

Underfloor heating system
Riscaldamento a pavimento



DRY HP

Underfloor heating and cooling with minimum construction height
Sistemi a pavimento per la ristrutturazione

INSTALLATION MANUAL
MANUALE INSTALLAZIONE



SAFETY WARNINGS - AVVERTENZE PER LA SICUREZZA

Please, read this manual before installation and/or use of the equipment and keep it in an accessible place.

This equipment is part of complex installation; the designer's responsibility has to draw up the thermal diagram and statically verify the supporting structures.

The manufacturer's technical department is available at the phone numbers listed on the back of this manual for advice or particular technical requests.

CAUTION

Installation and maintenance should be performed by qualified personnel only.

Hydraulic systems and rooms in which the equipment is to be installed must meet the required standards regarding safety, accident and fire prevention currently in force in the country of use.

Leggere con attenzione questo manuale prima dell'installazione e/o dell'uso dell'apparecchiatura e conservarlo in un luogo accessibile.

La presente apparecchiatura costituisce un componente che fa parte di installazioni complesse: è compito del progettista redigere lo schema termico e verificare staticamente le strutture portanti.

L'ufficio tecnico del Costruttore si rende disponibile ai numeri indicati sul retro del presente manuale per consulenze o richieste tecniche particolari.

ATTENZIONE

L'installazione e la manutenzione vanno eseguiti solo da personale qualificato.

Gli impianti idraulici ed i locali di installazione delle apparecchiature devono rispondere alle norme di sicurezza, antinfortunistiche e antincendio in vigore nel Paese di utilizzo.



GENERAL WARNINGS - AVVERTENZE GENERALI

- *If after unpacking the packages any anomaly is noted, do not proceed with the installation and call an authorized service centre of the manufacturer.*
- *After installation, dispose of the packaging as required by regulations currently in force in the country of use.*
- *Always demand genuine parts: failure to observe this rule will invalidate the warranty.*
- *The manufacturer will not be held responsible under any circumstances for the following cases:*
 - *Where the safety regulations and safety standards outlined above are not complied with, including those in force in the country of installation.*
 - *Failure to follow the directions contained in this manual.*
 - *Damage to people, animals or property resulting from improper installation and/or misuse of products or equipment.*
 - *Inaccuracies or typographical or transcription errors and in this manual.*
 - *Furthermore, the manufacturer reserves the right to stop production at any time and to make any changes they deem necessary or useful, without the obligation of prior notice.*

- *Se dopo aver disimballato i colli si nota una qualsiasi anomalia, non procedere all'installazione e rivolgersi ad un Centro di Assistenza autorizzato dal Costruttore.*
- *Alla fine dell'installazione smaltire gli imballi secondo quanto previsto dalle normative in vigore nel Paese di utilizzo.*
- *Esigere solo ricambi originali: la mancata osservazione di questa norma fa decadere la garanzia.*
- *Il Costruttore declina ogni responsabilità nei casi seguenti:*
 - *Non vengano rispettate le avvertenze e le norme di sicurezza sopra indicate, comprese quelle vigenti nei paesi di installazione.*
 - *Mancata osservanza delle indicazioni segnalate nel presente manuale.*
 - *Danni a persone, animali o cose, derivanti da una errata installazione e/o uso improprio di prodotti e attrezzature.*
 - *Inesattezze o errori di stampa e trascrizione contenuti nel presente manuale.*
 - *Il Costruttore, inoltre, si riserva il diritto di cessare la produzione in qualsiasi momento e di apportare tutte le modifiche che riterrà utili o necessarie senza obbligo di preavviso.*



WARNING

Before laying the FLOORING , carefully read the instructions mentioned in this chapter.



ATTENZIONE

Prima di iniziare la posa dei RIVESTIMENTI consultare attentamente le indicazioni riportate nel relativo capitolo



DISPOSAL - SMALTIMENTO



Pursuant to the provisions contained in the following European Directives: 2002/95/EC, 2002/96/EC and 2003/108/EC, relating to the use of hazardous substances in electrical and electronic equipment, as well as waste disposal.



In base a quanto previsto dalle seguenti direttive europee 2002/95/CE, 2002/96/CE e 2003/108/CE, relative alla riduzione dell'uso di sostanze pericolose nelle apparecchiature elettriche ed elettroniche, nonché allo smaltimento dei rifiuti.

The symbol of the crossed-out wheeled bin as shown on the product indicates that at the end of its useful life it must be disposed of separately from other waste.

The user must therefore dispose of the above equipment at the end of its useful life at an appropriate centre for the collection of electronic and electro-technical waste, or return it to the dealer when purchasing a similar new device in terms of one to one.

Proper waste collection leading to the subsequent recycling, treatment and environmentally friendly disposal of the equipment helps to avoid possible negative effects on the environment and on health and promotes the recycling of the materials of which the equipment is made up.

Illegal disposal of the product by the user will lead to the application of penalties prescribed by current legislation in force.

Il simbolo del cassonetto barrato riportato sull'apparecchiatura indica che il prodotto alla fine della propria vita utile deve essere raccolto separatamente dagli altri rifiuti.

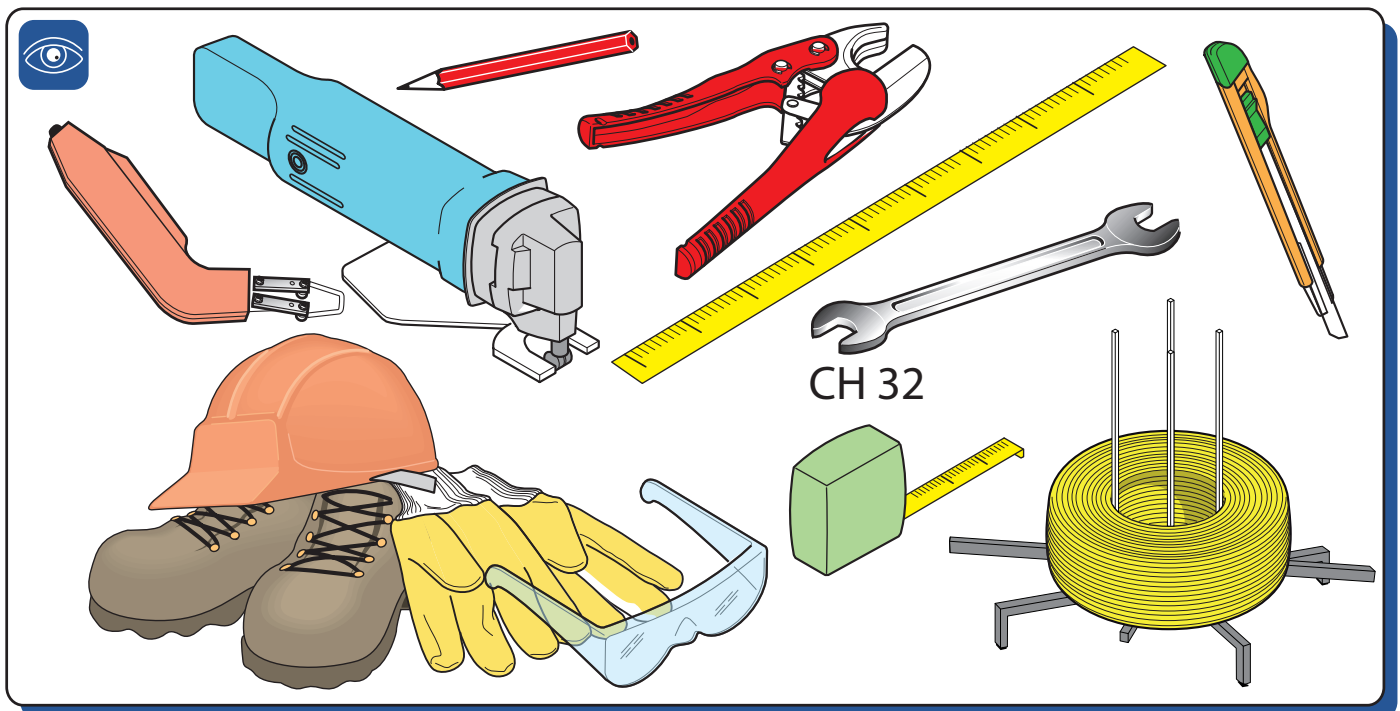
L'utente dovrà, pertanto, conferire l'apparecchiatura giunta a fine vita negli idonei centri di raccolta differenziata di rifiuti elettronici ed elettrotecnici, oppure riconsegnarla al rivenditore al momento dell'acquisto di una nuova apparecchiatura di tipo equivalente, in ragione di uno a uno.

