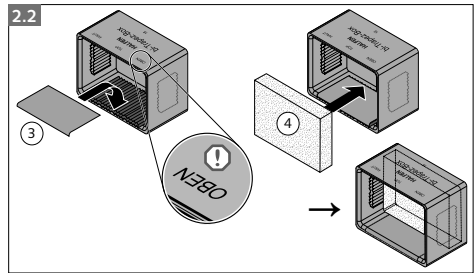
Deutsch

Polski

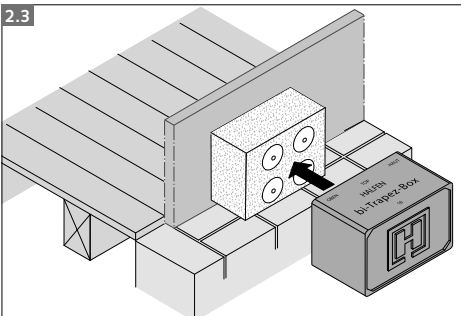
## A2 – Montaż w ścianie lub stropie żelbetowym



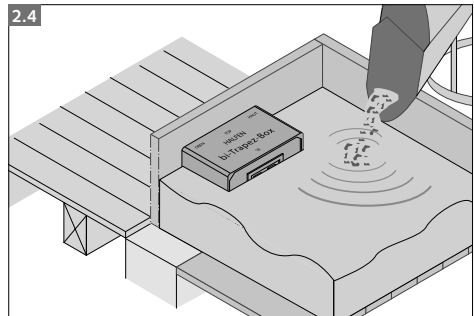
Zamocować blok styropianowy ⑥ w przewidzianym miejscu przy pomocy specjalnych gwoździ ⑤ do szalunku ⑦. **Dolna krawędź bloku styropianowego musi leżeć dokładnie na wysokości dolnej krawędzi podestu.**



Wkładka ochronna ③ i wkładka styropianowa ④ wkładane są do skrzynki bi-Trapez-Box.



Skrzynka HBB bi-Trapez-Box nasuwana jest na blok styropianowy.

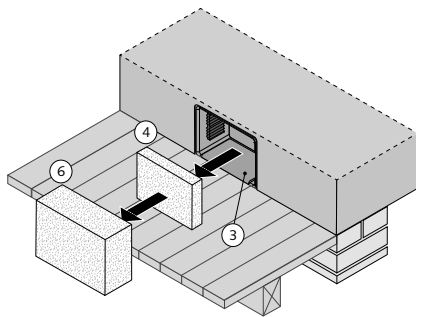


Skrzynkę HBB bi-Trapez-Box zabetonować w stropie betonowym.



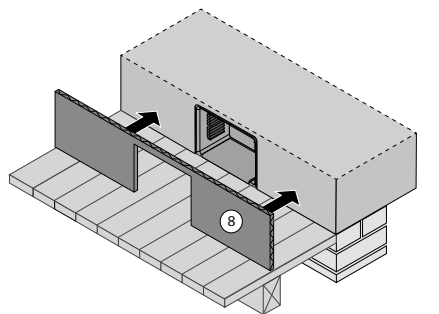
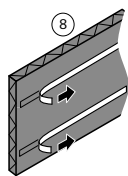
### A3 – Montaż w podęcie klatki schodowej (beton monolityczny)

3.1



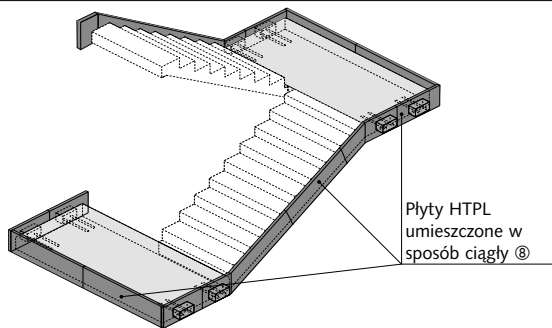
- 3.1** Wykonać szalunek podestu. Usunąć blok styropianowy ⑥ i wkładkę styropianową ④ z zabetonowanej skrzynki HALFEN HBB bi-Trapez-Box. Wkładka ochronna z tuktury ③ pozostaje w skrzynce bi-Trapez-Box.

3.2



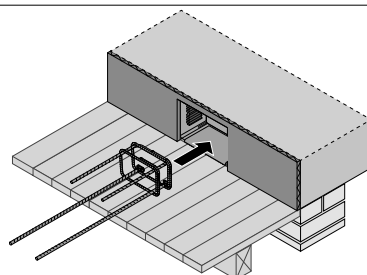
- 3.2** Zamontować płyty HTPL ⑧ pomiędzy podestem i ścianą nośną.

