

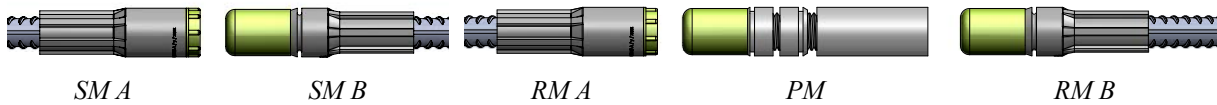
Installation of MODIX® Rebar Coupler

Identification of the product

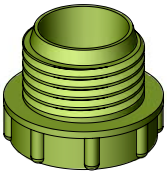
The type of MODIX® Rebar Coupler can be identified by the markings on the product. The size of the Coupler can be identified also according to the color of the thread protection accessories. The color codes are shown in the table below.

Bar Ø [mm]	10	12	14	16	18	20	22
Color of thread protector	Orange	Yellow	Blue	White	Light Pink	Gray	Pastel Green
Bar Ø [mm]	25	26	28	30	32	34	40
Color of thread protector	Red	Pearl gold	Black	Turquoise blue	Brown	Anthracite gray	Green

Thread protection accessories are installed at the MODIX® production factory and delivered with the couplers.



Screw-in protective plug



- Is screwed into coupler Part A.
- Protects the thread from water, concrete, dust, and particles during the first pouring.
- Is removed directly before fitting Part B or replaced by a nailing plate before being attached to the mold.

Slip over protective cap



- Is slipped onto coupler part B.
- Protects the thread from water and dust during storage and transportation.
- Is removed directly before assembling with Part A.

Storage

To avoid corrosion and damage to MODIX® Rebar Couplers, they should be stored in dry conditions and not directly exposed to water.

Quality of connection

General procedures to follow before and during the assembly of MODIX® Rebar Couplers:

1. Remove the thread protector from the MODIX® part.
2. Clean the thread properly.
3. Check visually that the thread has no damage.
4. Carefully align the counterparts to avoid damage to the first pitches.
5. Carefully turn on the first pitches.
6. Never use force to connect MODIX® parts – correct use enables a screw connection to be made by hand.
7. To reduce friction, a special lubrication spray or grease can be used.
8. Proper tightening of the MODIX® Rebar Coupler system is achieved when the ring gap on MODIX® Part B and the distance sleeve are closed (see Figure 2). This can be achieved using a wrench (a torque wrench is not required). Excessive tightening (e.g. using a hammer) is prohibited. Connections can be checked by visual inspection.

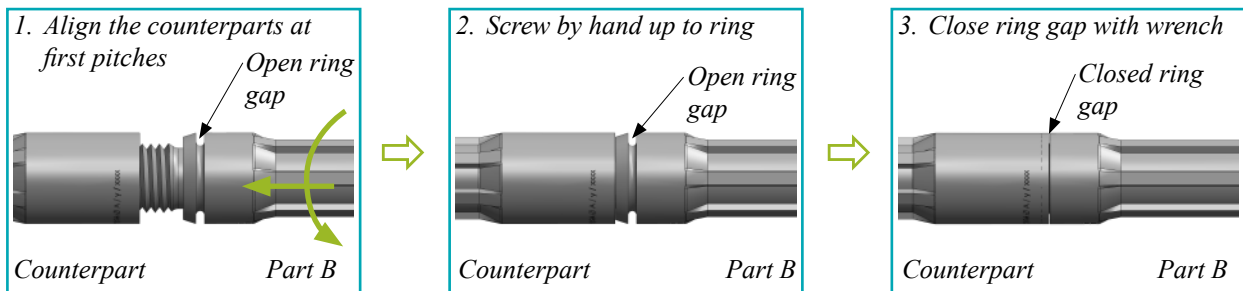
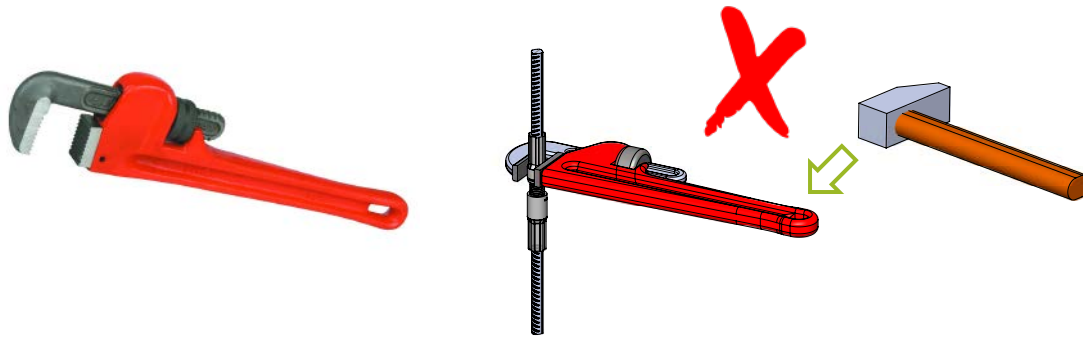


Figure 2. Correctly connected MODIX® counterpart (e.g. SMA or positioning sleeve) and Part B with closed ring gap.