L'adeguata raccolta differenziata per l'avvio successivo dell'apparecchiatura dismessa al riciclaggio, al trattamento e allo smaltimento ambientale compatibile contribuisce ad evitare possibili effetti negativi sull'ambiente e sulla salute e favorisce il riciclo dei materiali di cui è composta l'apparecchiatura.

Lo smaltimento abusivo del prodotto da parte dell'utente comporta l'applicazione delle sanzioni previste dalla vigente normativa in materia.



NECESSARY EQUIPMENT - ATREZZATURA E D.P.I. NECESSARI





	Description	Descrizione	Pag.
	Safety Warnings	Avvertenze per la sicurezza	3
	General Warnings	Avvertenze generali	3
	Disposal	Smaltimento	3
	Necessary Equipment	Attrezzatura e D.P.I. necessari	4
1	Preliminary Operation	Operazioni preliminari	6
2	Description	Descrizione	7
2.1	<i>Description of the components</i>	Descrizione componenti	7
3	Installation	Installazione	9
3.1	<i>Preparation of the laying base</i>	Preparazione del piano di posa	9
3.2	<i>Installation of the humidity barrier (Optional)</i>	Posa barriera all'umidità (opzionale)	10
3.3	<i>Installation of the plus perimetrel belt</i>	Posa della cornice perimetrale	11
3.4	<i>Installation of the insulating panel</i>	Posa del pannello Dry-Tech	11
3.5	<i>Installation of the thermal diffusers</i>	Posa delle lamelle termoconduttrici	21
3.6	<i>Installation of the pipe</i>	Posa del tubo	23
3.7	<i>Installation of the weight zinc-plated steel plates</i>	Posa delle lastre in acciaio zincato	27
3.8	<i>System filling</i>	Riempimento impianto	36
3.9	<i>Instruction of the flooring laying</i>	Indicazioni per la posa dei rivestimenti	38
3.10	<i>Installation of the skirting board</i>	Posa del battiscopa	42
3.11	<i>Advice for use</i>	Consigli di utilizzo	43



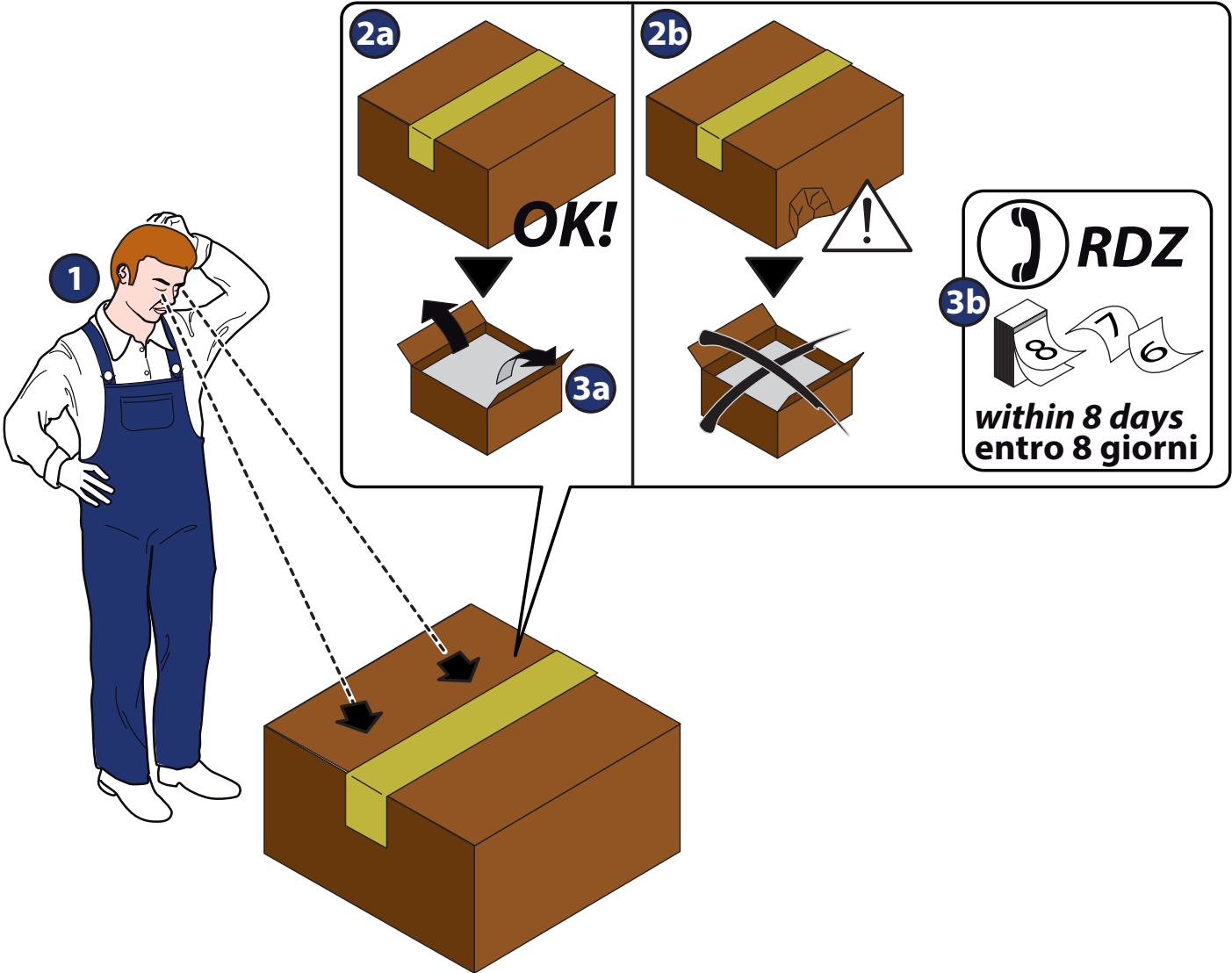
1 PRELIMINARY OPERATION - OPERAZIONI PRELIMINARI

TESTING, TRANSPORT AND UNPACKAGING

Upon receipt, check immediately that the packaging is intact: the material has left the factory in perfect working order and any damage must be notified to the carrier immediately and noted on the Delivery Sheet before it is countersigned. Within 8 days, the customer must notify the manufacturer of the extent and type of the damage noted, making a written report.

ISPEZIONE, TRASPORTO E DISIMBALLO

All'atto del ricevimento verificare immediatamente l'integrità dell'imballo: il materiale ha lasciato la fabbrica in perfetto stato, eventuali danni dovranno essere immediatamente contestati al trasportatore ed annotati sul Foglio di Consegna prima di controfirmarlo. Il Cliente, entro 8 giorni, deve avvisare il Costruttore sull'entità e la tipologia dei danni rilevati compilando un rapporto scritto.