3.3



- 3.3** Przymocować płyty HTPL ⑧ do ścian w miejscu planowanych biegów i podestów.

3.4



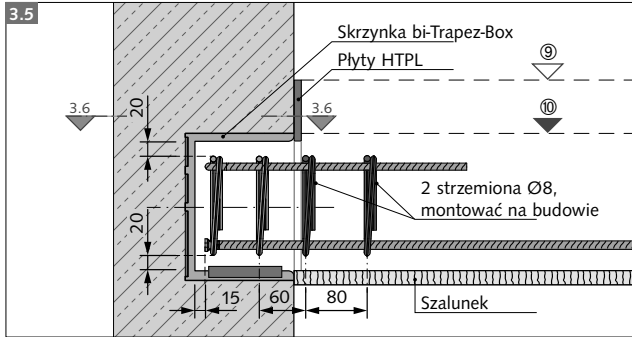
- 3.4** Wkładka ochronna ③ musi być odpowiednio umieszczona w skrzynce bi-Trapez-Box. Wsunąć zbrojenie HBB wyłącznie z elementami dystansowymi (dystanse nie są przedstawione na rysunku i nie są objęte dostawą).



Zwracać uwagę na właściwe położenie zbrojenia!



### A3 – Montaż w podeście klatki schodowej (beton monolityczny) – kontynuacja

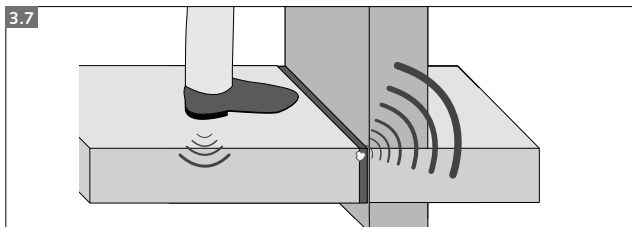
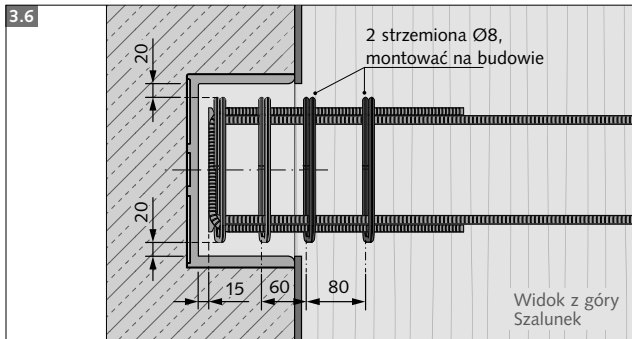


**3.5 Przekrój pionowy:**  
Otulina betonowa  $c_{nom}$  w [mm]

**!** Zagwarantować otulinę betonową!

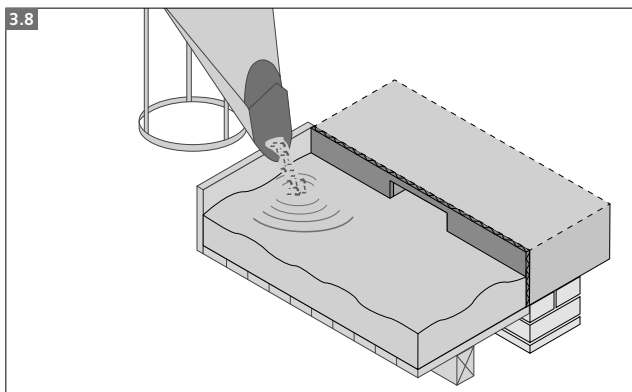
**3.6 Przekrój poziomy:**  
Otulina betonowa  $c_{nom}$  w [mm]

**!** Zagwarantować otulinę betonową!



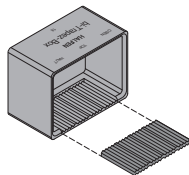
**3.7**

**!** Przy wszystkich połączeniach unikać mostków akustycznych przez zanieczyszczenia lub beton!

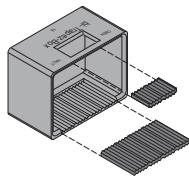


**3.8** Rozłożyć zbrojenie budowlane według projektu.  
**Przywiązać zbrojenie HBB.**  
Betonować podest.

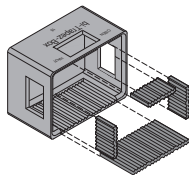
## B – HALFEN HBB bi-Trapez-Box dla elementów prefabrykowanych