- It is prohibited to weld on the SMA and SMB muff closer than $3\varnothing$ (three times diameter of reinforcement bar) to the swaging zone; fixation with wire is recommended instead.

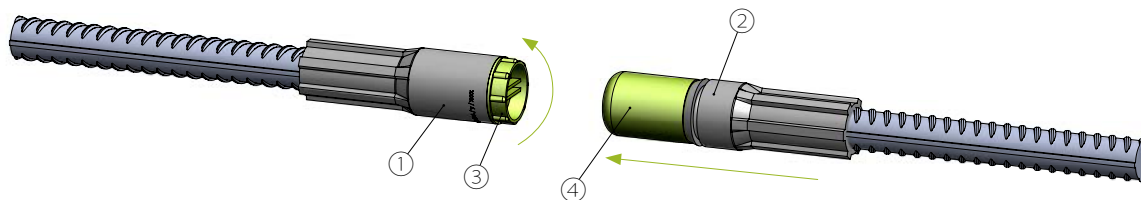
Table 10. Torque moment values required only without a control ring gap.

Bar \varnothing	d_b	[mm]	10	12	14	16	20	25	28	32	40
Torque moment	Nm	[Nm]	50	50	80	120	180	270	270	300	350

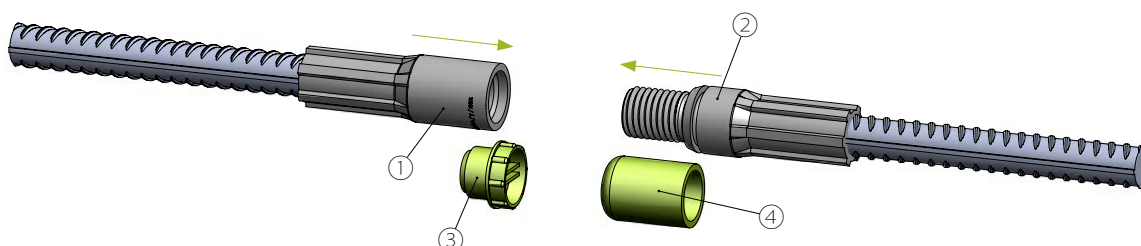
MODIX® connected inside of the concrete elements

MODIX® SM and RM:

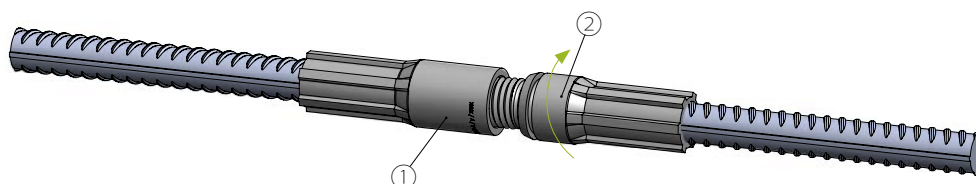
1. Coupler Part A ① and coupler Part B ②, including the attached bar, are delivered with thread protectors ③ and ④.



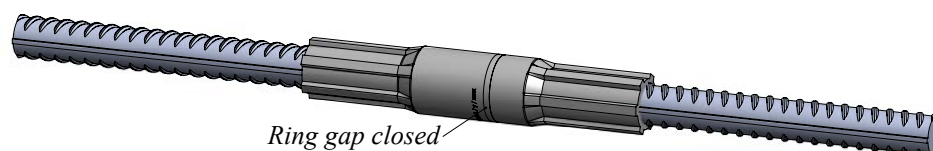
2. Remove plugs from couplers directly before installation. Clean the thread properly. Visually check that the thread is not damaged. Carefully center the counterpart (SMB) to avoid causing damage to the first pitches.



3. Coupler Part B ② is screwed onto coupler Part A ①. Carefully turn Part B ② on the first pitches into Coupler Part A ①. Never use force to connect coupler Part A ① and coupler Part B ②. Correct use enables a screw connection to be made by hand.



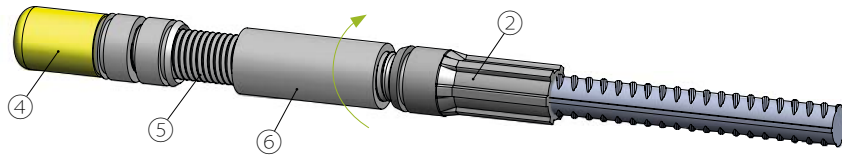
4. It is tightened using a wrench until the ring gap is completely closed.