! The unit packaging must be removed with care, ensuring that the material is not damaged. The materials which make up the packaging are different: wood, cardboard, nylon etc. Store them separately and deliver them for disposal or, where appropriate, recycling, to the relevant companies, thus reducing the environmental impact.

! L'imballo dell'unità deve essere rimosso con cura evitando di arrecare possibili danni ai materiale. I materiali che costituiscono l'imballo sono di natura diversa: legno, cartone, nylon, ecc. Conservarli separatamente e consegnarli per lo smaltimento o l'eventuale riciclaggio, alle aziende preposte allo scopo e ridurne così l'impatto ambientale.



2 DESCRIPTION - DESCRIZIONE



DRY HP is a dry underfloor system for renovated buildings or new ones, where you do not want to use concrete.

Thanks to a special panel it is possible to install a radiant system with lower thickness than traditional underfloor systems (necessary thickness is about 3,5 cm flooring excluded).

DRY HP è un sistema di riscaldamento a pavimento "a secco", appositamente studiato per le ristrutturazioni o per le nuove costruzioni dove non si vuole utilizzare il massetto in cemento. Grazie allo speciale pannello è possibile realizzare un impianto con spessori ridotti rispetto a quelli richiesti tradizionalmente negli impianti a pavimento (spessore richiesto circa 3 cm escluso il pavimento)

2.1 DESCRIPTION OF THE COMPONENTS - DESCRIZIONE COMPONENTI

• Slim 5 perimeter belt

It absorbs floor expansions and acts as thermo-acoustic insulation for the walls. It is made of expanded polyethylene with 100% closed-cell structure, and it is provided with an adhesive strip on one side.

Thickness 5 mm, height 50 mm.
Package: 2x25-m roll.

• DRY-TECH insulating panels

It is made of sintered polystyrene, produced in conformity with UNI EN 13163. It is a waterproof panel with a closed-cell structure, which has high mechanical resistance, total thickness 25 mm. These panels have a moulded surface with special grooves so that the thermal diffusers can be fitted into them to hold the pipes.

• Joint for insulating panels

• Thermal diffusers

They are made of aluminium, thickness 0.4 mm. They are used to contain PE-Xc pipe Ø 14x2 mm and act as heat transfer. Size: 960 mm x 102 mm; groove: 14 mm.

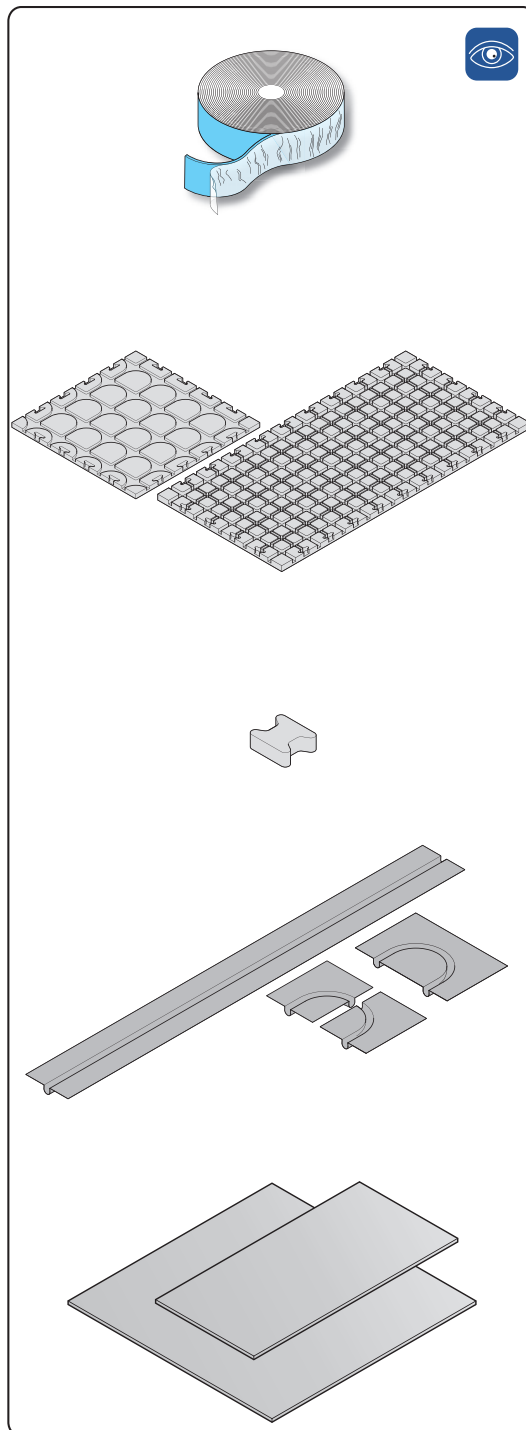
• Aluminium plates

Aluminium plates, thickness 1 mm, with or without adhesive, to produce the dry floor screed and to distribute the load. They shall be laid in two layers and shall not be lined up.

Plates mm 250x500 - 20 pieces.

Plates mm 500x500 - 10 pieces.

Plates mm 500x500 with adhesive - 10 pieces.



• Cornice perimetrale slim 5

Con funzione di assorbimento delle dilatazioni del pavimento ed isolamento termoacustico delle pareti. Realizzata in polietilene espanso a struttura cellulare al 100% chiusa, dotata di banda autoadesiva su un lato.

Spessore 5 mm, altezza 50 mm.

Confezioni 2 rotoli da 25 m

• Pannelli isolanti DRY-TECH

In polistirene sinterizzato prodotto in conformità alla normativa UNI 13163, stampato in idrorepellenza a celle chiuse, di levata resistenza meccanica, spessore totale 25 mm, con superficie superiore sagomata con incavi speciali per alloggiamento delle lamelle termoconduttrici portatubo.

• Giunzione per pannelli isolanti

• Lamelle termoconduttrici

In alluminio di spessore 0,4 mm, atte al contenimento del tubo in PE-Xc da 14x2 mm e alla diffusione del calore. Dimensioni: 960 mm x 102 mm; incavo: 14 mm.

• Lastre in alluminio

Lastre in alluminio dello spessore di 1 mm con e senza adesivo per l'esecuzione del massetto a secco e ripartizione del carico. Le lastre devono essere utilizzate in doppio strato e sfalsate.

Lastra da 250x500 - 20 pz.

Lastra da 500x500 - 10 pz.

Lastra da 500x500 con adesivo - 10 pz.

- RDZ PE-RT Pipe Ø 14

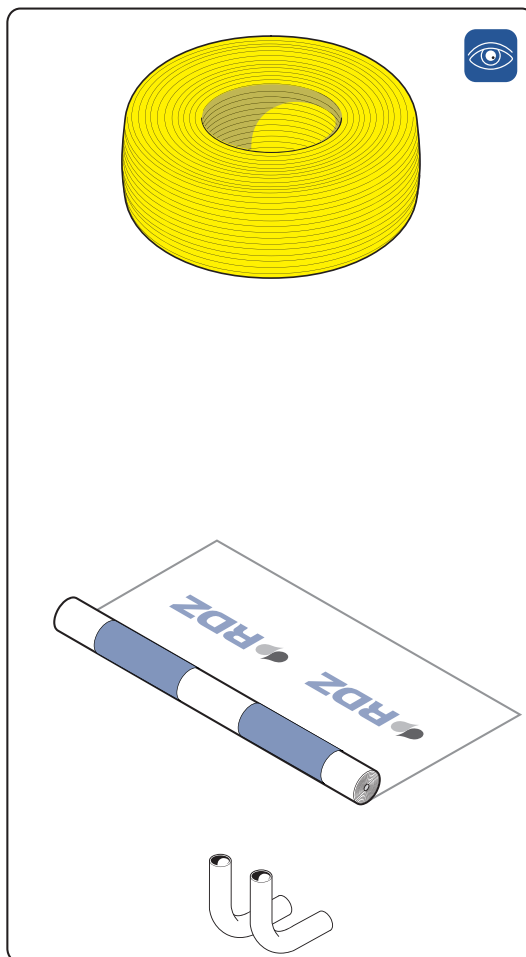
RDZ PE-RT pipe made of polyethylene with higher thermal resistance for underfloor heating and cooling. Provided with anti-oxygen barrier according to UNI EN ISO 15875 and DIN 4726. Diameter 14 mm - Thickness 2 mm. Natural colour.

