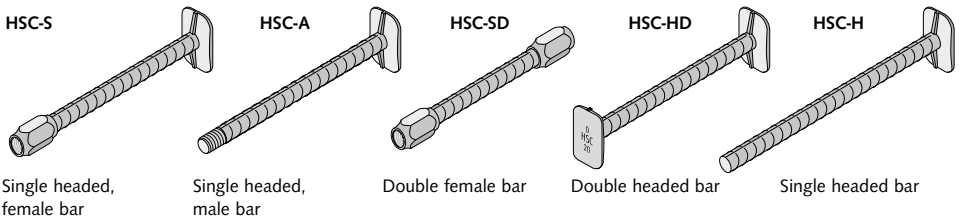


- Ⓞ GB Stud Connector
- Ⓞ D Stud Connector
- Ⓞ F Armature pour corbeau
- Ⓞ PL Zbrojenie krótkich wsporników

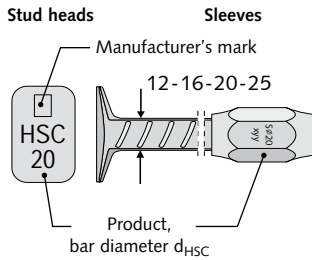


Assembly Instructions • Montageanleitung • Notice d'utilisation • Instrukcja montażu

Product overview



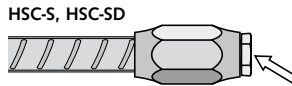
Identification



Female and male bars

Bar diameter d_s	12	16	20	25
Thread	M12 x 1.75*	M16 x 2*	M20 x 2,5*	M25 x 2,5
Colour; protection plug	green	orange	light blue	brown

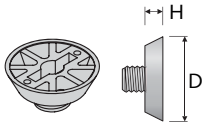
* = ISO standard metric screw thread (DIN 13-1)



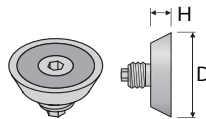
The thread of the HSC Socket bars must be covered and protected with a sealing cap.

Formwork accessories

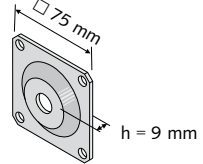
Nailing plate, plastic



Magnetic plate

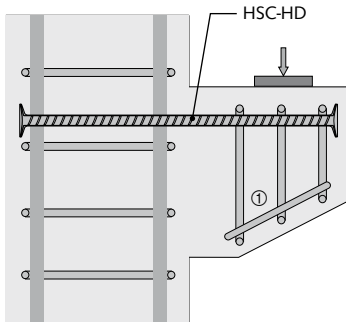


Nailing plate, metal



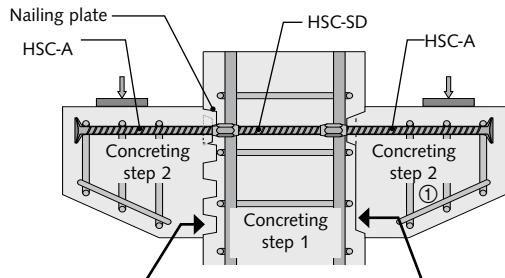
Installation examples

Monolithic solution



Pos ①: Construction bar for stirrups

Multi-phase concreting solutions



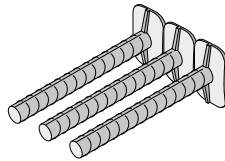
Variant 1: Interlocking joint in accordance with DIN EN 1992-1-1

Variant 2: simplified key joint

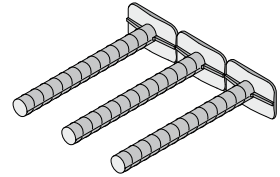
Mounting positions

Stud heads can be aligned horizontal-ly or vertically. To ensure installation of the (male) connecting bars, mini-mum spacing has to be maintained (not necessary for monolithic compo-nents). The engineer's specifications are obligatory.

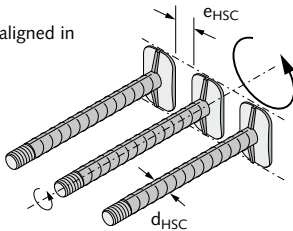
Vertical anchor-head placement



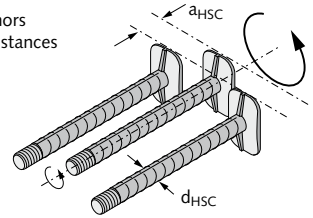
Horizontal anchor-head placement



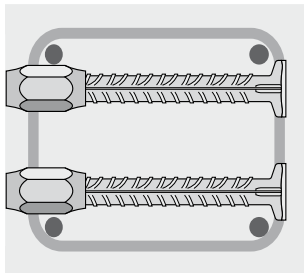
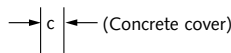
Variation 1:
anchor-heads aligned in one plane



Variation 2:
staggered HSC anchors
- minimized axial distances



Min. distances to ensure installation (male bars)		
d_{HSC} [mm]	e_{HSC} [mm]	a_{HSC} [mm]
12	10	15
16	20	20
20	20	25
25	25	30

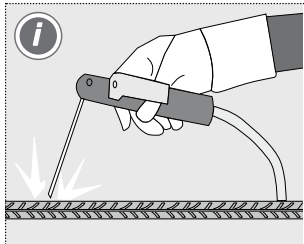


The concrete cover specified in the drawing must also be maintained for the stud heads.