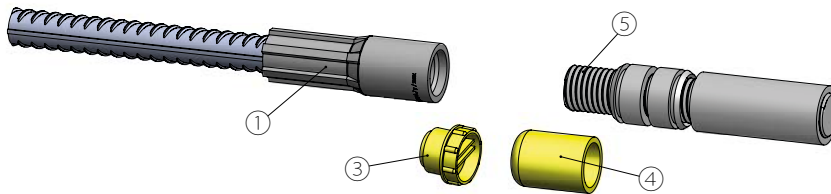
INSTALLING

MODIX® PM:

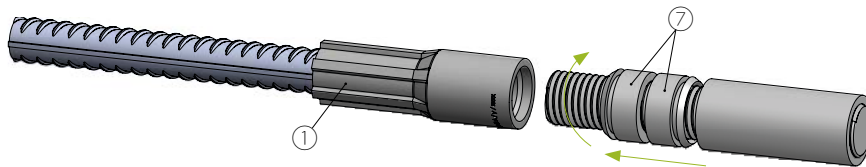
1. If the MODIX® PM ⑤ and coupler Part B ②, including the attached bar, are delivered pre-assembled to the site, the positioning sleeve ⑥ must be screwed off the coupler Part B ②. Remove the thread protective plug ③ from coupler Part A ① and the thread protective cap ④ from the MODIX® PM ⑤.



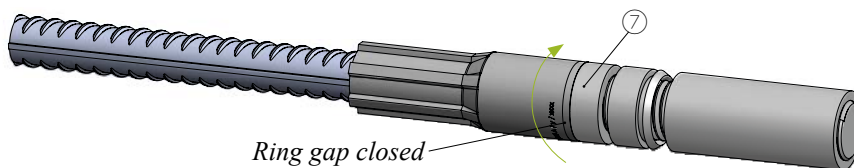
2. Remove the thread protective plug ③ from coupler Part A ① and the thread protective cap ④ from the MODIX® PM ⑤.



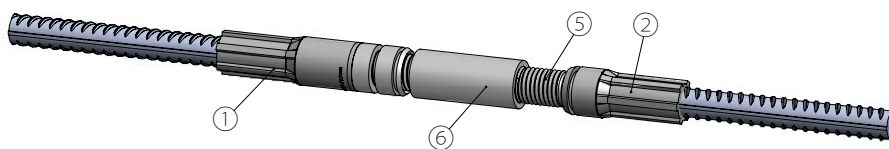
3. Clean all threads properly. Visually check that the thread is not damaged. Hand-tighten the threaded bar so it sits tightly in coupler Part A ①. Tighten counter nut ⑦ of MODIX® PM ⑤ against coupler Part A ① until the ring gap is closed.



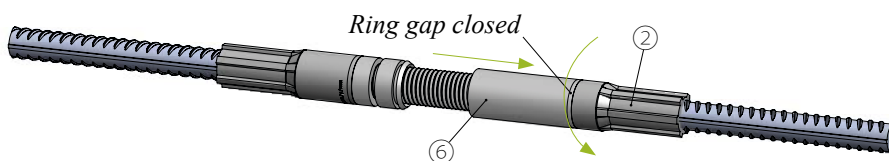
4. Tighten counter nut ⑦ of MODIX® PM ⑤ against coupler Part A ① until the ring gap is closed.



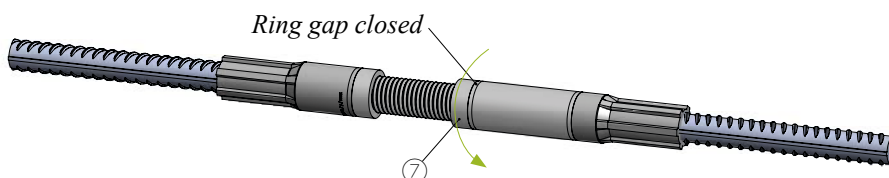
- Align the thread of coupler Part B ②, including the attached reinforcing bar, with the threaded bar of the MODIX® PM ⑤.



- Turn the positioning sleeve ⑥ of the MODIX® PM ⑤ over the threaded part of coupler Part B ② until the ring gap is closed.



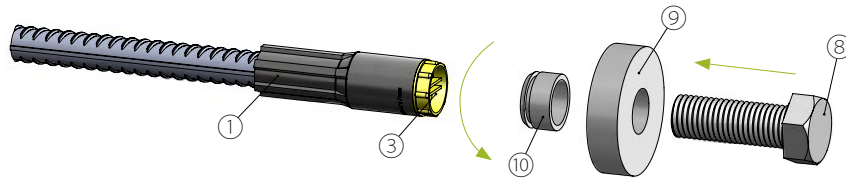
- The second counter nut ⑦ of the MODIX® PM is then tightened against the positioning sleeve until the ring gap is closed.