- Humidity Barrier Sheet

Polyethylene sheet, 0.18 mm with RDZ blue trademarks. It should be laid under the insulating panel, thus acting as a humidity barrier. Custom-made package.

- Supporting elbow

It is made of plastic material. It is used to support the pipes near the manifolds vertically and to protect them from any.



- Tubo RDZ PE-RT Ø 14

TUBO RDZ in PE-RT. Polietilene non reticolato a resistenza termica maggiorata, adatto all'utilizzo nei sistemi di riscaldamento e raffreddamento radianti. Dotato di barriera antiossigeno in conformità alla normativa DIN EN 15875 e DIN 4726. Diametro 14 mm, spessore 2 mm colore naturale.

- Foglio barriera umidità

Foglio di polietilene in materiale vergine, spessore 0.18 mm. Marchiato RDZ in colore blu.

Va posato sotto il pannello isolante e ha funzione di barriera all'umidità. Confezione a misura

- Curve di sostegno

In materiale plastico, con funzione di sostenere verticalmente i tubi in prossimità dei collettori e proteggerli da eventuali urti.

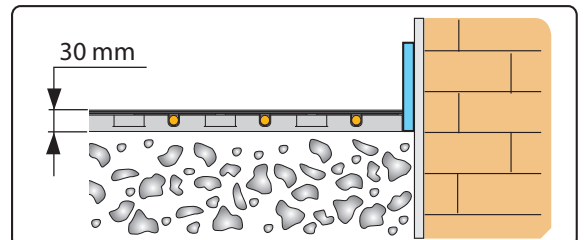
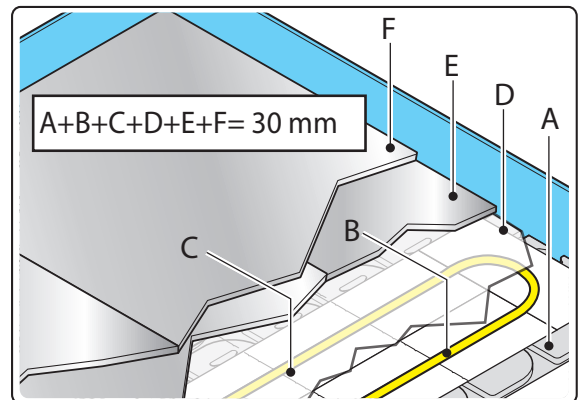
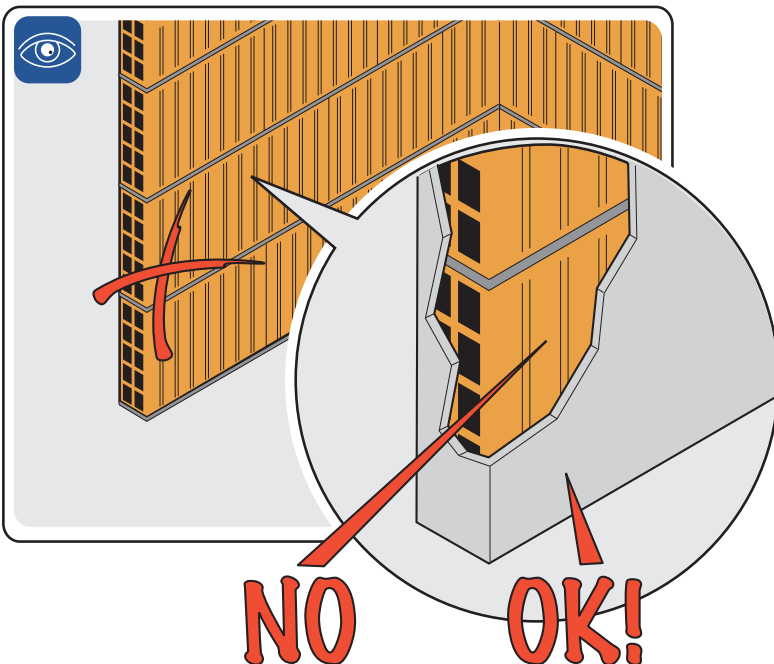
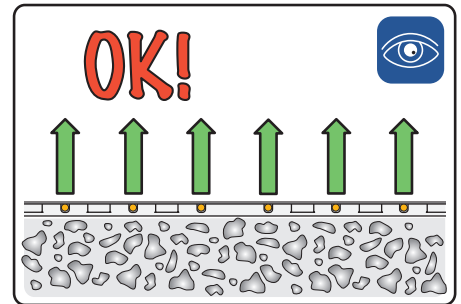
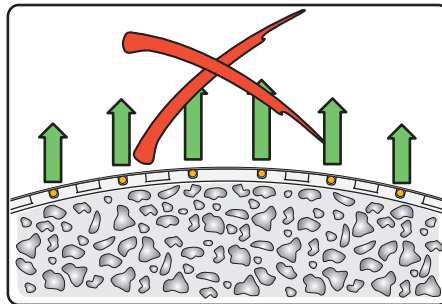
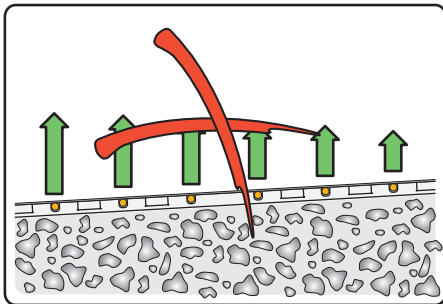


3 INSTALLATION - INSTALLAZIONE

3.1 PREPARATION OF THE LAYING BASE - PREPARAZIONE DEL PIANO DI POSA

Before starting laying activities in the building site it is necessary to follow the instructions shown in the pictures below:

Prima di cominciare le operazioni di posa in cantiere è necessario seguire una serie di accorgimenti illustrati nelle figure sottostanti.