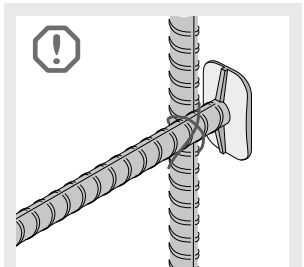
Anchorage in columns:
The stud-heads are positioned behind the rear longitudinal column reinforcement.



The engineers specifications (installation position, concrete cover etc.) have to be observed.



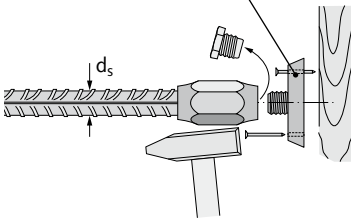
Welding, even spot welding, can impair material properties. For that reason welding and heat application in the head and thread area is not allowed. Other welding, outside of this area has to be carried out according to applicable welding regulations and is the sole responsibility of the welding-contractor.



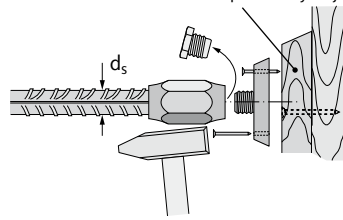
Attached to existing reinforcement, e. g. by wire fixing!

Fixing to timber formwork

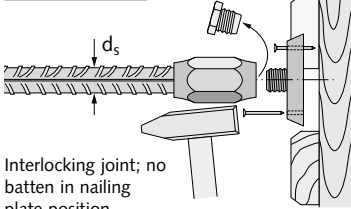
d_s 12-16-20 mm Nailing plate, plastic



d_s 12-16-20 mm Framework (batten) for simplified keyed joint

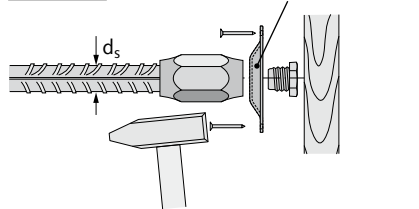


d_s 12-16-20 mm



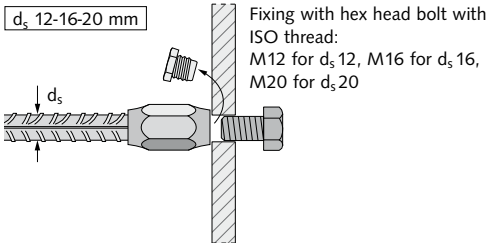
Interlocking joint; no batten in nailing plate position.

d_s 25 mm



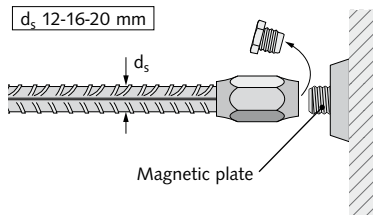
Fixing to steel formwork

d_s 12-16-20 mm



Fixing with hex head bolt with ISO thread:
M12 for d_s 12, M16 for d_s 16,
M20 for d_s 20

d_s 12-16-20 mm



Magnetic plate

Installing the connecting bars (male)

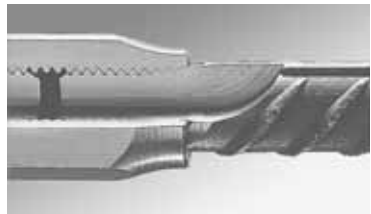
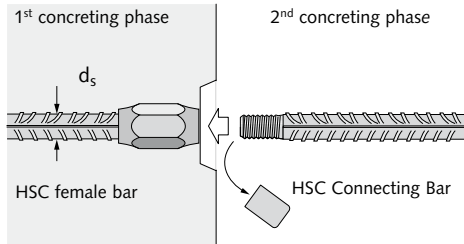
1st concreting phase