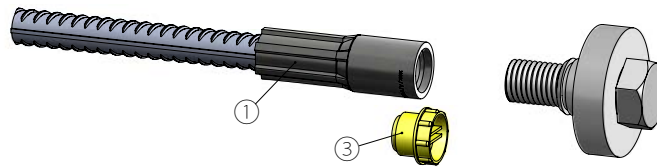
INSTALLING

MODIX® EM:

1. MODIX® EM Part A ①, including the attached bar, are delivered with thread protective plug ③.



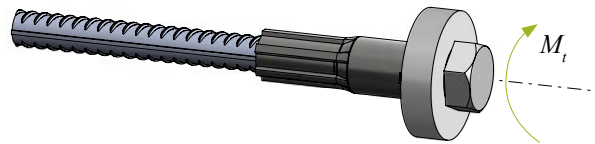
2. Remove the thread protector ③ from the couplers directly before installation. Assemble the M-threaded bolt ⑧ with the distance sleeve ⑩ and anchor plate ⑨.



3. The bolt ⑧ with the anchor plate ⑨ is screwed onto coupler Part A ①. It is tightened using a wrench until the ring gap is completely closed.

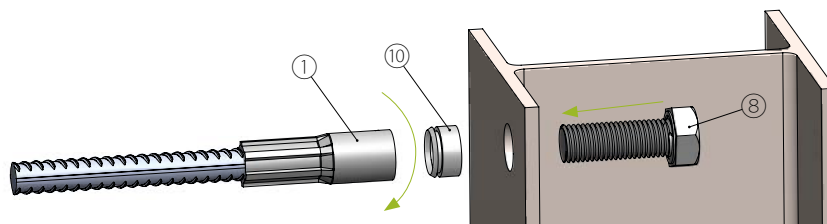


4. If standard M-thread bolt ⑧ is used without a distance sleeve ⑩, the torque moment should be controlled (see Table 10).

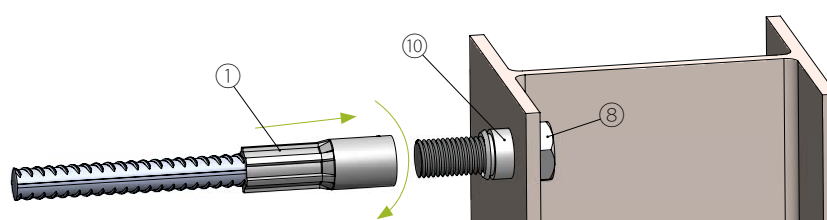


MODIX® KM:

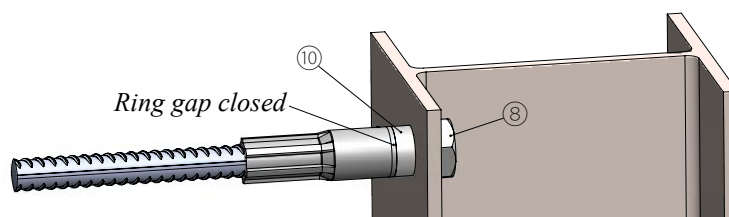
1. MODIX® KM Part A ①, including the attached bar, is delivered with thread protective plug ③. Remove the thread protector ③ from the couplers directly before installation.



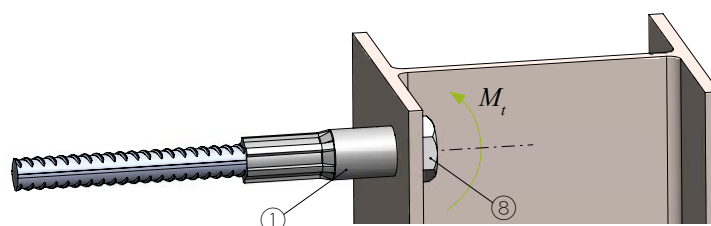
2. Assemble the M-threaded bolt ⑧ with the distance sleeve ⑩ through the hole in the steel profile. Align the thread of coupler Part A ①, including the attached reinforcing bar, with the M threaded bolt ⑧. Assembly can be done in two ways: either by tightening Part A ① or the M threaded bolt ⑧.



3. The connection is tightened using a wrench until the ring gap at the distance sleeve ⑩ is completely closed.



4. If a standard M thread bolt ⑧ is used without a distance sleeve ⑩, the torque moment should be controlled (see Table 10).



INSTALLING

MODIX® connected on the edge of concrete element

During the casting of concrete elements, it is important to ensure that the rebar is placed and fixed appropriately in the correct position. Depending on the structural solution and construction technology, MODIX® rebar must be fixed to formwork, reinforcement, or supplementary fixation details. Peikko accessories are available to ensure that the MODIX® rebar is correctly fixed to the formwork.

MODIX® attached to formwork using fixation plates

Nailing and magnetic plates can be used to fix MODIX® Part A to the mold in the correct position on the construction site or in the precast factory. These accessories are optional and must be ordered in addition to MODIX® couplers. The color codes of nailing plates are shown in the table below.