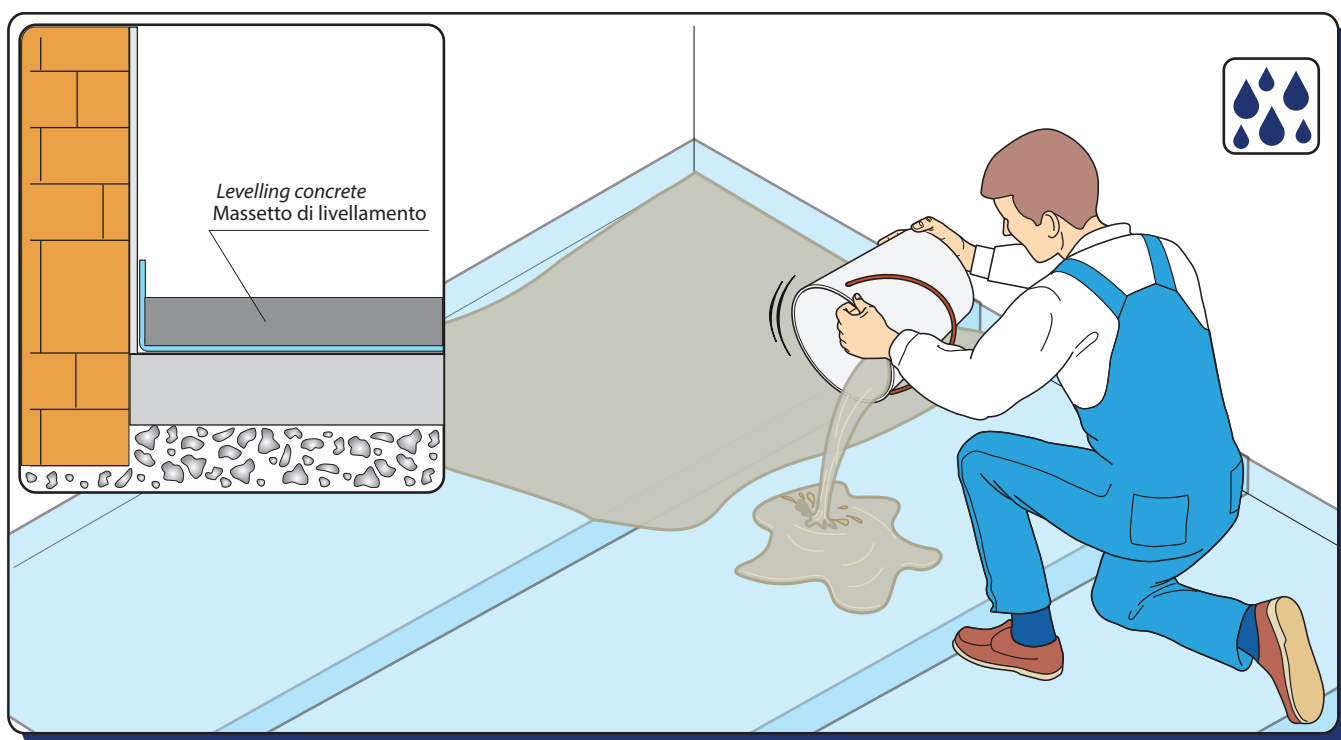
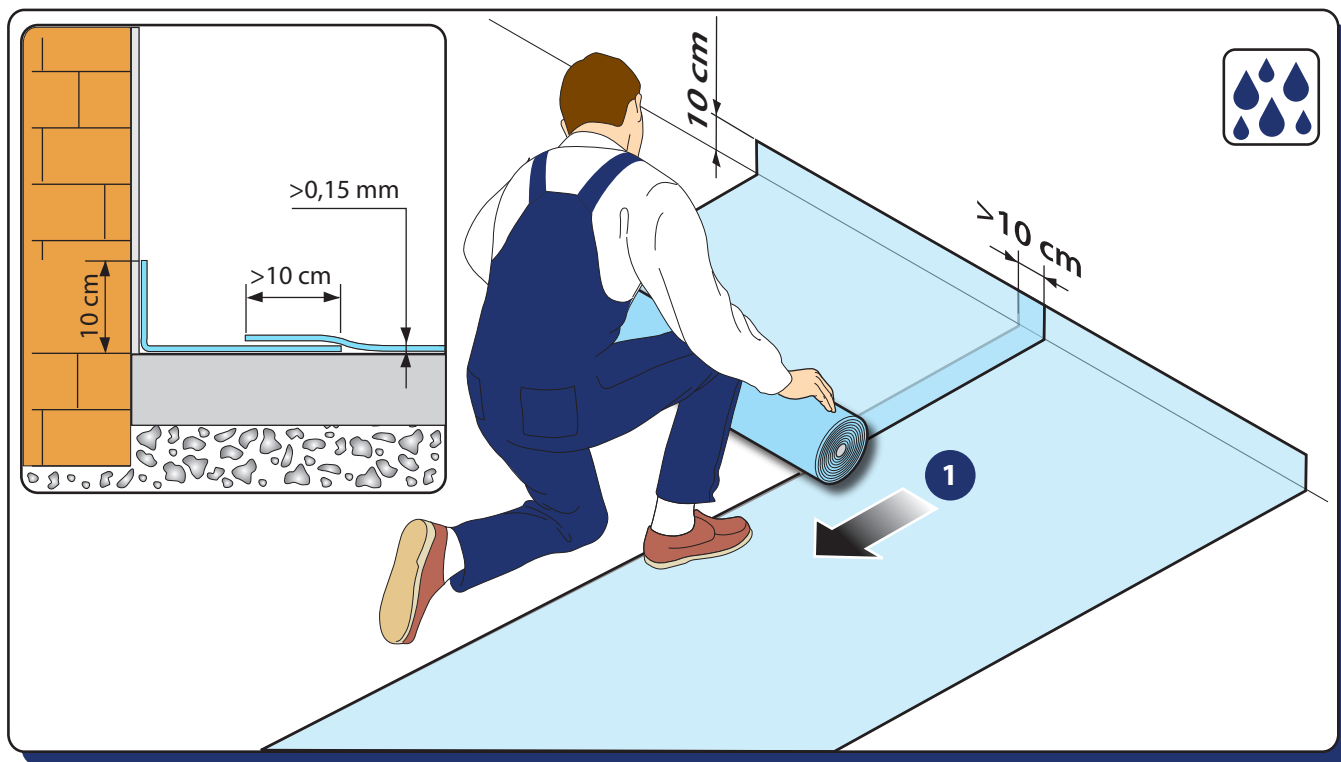




3.2 INSTALLATION OF HUMIDITY BARRIER (OPTIONAL) POSA BARRIERA ALL'UMIDITÀ (OPZIONALE)

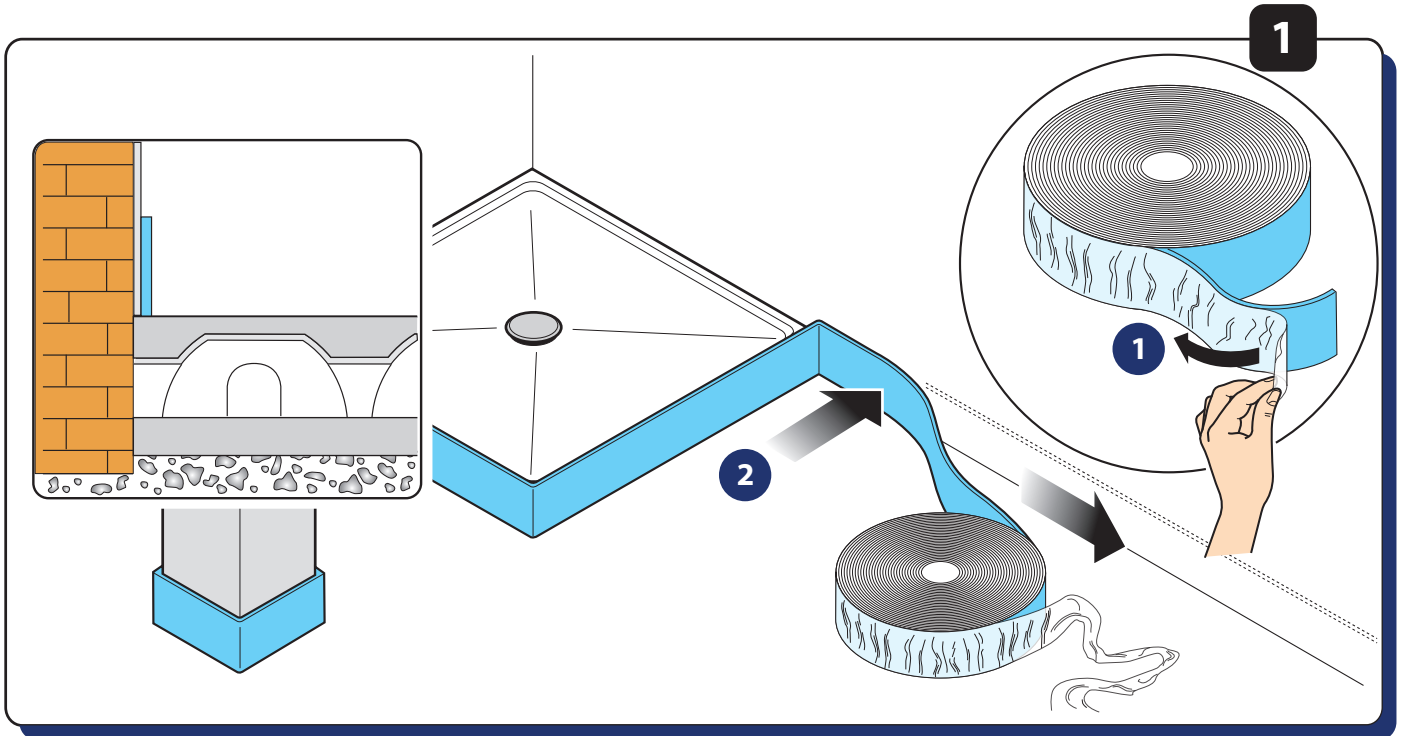
If the floor lies **directly on the ground** (without void space or insulating sheath), it is important to install a waterproof layer made of polyethylene sheets functioning as humidity barrier, minimum thickness 0.15 mm (or a similar system), to place under DRY system. You must use levelling concrete between the humidity barrier sheet and DRY system.