d_s

HSC female bar

2nd concreting phase

HSC Connecting Bar

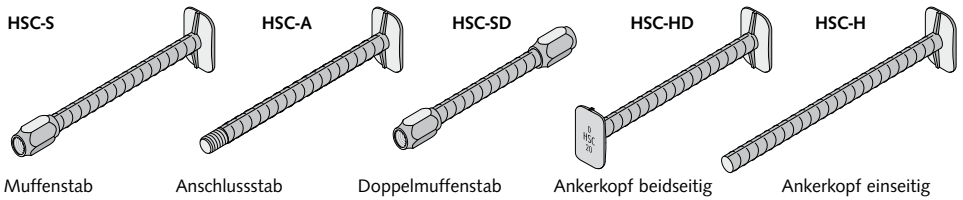


Thread detail of a HSC Connection

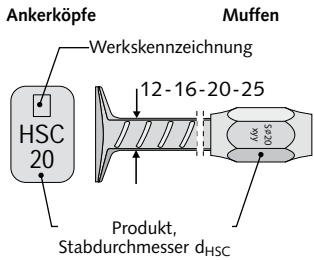
Screw-depth: The HSC (male) connecting bar is turned into the sleeve until the thread is no longer visible. The bar is then rotated until the anchor head is correctly aligned (horizontal or vertical).

Refer to the engineer's specifications. Subsequent bending in the thread is not permitted. **Secure elements properly during shipping to avoid movement in construction joints.**

Produktübersicht



Kennzeichnung

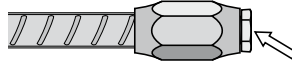


Muffen- und Anschlussstäbe

Stabdurchmesser d_s	12	16	20	25
Gewinde	M12 x 1.75 *	M16 x 2 *	M20 x 2,5 *	M25 x 2,5
Kennfarbe	grün	orange	hellblau	braun

* = ISO metrisches Standardgewinde (DIN 13-1)

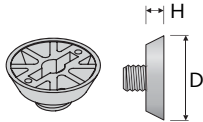
HSC-S, HSC-SD



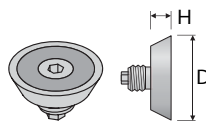
Das Einschraubgewinde der HSC-Muffenstäbe muss mit einer Gewindeverschlusschraube verschlossen sein.

Schalungszubehör

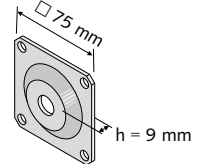
Kunststoffnagelteller



Magnetteller

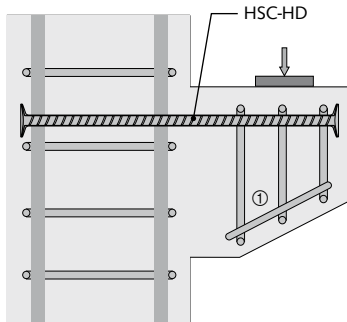


Metall-Nagelplatte



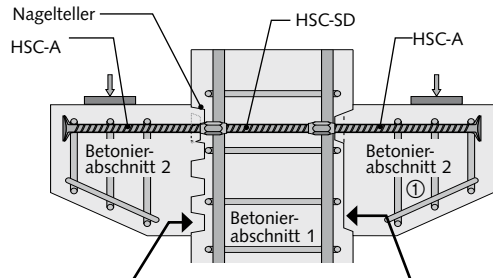
Montagebeispiele

Monolithische Ausführung



Pos ①: Lagesicherung für Bügel

Ausführung in Betonierabschnitten



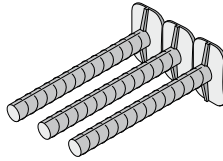
Variante 1: Verzahnte Fuge nach DIN EN 1992-1-1

Variante 2: Schubzahn

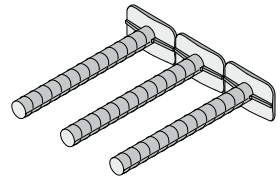
Einbaulage

Ankerköpfe können horizontal oder vertikal ausgerichtet sein. Zur Gewährleistung der Schraubbarkeit der Anschlussstäbe sind Mindeststababstände einzuhalten (außer monolithische Ausführung). Es gelten die Festlegungen des Planers.

Vertikale Ankerkopfausrichtung

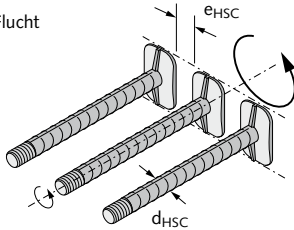


Horizontale Ankerkopfausrichtung



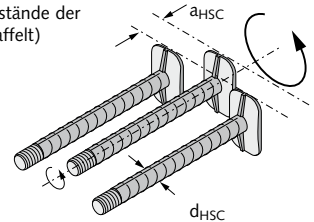
Variante 1:

Ankerköpfe in einer Flucht



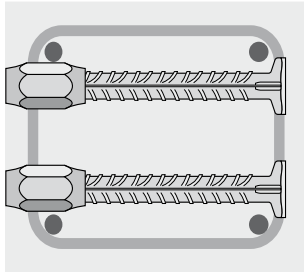
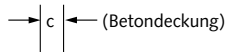
Variante 2:

minimale Achsabstände der HSC-Anker (gestaffelt)



Mindestabstände zur Gewährleistung der Schraubbarkeit (Anschlussstäbe)

d_{HSC} [mm]	e_{HSC} [mm]	a_{HSC} [mm]
12	10	15
16	20	20
20	20	25
25	25	30

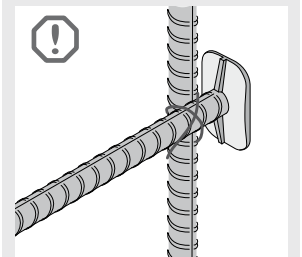


Die auf den Plänen angegebene Betondeckung muss auch für die Ankerköpfe eingehalten werden.