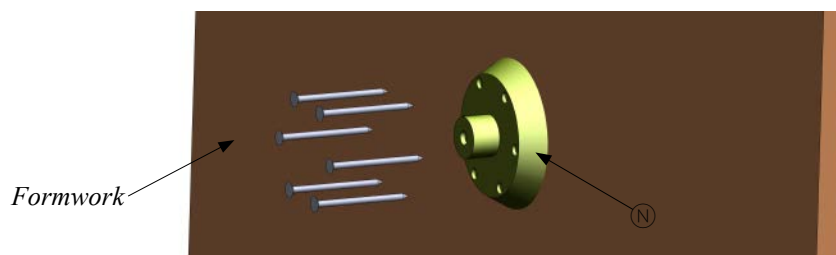
Bar Ø [mm]	10	12	14	16	18	20	22
M-thread	M 12 × 1.75	M 16 × 2	M 18 × 2.5	M 20 × 2.5	M 22 × 2.5	M 24 × 3	M 27 × 3.0
Color of thread protector	Orange	Yellow	Blue	White	Light Pink	Gray	Pastel Green
Bar Ø [mm]	25	26	28	30	32	34	40
M-thread	M 30 × 3.5	M 33 × 3.5	M 36 × 4	M 39 × 4.0	M 42 × 4.5	M 45 × 4.5	M 48 × 5.0
Color of thread protector	Red	Pearl gold	Black	Turquoise blue	Brown	Anthracite gray	Green

Screw-in plastic nailing plate

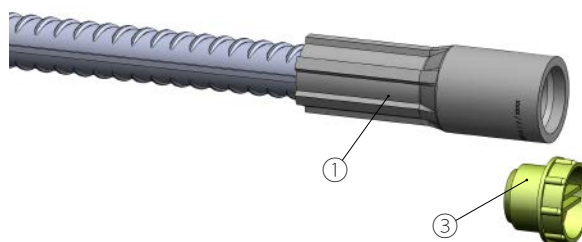


- Solution for fixing MODIX® to wooden or plywood formwork.
- Is screwed into coupler Part A.
- Is removed directly before fitting Part B.
- Nailing plate thickness is minimum of 10 mm for all diameters of MODIX®.

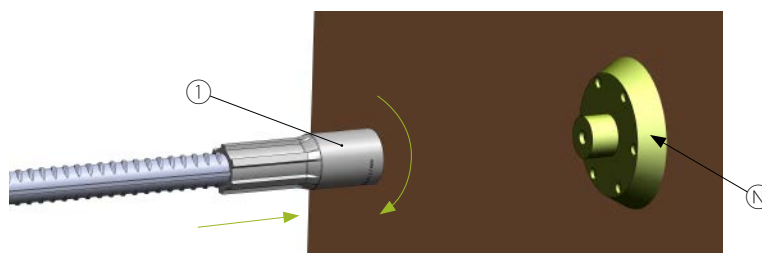
1. The nailing plate (N) must be attached to the formwork with nails. The magnetic plate (M) can be attached to steel formwork only.



2. Directly before installing MODIX® Part A (1), remove the thread protector (3) from the coupler.



3. MODIX® Part A (1) is screwed to the nailing plate (N) or magnetic plate (M). It is recommended that lubrication be applied to the thread of MODIX® Part A (1) to avoid pollution from fresh concrete and also for better handling when removing the thread protector from MODIX®.



4. When MODIX® Part A (1) is fixed with nails or a magnetic plate, the formwork can be filled with concrete. After removing the formwork, the nailing plate (N) or magnetic plate (M) is visible. After the fixation plate is removed, MODIX® Part A is ready for assembly with the counterpart.

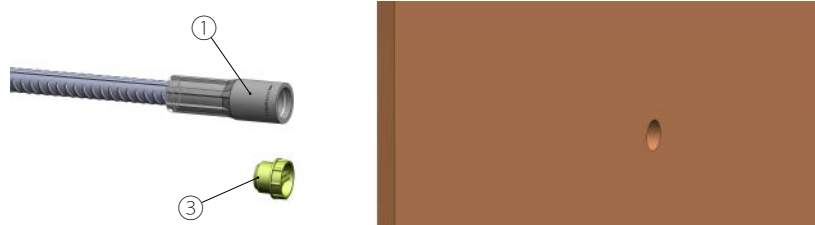


INSTALLING

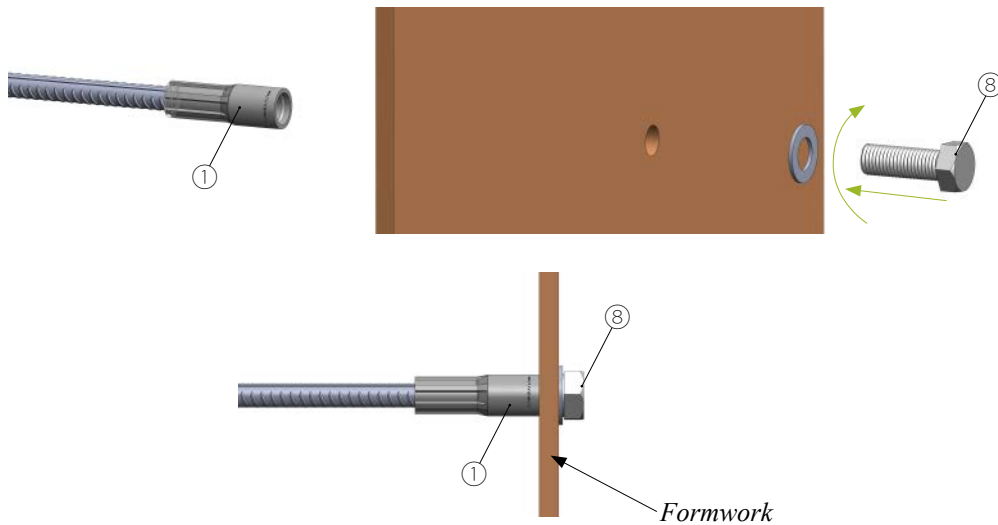
MODIX® attached to formwork without using a fixation plate