Se la pavimentazione si trova a **diretto contatto con il terreno** (quindi senza vuoto sanitario o guaina isolante), si procede alla posa di uno strato per l'impermeabilizzazione, costituito da un foglio in polietilene avente funzione di barriera all'umidità di spessore minimo 0,15 mm (oppure un sistema equivalente), da collocare sotto il sistema DRY. Tra il sistema DRY e la barriera umidità si rende obbligatoria la posa di un massetto di livellamento.

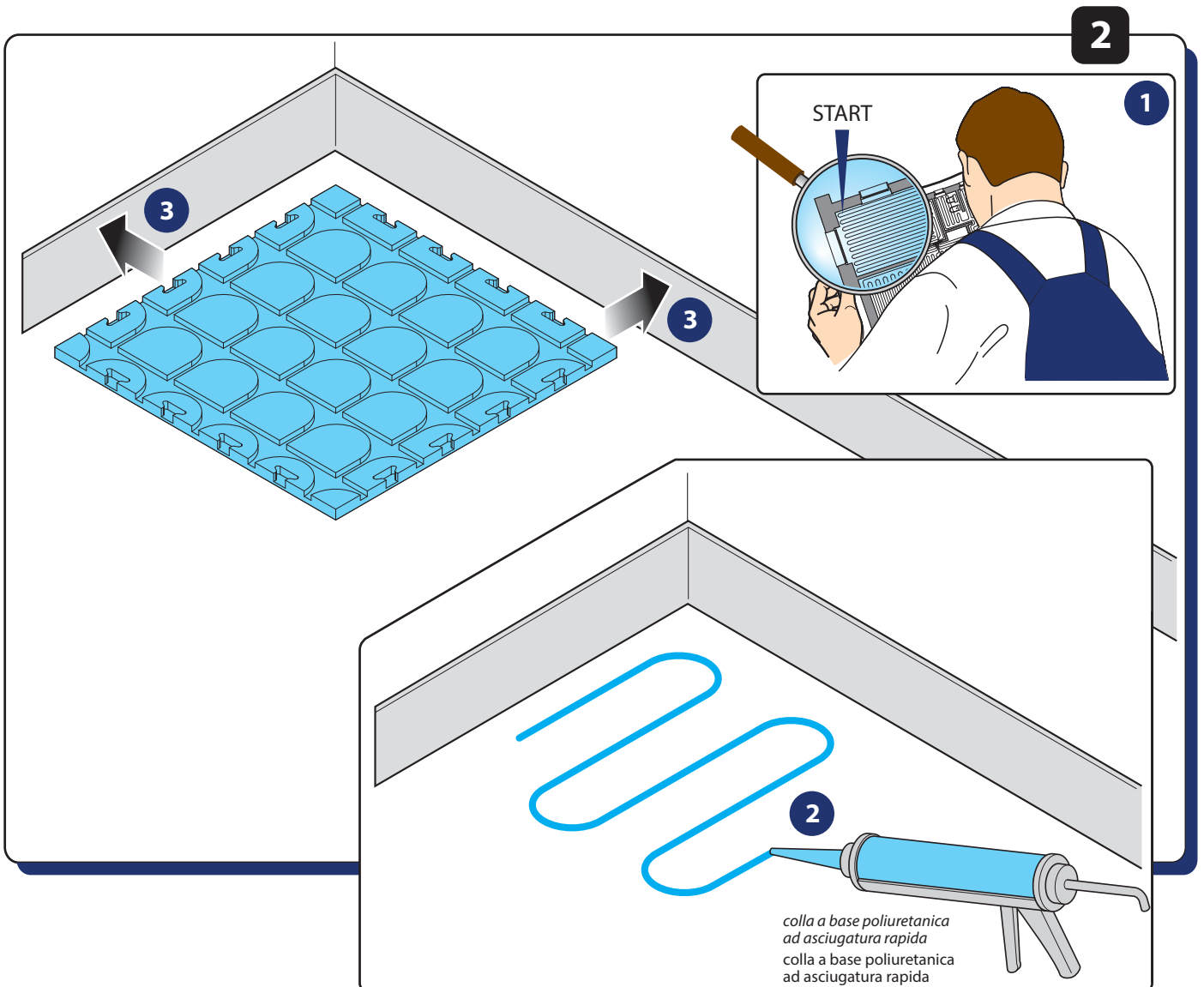




3.3 INSTALLATION OF THE PERIMETREL BELT - POSA DELLA CORNICE PERIMETRALE