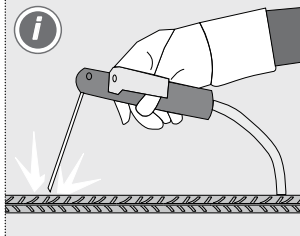
Verankerung in der Stütze:
Ankerköpfe müssen bis hinter die Stützenlängsbewehrung geführt werden.



Die Angaben des Planers (Einbaulage, Betondeckung etc.) sind zu beachten.

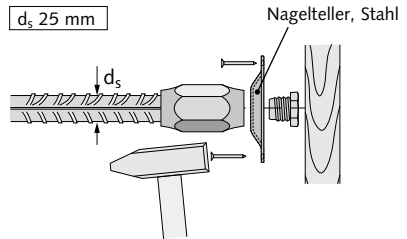
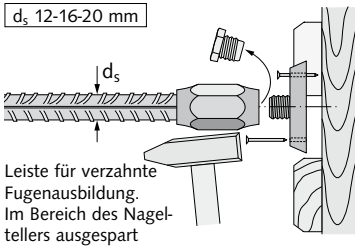
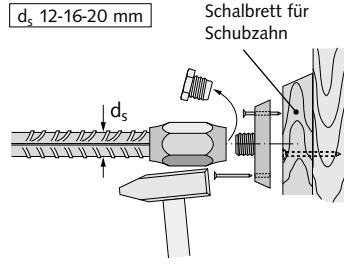
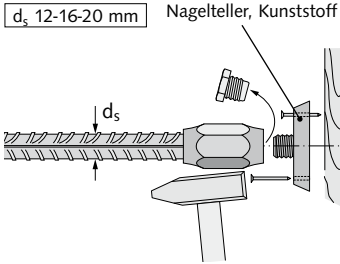


Befestigung an vorhandener Bewehrung, z. B. durch Anrödeln!

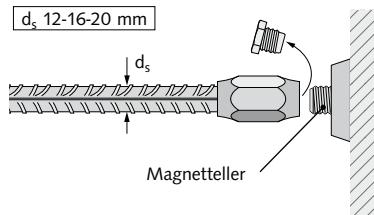
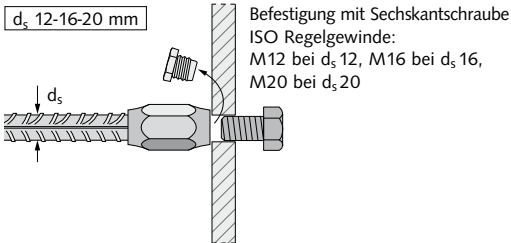


Schweißen, auch Punktschweißen, kann die Materialeigenschaften negativ beeinflussen und ist im Bereich des Gewindes und der Ankerköpfe nicht zulässig. Schweißungen sind nach gültigen Schweißvorschriften durchzuführen und liegen in der Verantwortung des Ausführenden.

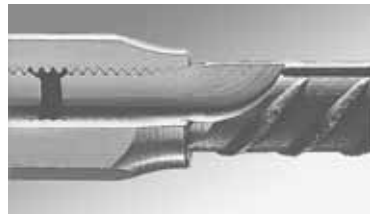
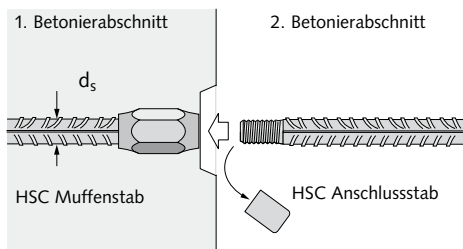
Befestigung an der Holzschalung



Befestigung an Stahlschalung



Einschrauben der Anschlussstäbe

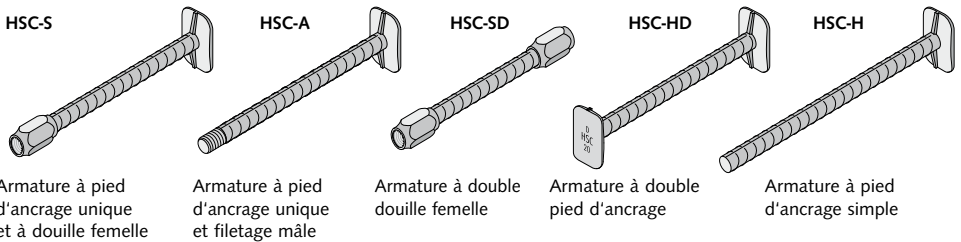


Schnitt durch einen HSC-Anschluss

Einschraubtiefe: Der HSC-Anschlussstab wird eingeschraubt, bis das gesamte Gewinde von der Schraubmuffe verdeckt ist. Danach darf der Stab noch gedreht werden, bis der Ankerkopf die richtige Orientierung (horizontal/

vertikal) angenommen hat. Die Angaben des Planers sind zu beachten. Das Nachbiegen der Stäbe im Gewindebereich ist nicht zulässig. **Ein Klaffen der Betonierfuge während des Transportes ist zu verhindern.**