An alternative installation of coupler Part A ① to the formwork is possible using an M thread bolt, which allows the coupler to be fixed to the formwork through a hole made in the formwork.

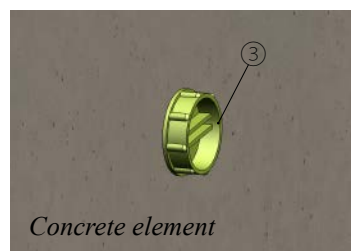
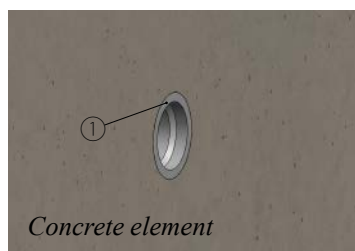
1. Remove the thread protector ③ from the coupler ①.



2. Insert the M thread bolt ⑧ through the washer and formwork hole and tighten it with MODIX® Part A ①.

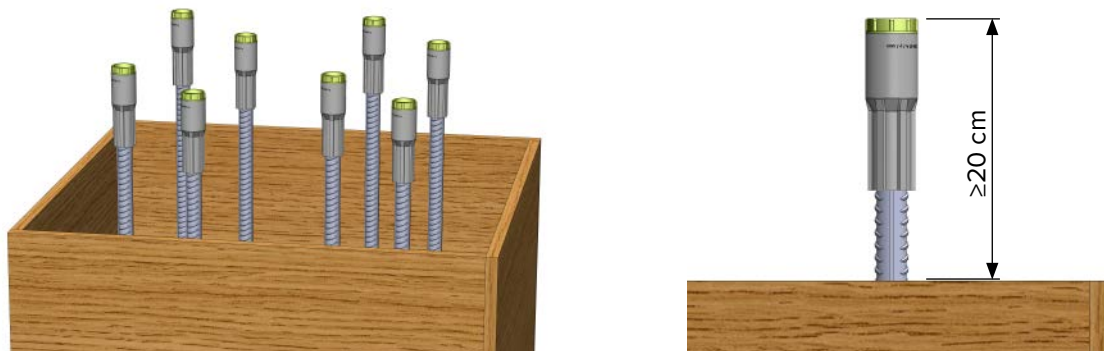


3. After removing the formwork, screw back the thread protector ③. It must be removed directly before assembling the counterpart.