**HBB-F**  
włącznie z wkładką elastomerową  
bi-Trapezlagers® w dnie skrzynki



**HBB-FQ**  
przy dodatkowych obciążeniach  
podnoszących, włącznie z  
wkładką elastomerową bi-Trapez-  
lagers® na dnie i pokrywie skrzynki



**HBB-FQS**  
przy dodatkowych obciążeniach  
podnoszących i bocznych,  
włącznie z wkładką elastomerową  
bi-Trapezlagers® w dnie, pokrywie  
i w ściankach bocznych skrzynki.

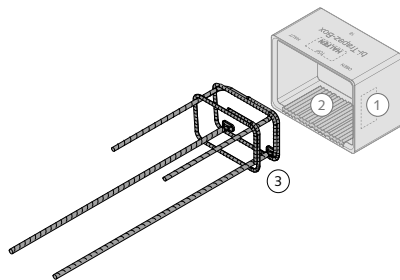


Wkładki elastomerowe bi-Trapezlagers®  
wklejane są w zakładzie produkcyjnym dla  
wszystkich wariantów.

## Rodzaje skrzynek bi-Trapez-Box

Oznaczenie artykułu	Wymiary wewnętrzne skrzynki h × b × t [mm]	Dla podestu o grubości d [mm]
HBB 16 -F / -FQ / -FQS	160 × 250 × 140	≥ 160
HBB 18 -F / -FQ / -FQS	180 × 250 × 140	≥ 180
HBB 20 -F / -FQ / -FQS	200 × 250 × 140	≥ 200

## Zakres dostawy HBB-SET:

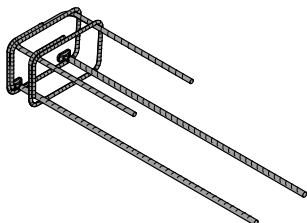


- 1 bi-Trapez-Box HBB-F, FQ lub -FQS  
(patrz po lewej)
- 2 bi-Trapezlagers®: jedna, dwie lub cztery sztuki na  
skrzynkę (patrz po lewej)
- 3 HBB zbrojenie Q-Unit

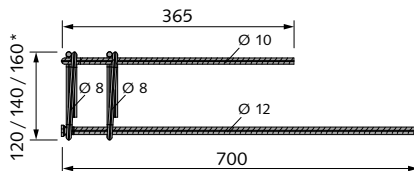
## Dostarczane zestawy HBB

Oznaczenie artykułu	Grubość podestu d [mm]
HBB 16-SET	≥ 160
HBB 18-SET	≥ 180
HBB 20-SET	≥ 200
HBB 16-SET-Q	≥ 160
HBB 18-SET-Q	≥ 180
HBB 20-SET-Q	≥ 200
HBB 16-SET-QS	≥ 160
HBB 18-SET-QS	≥ 180
HBB 20-SET-QS	≥ 200

## Zbrojenie HBB-Q-Unit

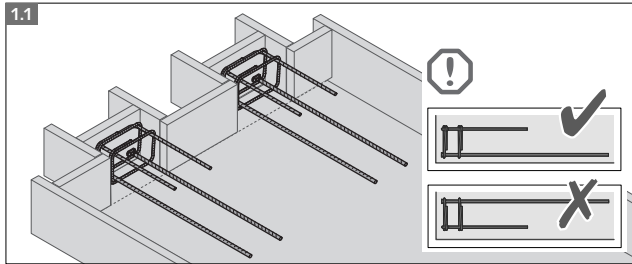


Oznaczenie artykułu	* Grubość podestu d [mm]
Zbrojenie HBB 16-Q-Unit	≥ 160
Zbrojenie HBB 18-Q-Unit	≥ 180
Zbrojenie HBB 20-Q-Unit	≥ 200

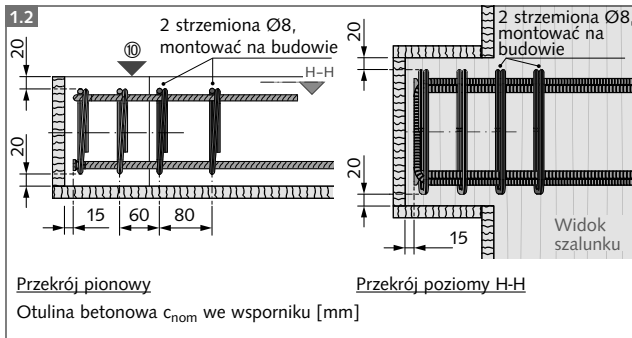




## B1 – W zakładzie prefabrykacji



- 1.1** Podest wykonuje się ze wspornikami o wymiarach wewnętrznych skrzynki HBB (h x b x t, patrz tabela). Zbrojenie HBB-Q-Unit montowane jest łącznie z elementami dystansowymi (nie są przedstawione i nie są objęte dostawą).