Aperçu des produits



Armature à pied d'ancrage unique et à douille femelle

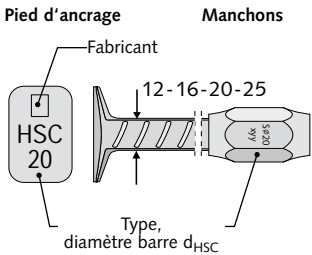
Armature à pied d'ancrage unique et filetage mâle

Armature à double douille femelle

Armature à double pied d'ancrage

Armature à pied d'ancrage simple

Identification

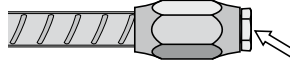


Armatures mâles et manchons femelles

Diamètre de barre d_s	12	16	20	25
Diamètre de la barre	M12 x 1,75 *	M16 x 2 *	M20 x 2,5 *	M25 x 2,5
Couleur du bouchon de protection	vert	orange	bleu clair	marron

* = Filetage à pas métrique standard (ISO)

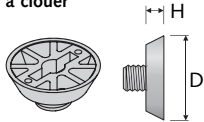
HSC-S, HSC-SD



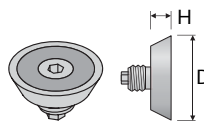
Les armatures HSC avec douille femelle sont livrées avec un bouchon de protection monté dans les usines HALFEN

Accessoires de coffrage

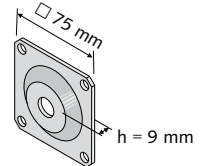
Fixation en plastique à clouer



Fixation magnétique

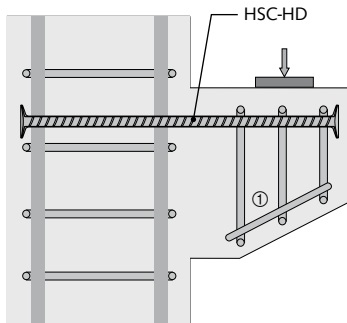


Fixation en acier à clouer



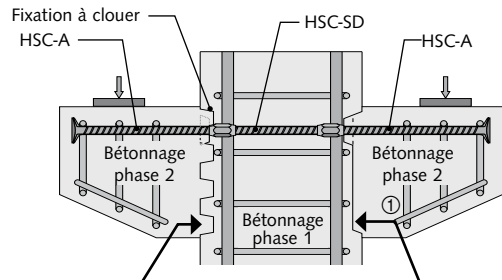
Exemples d'utilisation

Solution avec corbeau monolithique



① : Maintenir les étriers en position

Solution avec corbeau rapporté



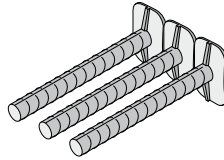
Variante 1: Joint cranté suivant la DIN EN 1992-1-1

Variante 2: joint simplifié

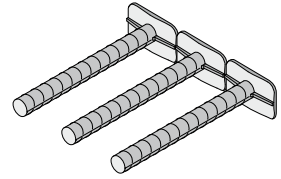
Disposition

Les pieds des armatures HSC peuvent être placés indifféremment dans le sens vertical ou horizontal suivant les recommandations du bureau d'étude.

Pied d'ancrage vertical

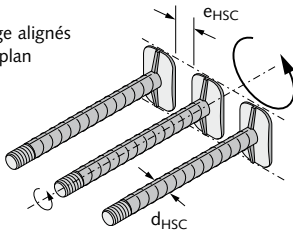


Pied d'ancrage horizontal



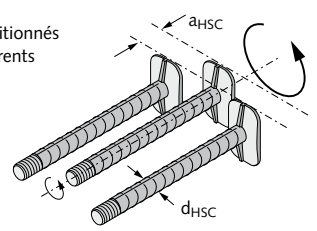
Variante 1:

Pieds d'ancrage alignés sur un même plan



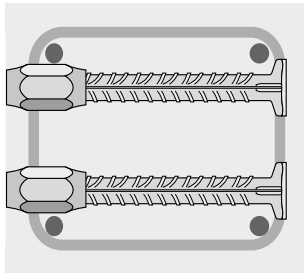
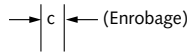
Variante 2:

Pieds d'ancrage positionnés sur deux plans différents



Entraxe minimum entre les pieds d'ancrage (ancres verticales)

d_{HSC} [mm]	e_{HSC} [mm]	a_{HSC} [mm]
12	10	15
16	20	20
20	20	25
25	25	30

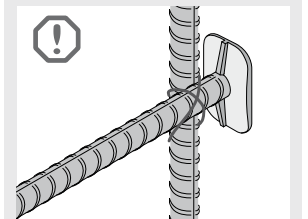


L'enrobage du béton (c) stipulé dans les schémas doit être également respecté à l'arrière du pied.