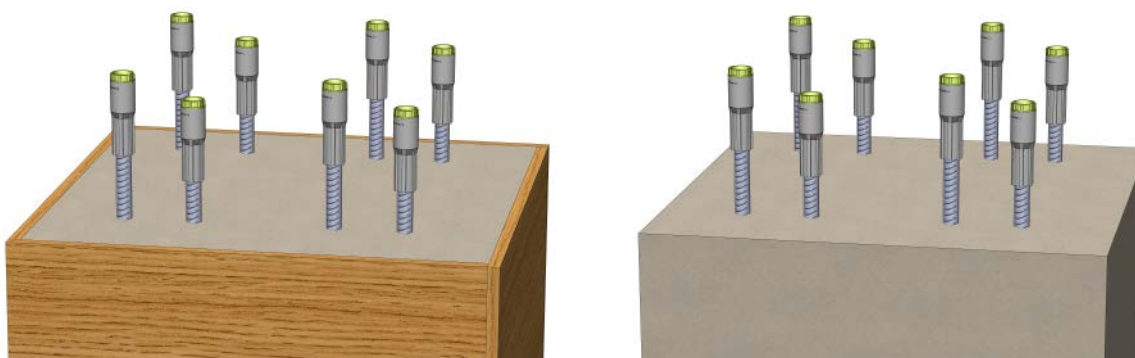


Requirements for MODIX® not attached to formwork

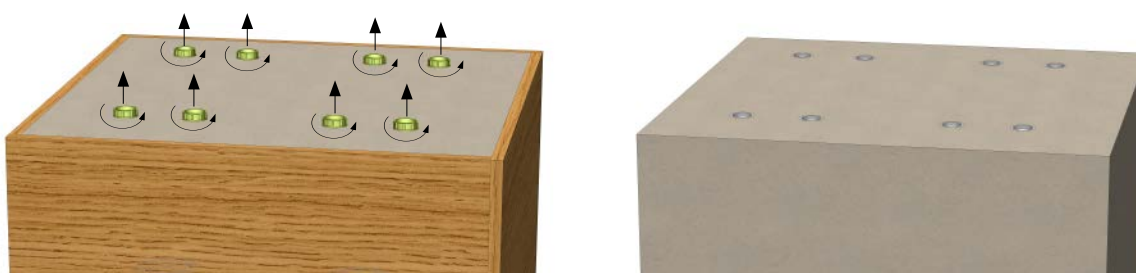
When MODIX® couplers are not attached to the formwork, it is recommended to cast rebar with MODIX® couplers so that they protrude at least 20 cm above the casting surface to make assembly of the counterpart easier and faster. In addition, the protruding bar solution decreases the risk of thread pollution and damage during the construction process. During casting, the correct position of the MODIX® Rebar Coupler must be ensured by fixing them to the reinforcement of the concrete element.



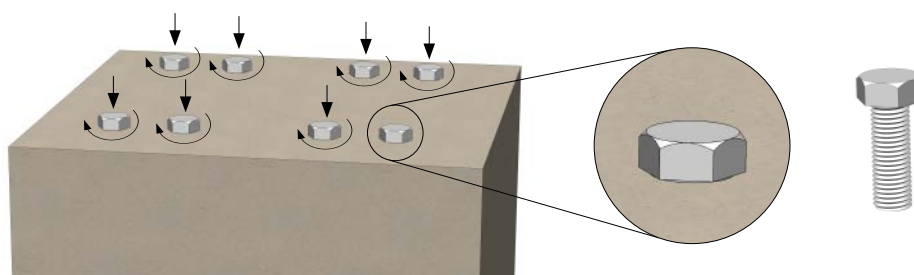
The threads of the MODIX® couplers must be protected by thread protectors during casting. Remove the thread protectors only directly before installing the counterpart couplers.



1. If MODIX® must be installed at the casting level (e.g., due to construction requirements), it is recommended to use lubrication around the thread protector to avoid pollution from the fresh concrete and also for better handling when removing the thread protector from MODIX®.



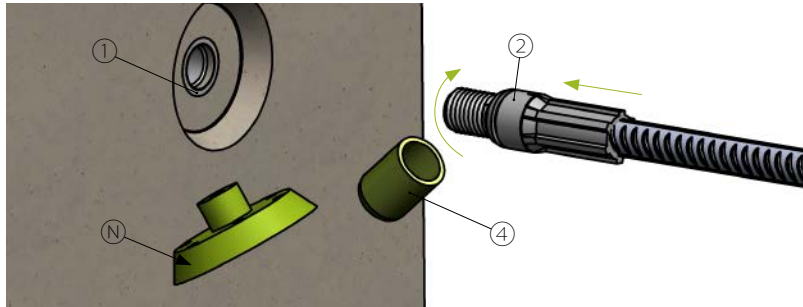
2. If MODIX® is installed at the casting level and used in an environment where there is risk of damage to the plastic thread protector (e.g. in an area where there is the movement of heavy vehicles) after the concrete has hardened, it can be substituted with an M-thread bolt. It is recommended that lubrication is used around the bolt to facilitate the removal of the bolt.



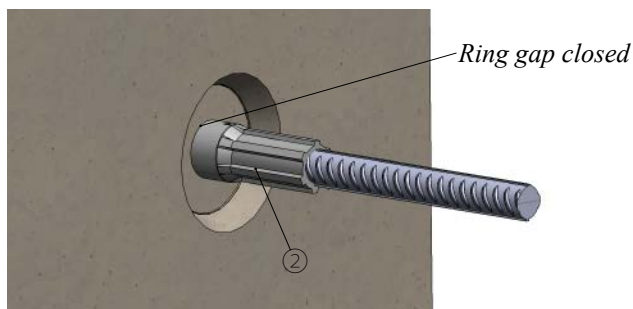
INSTALLING

SM B coupler or RM B coupler connected to MODIX® Part A in concrete element

1. Unscrew the fixation plate (nailing plate (N) or magnetic plate) from Part A (1) and remove the thread protective cap (4) directly before installing Part B (2).

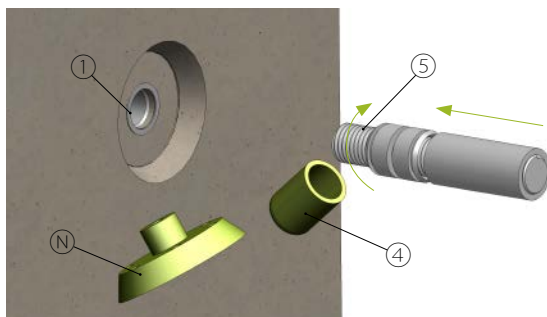


2. Coupler Part B (2) is screwed onto coupler Part A (1) (already cast in the concrete element). It is tightened using a wrench until the ring gap is completely closed.