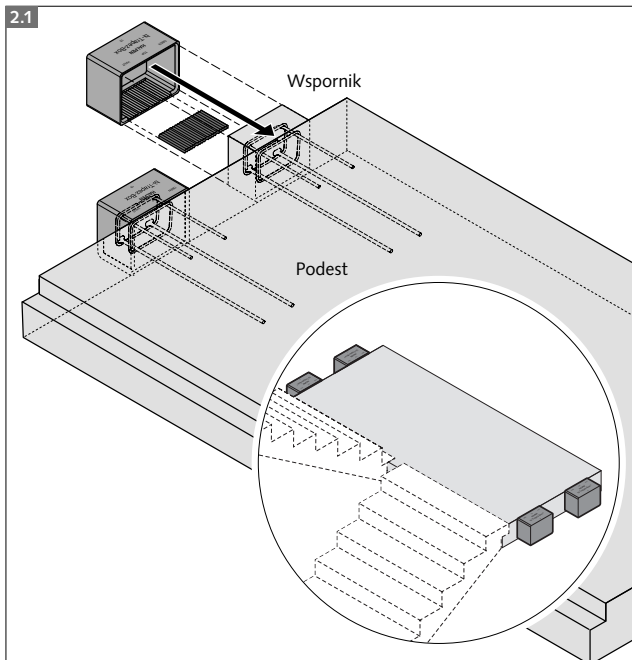


- 1.2**
- !** Zapewnić otulinę betonową jak przedstawiono!

Rozłożyć zbrojenie podestu według projektu.  
**Przywiązać zbrojenie HBB.**  
 Betonować podest.

Ⓢ = Poziom płyty podestu

## B2 – Na budowie



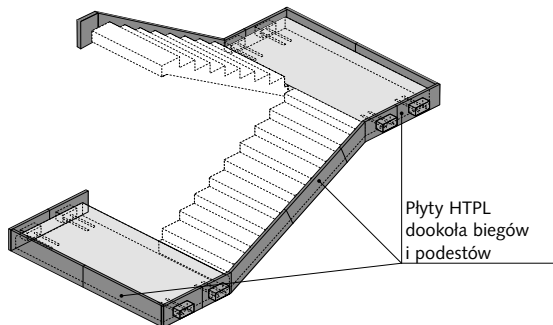
- 2.1** Skrzynki HBB bi-Trapez-Box nasunąć na wsporniki.

**i** Rysunki 2.1 – 2.5 są przykładami; zawsze obowiązują dane z projektu technicznego.



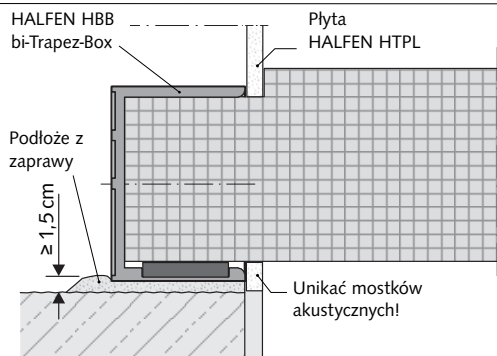
## B2 - Na budowie (kontynuacja)

2.3



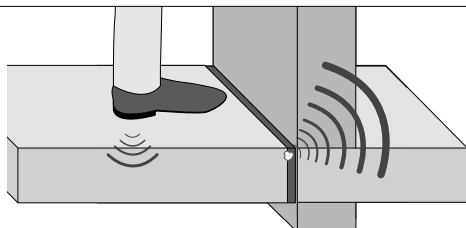
- 2.3 Płyty HTPL przymocować do ściany w miejscu biegów i podestów. Styki na połączeniach płyt okleić taśmą.

2.4




- 2.3 Posadzić prefabrykat podestu na przygotowane podłoże z naniesioną zaprawą według EN1996 o grubości  $\geq 1,5$  cm.

2.5



2.5

-  We wszystkich połączeniach unikać mostków akustycznych poprzez zanieczyszczenia lub beton!

## CONTACT HALFEN WORLDWIDE

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