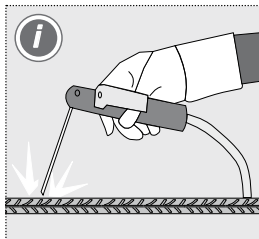
Le pied des armatures doit être positionné derrière les aciers verticaux du poteau.



Les recommandations du bureau d'étude du projet doivent être respectées (positionnement, enrobage de béton etc.).



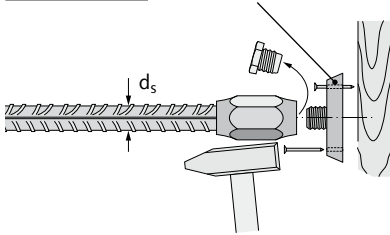
L'armature HSC à double pied d'ancrage peut être fixée au ferrailage vertical du poteau, par exemple avec des fils à ligaturer!



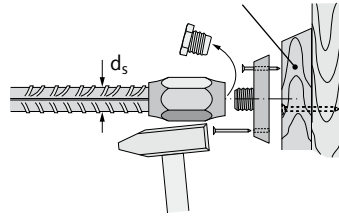
La soudure, même par points, peut altérer les propriétés du matériau. Pour cette raison, il n'est pas autorisé de souder ou d'appliquer toute source de chaleur sur le pied d'ancrage. En dehors du pied d'ancrage, toute soudure doit être effectuée conformément aux réglementations en vigueur et suivant les recommandations de l'armaturier ou du soudeur.

Fixation sur coffrage en bois

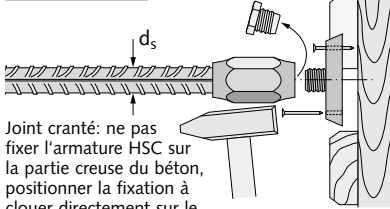
d_s 12-16-20 mm Fixation en plastique à clouer



d_s 12-16-20 mm coffrage (latte) joint simple

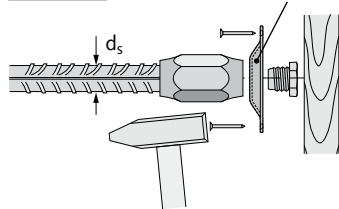


d_s 12-16-20 mm



Joint cranté: ne pas fixer l'armature HSC sur la partie creuse du béton, positionner la fixation à clouer directement sur le coffrage

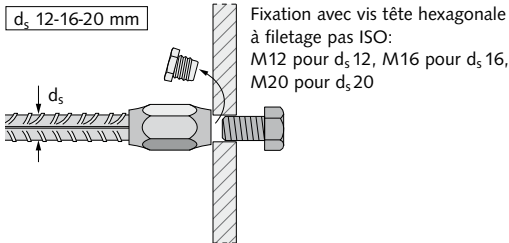
d_s 25 mm



Fixation en acier à clouer

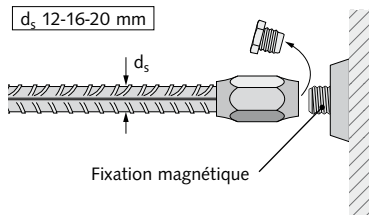
Fixation sur coffrage en acier

d_s 12-16-20 mm



Fixation avec vis tête hexagonale à filetage pas ISO: M12 pour d_s 12, M16 pour d_s 16, M20 pour d_s 20

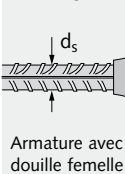
d_s 12-16-20 mm



Fixation magnétique

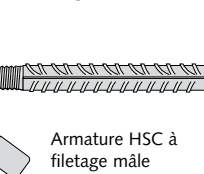
Mise en place des armatures HSC à filetage mâle

1^{ère} phase de bétonnage



Armature avec douille femelle

2^{ème} phase de bétonnage



Armature HSC à filetage mâle



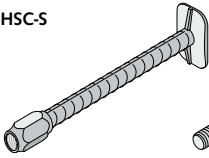
Jonction avec le manchon femelle HSC

Profondeur de vissage: lorsque l'armature HSC mâle est vissée à fond dans le manchon femelle, le filetage n'est plus visible. La barre doit alors être tournée jusqu'à ce que le pied d'ancrage soit correctement aligné (horizontalement ou verticalement). Se référer aux recommandations du bureau d'étude.