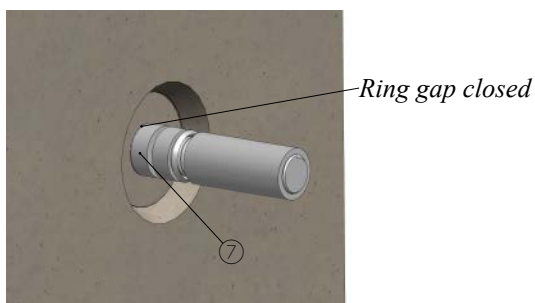


PM coupler connected with MODIX® Part A in concrete element

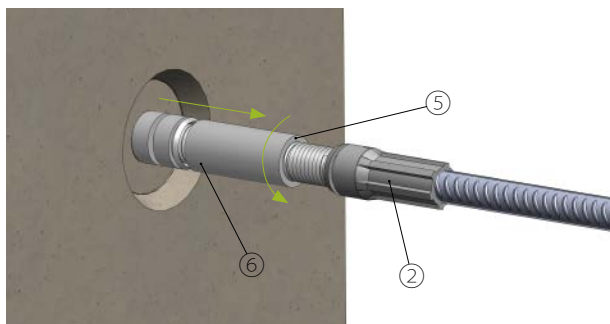
1. Remove the nailing plate (N) from coupler Part A (1) in the concrete element and the thread protective cap (4) from the MODIX® PM (5).



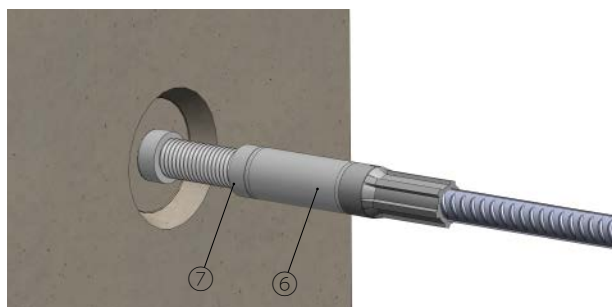
2. Hand-tighten the threaded bar so it sits tightly in coupler Part A (1). Tighten counter nut of MODIX® PM (7) against coupler Part A (1) until the ring gap is closed.



3. Align the thread of coupler Part B (2) of the MODIX® PM (5).



4. Turn the positioning sleeve (6) until the ring gap is closed. The second counter nut (7) is then tightened against the positioning sleeve until the ring gap is closed.



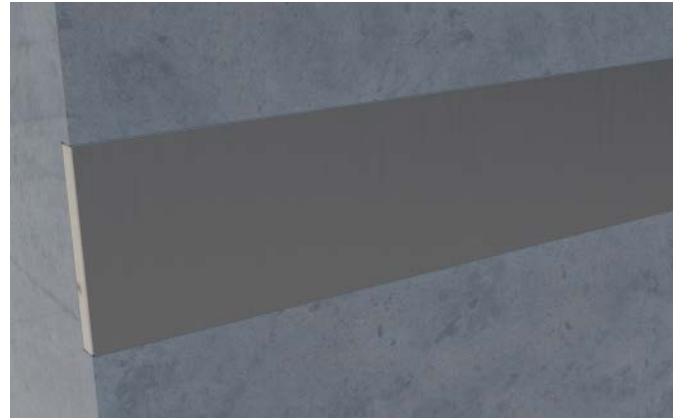
INSTALLING

Installation of ARBOX® Joint Reinforcement with MODIX® Rebar Coupler

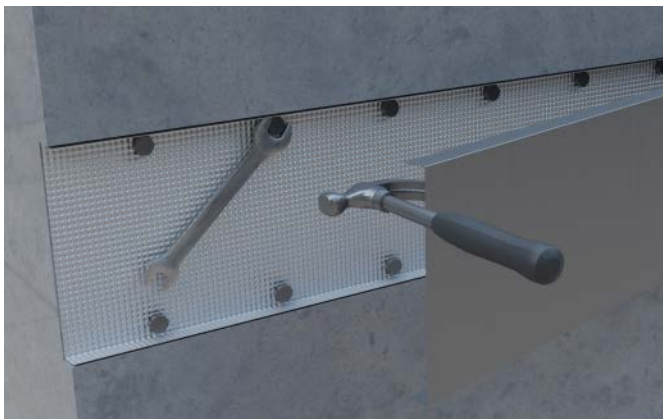
Before casting fix the ARBOX® Joint Reinforcement in the planned position by nailing it onto the wooden formwork or connecting it to the existing reinforcement.



Pour concrete into the formwork. When the formwork is removed, the ARBOX® steel cover is revealed.



Remove the ARBOX® steel cover by cutting the tapes that secure it, then place the claw of a hammer at one end and pull it away. Remove bolts inside of the steel box by wrench.



Remove concrete debris and clean interior of the box.



Install the male part of the MODIX® Rebar couplers. MODIX® Rebar couplers are tightened when ring at male part is closed. Rebars are then ready for overlapping with the element's reinforcement. Overlapping length is length l_0 .