Il n'est pas possible de plier la barre au niveau du filetage. **Fixer correctement les éléments lors du transport pour éviter tout mouvement dans les joints de construction.**

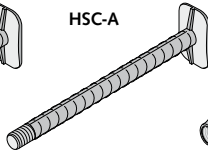
Przegląd produktów

HSC-S



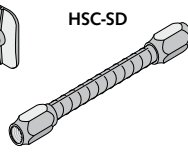
Trzpień z tuleją gwintowaną

HSC-A



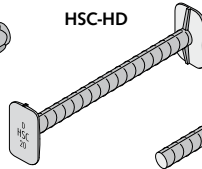
Trzpień zakończony gwintem

HSC-SD



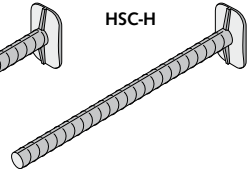
Trzpień zakończony tulejkami

HSC-HD



Trzpień zakończony główkami

HSC-H

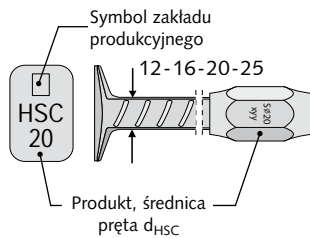


Trzpień zakończony główką

Oznaczenie

Główka trzpienia

Tuleja gwintowana

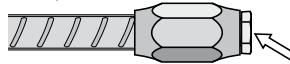


Trzpień gwintowane i z tulejami

Średnica pręta d_s	12	16	20	25
Gwint	M12 x 1.75 *	M16 x 2 *	M20 x 2,5 *	M25 x 2,5
Kolor zatyczek gwintów	Zielony	Pomarańcz	Niebieski	Brązowy

* = Gwinty metryczne ISO (DIN 13-1)

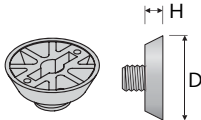
HSC-S, HSC-SD



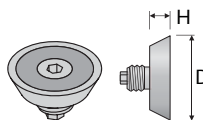
Gwint wewnętrzny tulei musi być zabezpieczony śrubą uszczelniającą.

Asortyment do szalowania

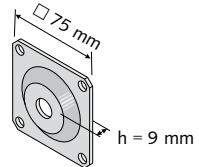
Krażek montażowy przybijany



Krażek montażowy magnetyczny

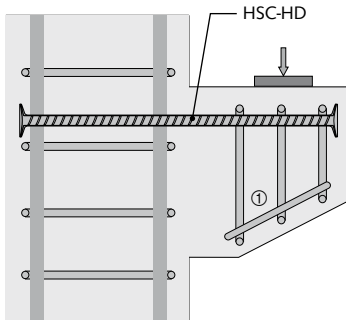


Płytkę montażową przybijaną



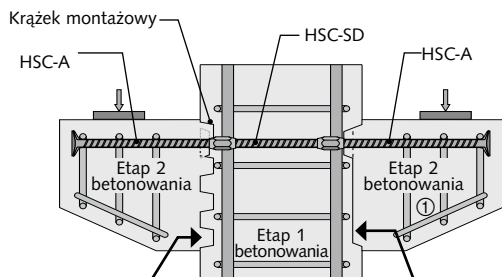
Przykłady zastosowań

Połączenie monolityczne



Pos ①: Stabilizacja położenia strzemion

Połączenie wrębowe



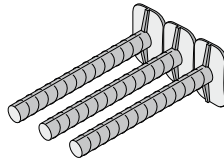
Wariant 1: Połączenie z wrębami
DIN EN 1992-1-1

Wariant 2: Połączenie na wręb

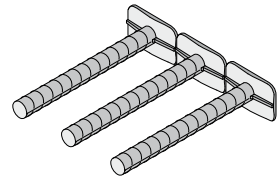
Ułożenie zbrojenia

Główki trzpieni można układać pionowo lub poziomo. W celu zapewnienia montażu trzpieni gwintowanych, należy przestrzegać minimalnych rozstawów trzpieni (nie dotyczy połączeń monolitycznych). Obowiązują ustalenia projektanta.

Pionowe ułożenie główek trzpieni

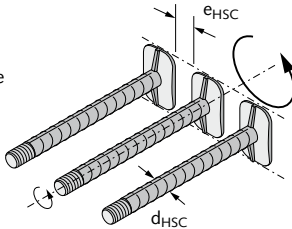


Poziome ułożenie główek trzpieni



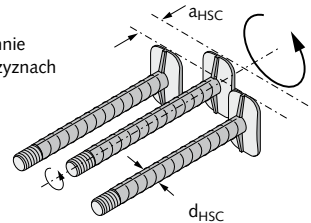
Wariant 1:

Główki trzpieni w jednej płaszczyźnie



Wariant 2:

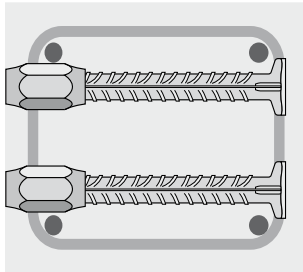
Główki przemiennie w dwóch płaszczyznach



Minimalne odstępki trzpieni gwintowanych zapewniające ich montaż

d_{HSC} [mm]	e_{HSC} [mm]	a_{HSC} [mm]
12	10	15
16	20	20
20	20	25
25	25	30

→ | c | ← (otulina betonowa)

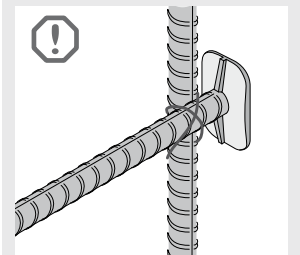


Projektowana otulina betonowa musi być także zachowana dla główek trzpieni.

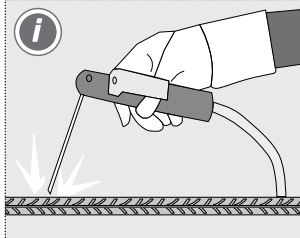
Zakotwienie w słupie: główki trzpieni muszą zachodzić za zbrojenie podłużne słupa.



Należy przestrzegać wytycznych projektowych (rozmieszczenie zbrojenia, otulina betonowa, itd.).



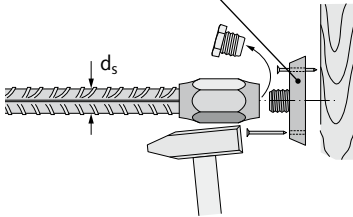
Mocowanie do istniejącego zbrojenia drutem wiązkowym!



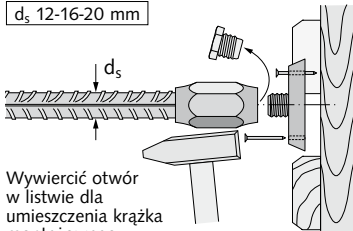
Spawanie, także punktowe, może negatywnie wpływać na właściwości materiału, dlatego w obszarze gwintu oraz główki jest zabronione. Spawanie poza wymienionymi obszarami wykonuje się zgodnie z aktualnymi przepisami i wiedzą techniczną, na odpowiedzialność wykonującego.

Mocowanie do szalunku drewnianego

d_s 12-16-20 mm Przybijany krążek montażowy z tworzywa.

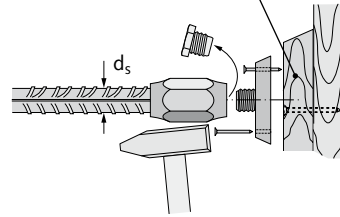


d_s 12-16-20 mm

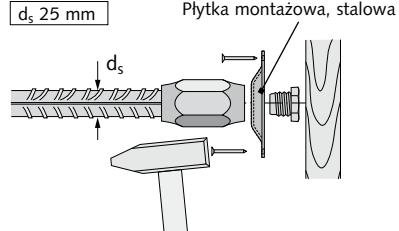


Wywiercić otwór w listwie dla umieszczenia krążka montażowego.

d_s 12-16-20 mm Deskowanie połączenia na wręb

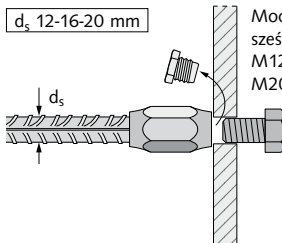


d_s 25 mm

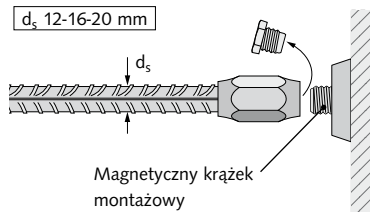


Mocowanie do szalunku stalowego

d_s 12-16-20 mm Mocowanie za pomocą sześciokątnej śruby metrycznej: M12 dla d_s 12, M16 dla d_s 16, M20 dla d_s 20

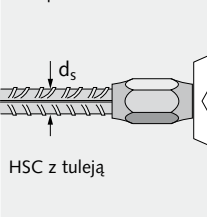


d_s 12-16-20 mm

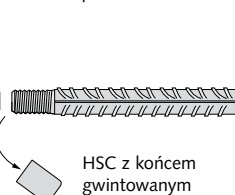


Montaż trzpieni gwintowanych

1 etap betonowania



2 etap betonowania



Przekrój skręconego połączenia

Głębokość wkręcenia: gwintowany trzpień HSC wkręcać do momentu całkowitego schowania się gwintu w tulei. Następnie (jeżeli wymagane) obrócić trzpień, celem prawidłowego położenia główki trzpienia (pionowego lub

poziomego), zgodnie z danymi projektowymi. Doginanie pręta w strefie gwintu zabronione. **Złącze wrębowe należy zabezpieczyć na czas transportu.**

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