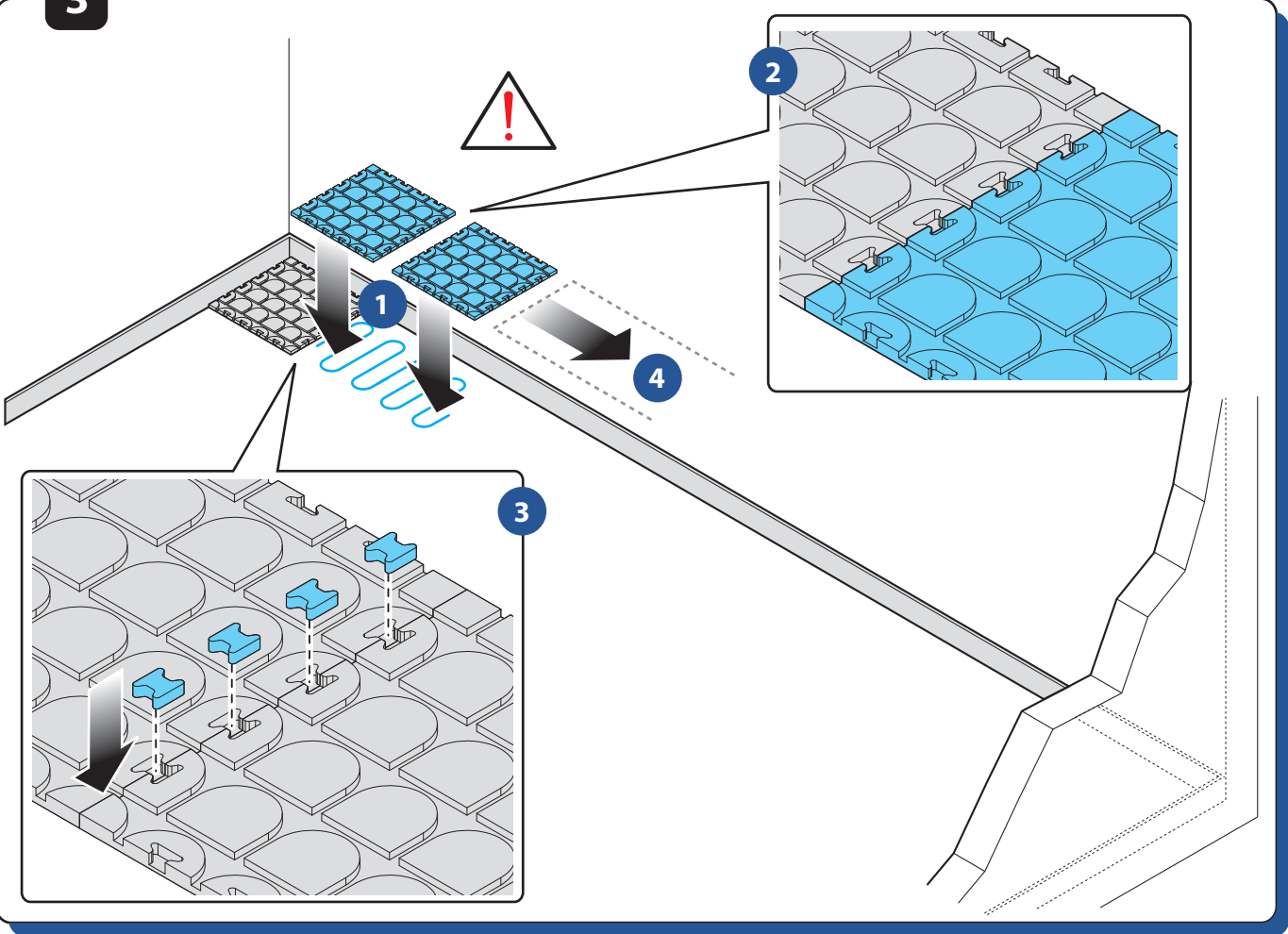


3.4 INSTALLATION OF THE DRY-TECH PANEL - POSA DEL PANNELLO DRY-TECH

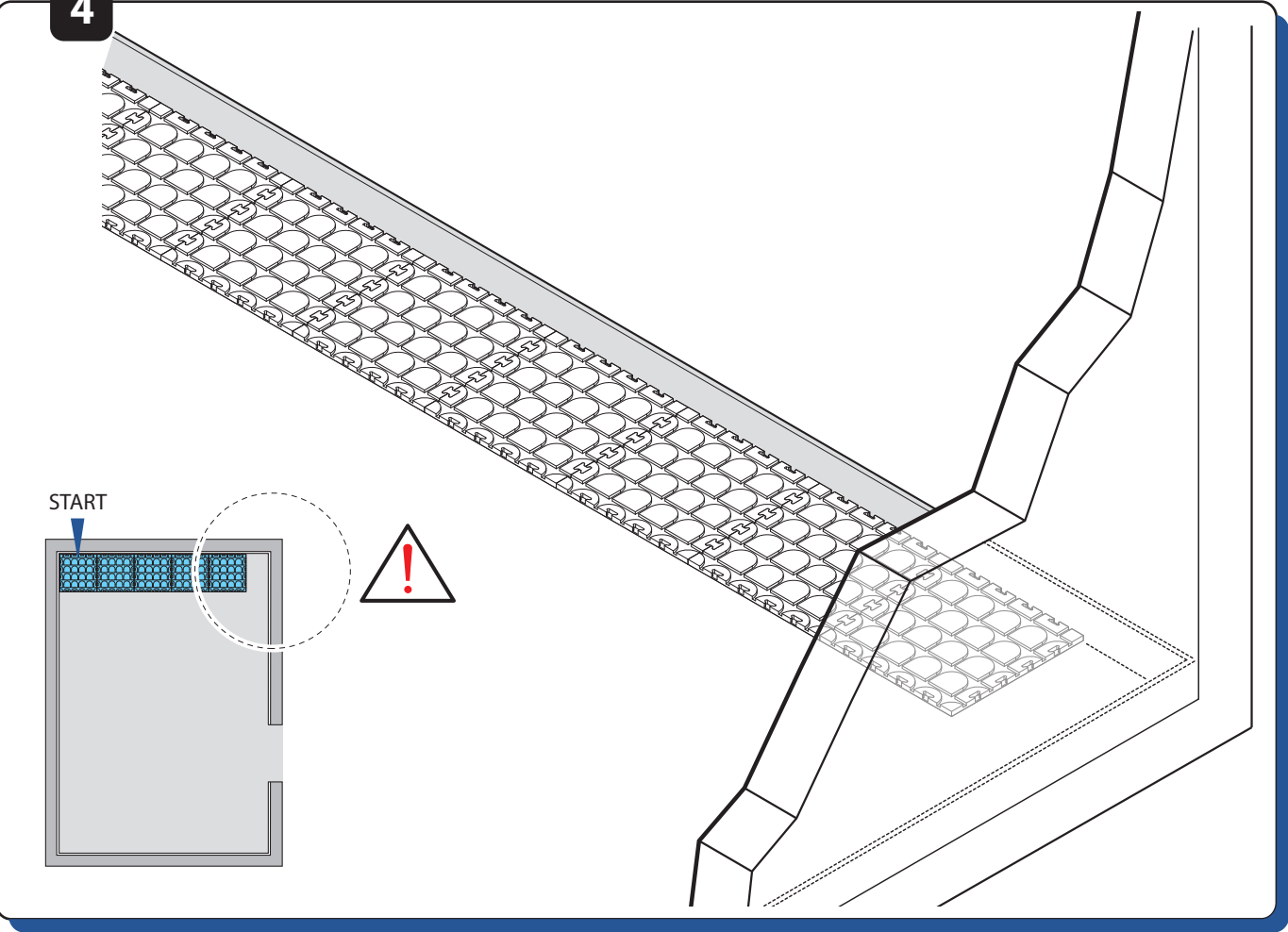




3

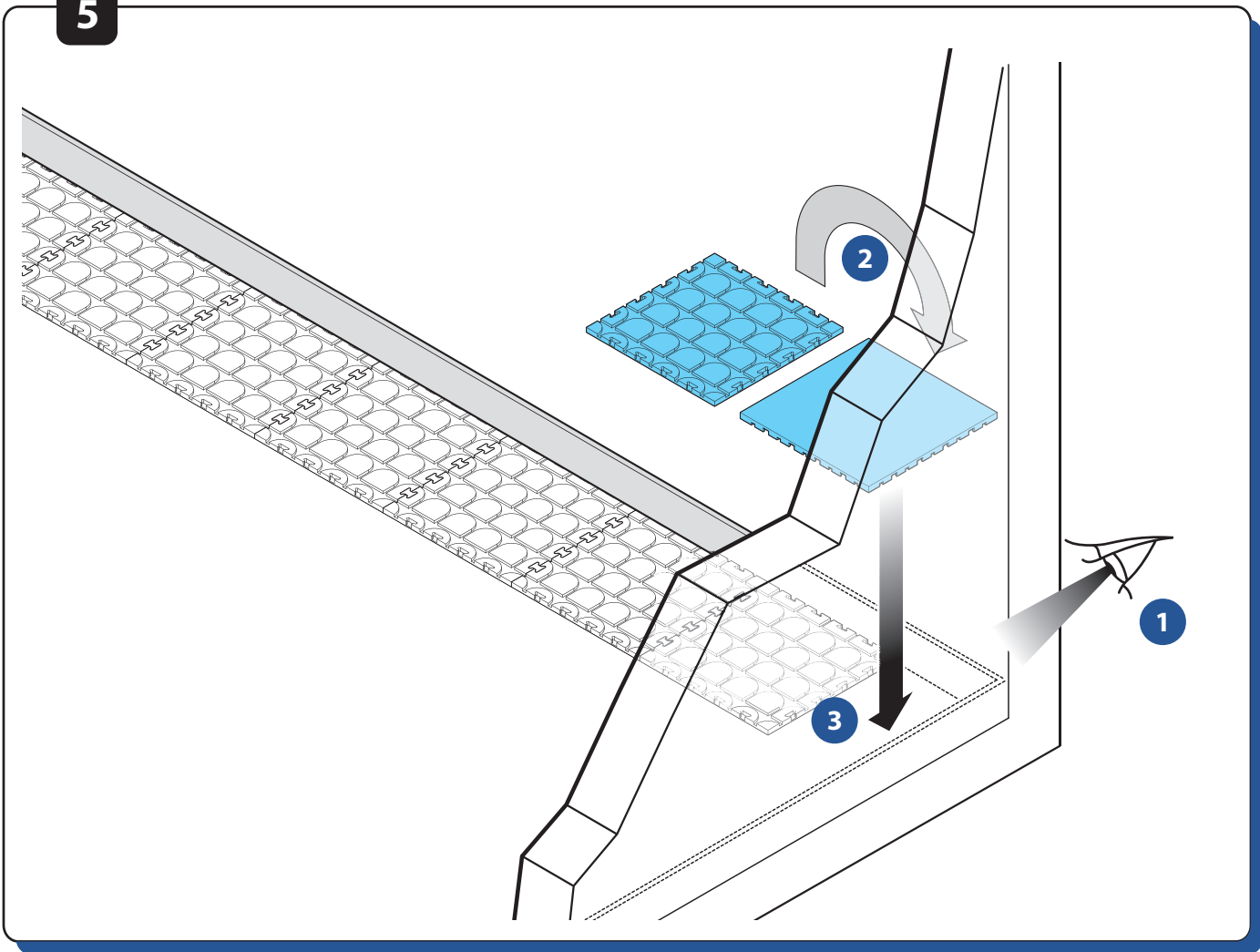


4

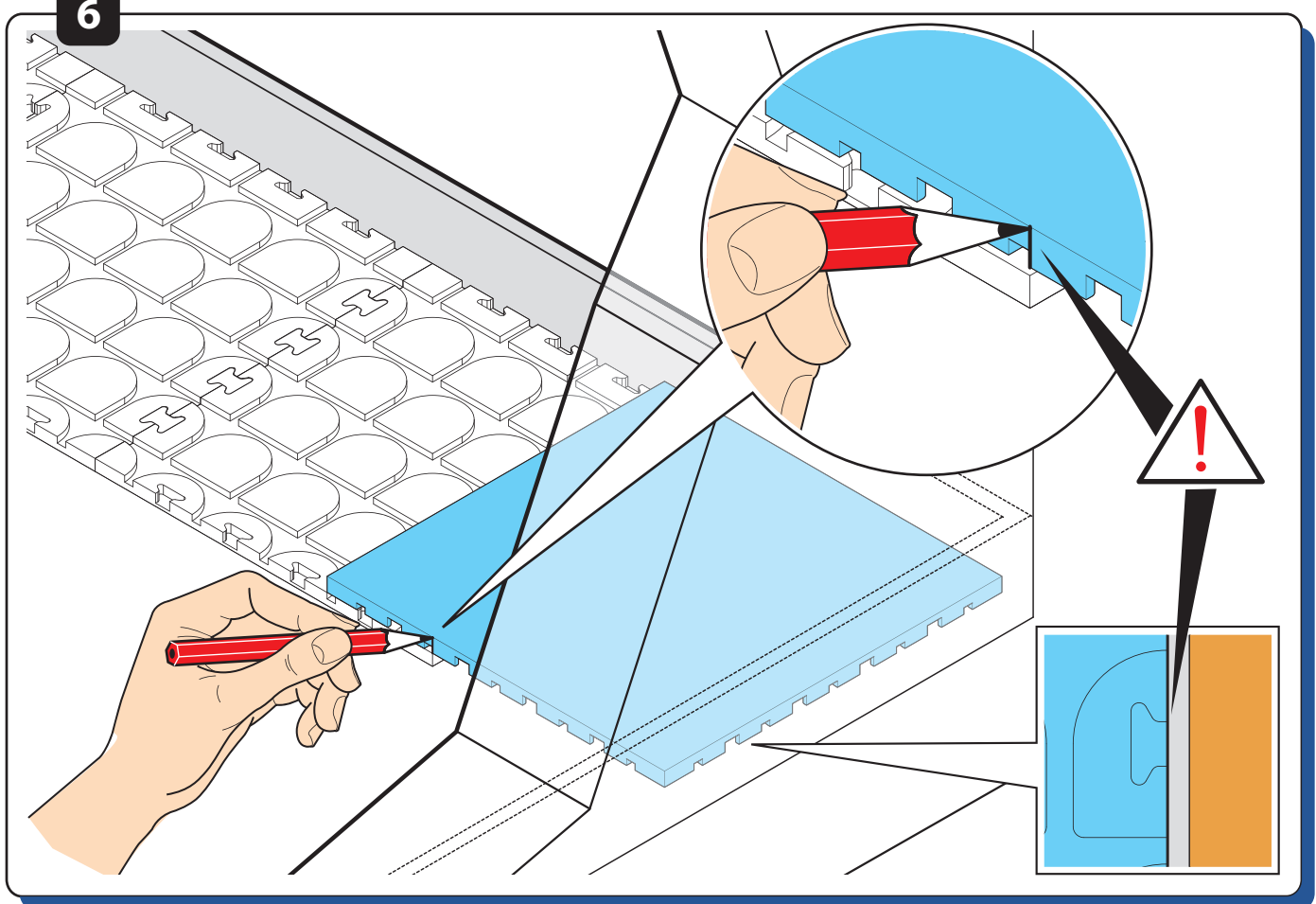




5

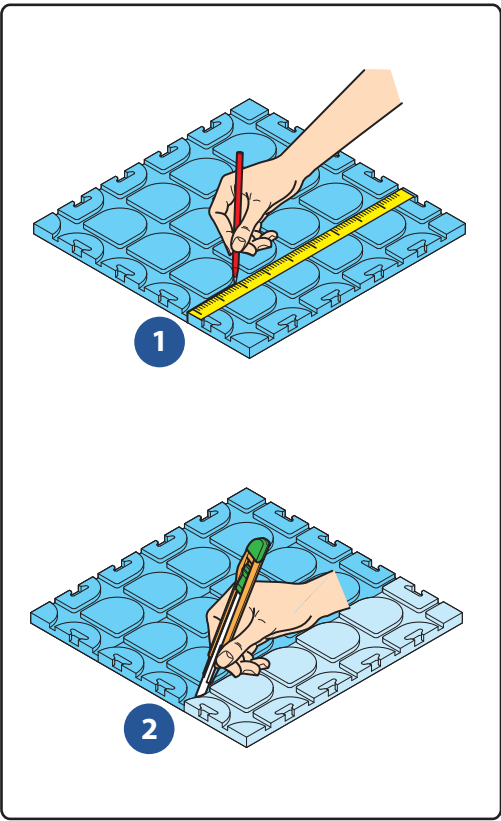


6

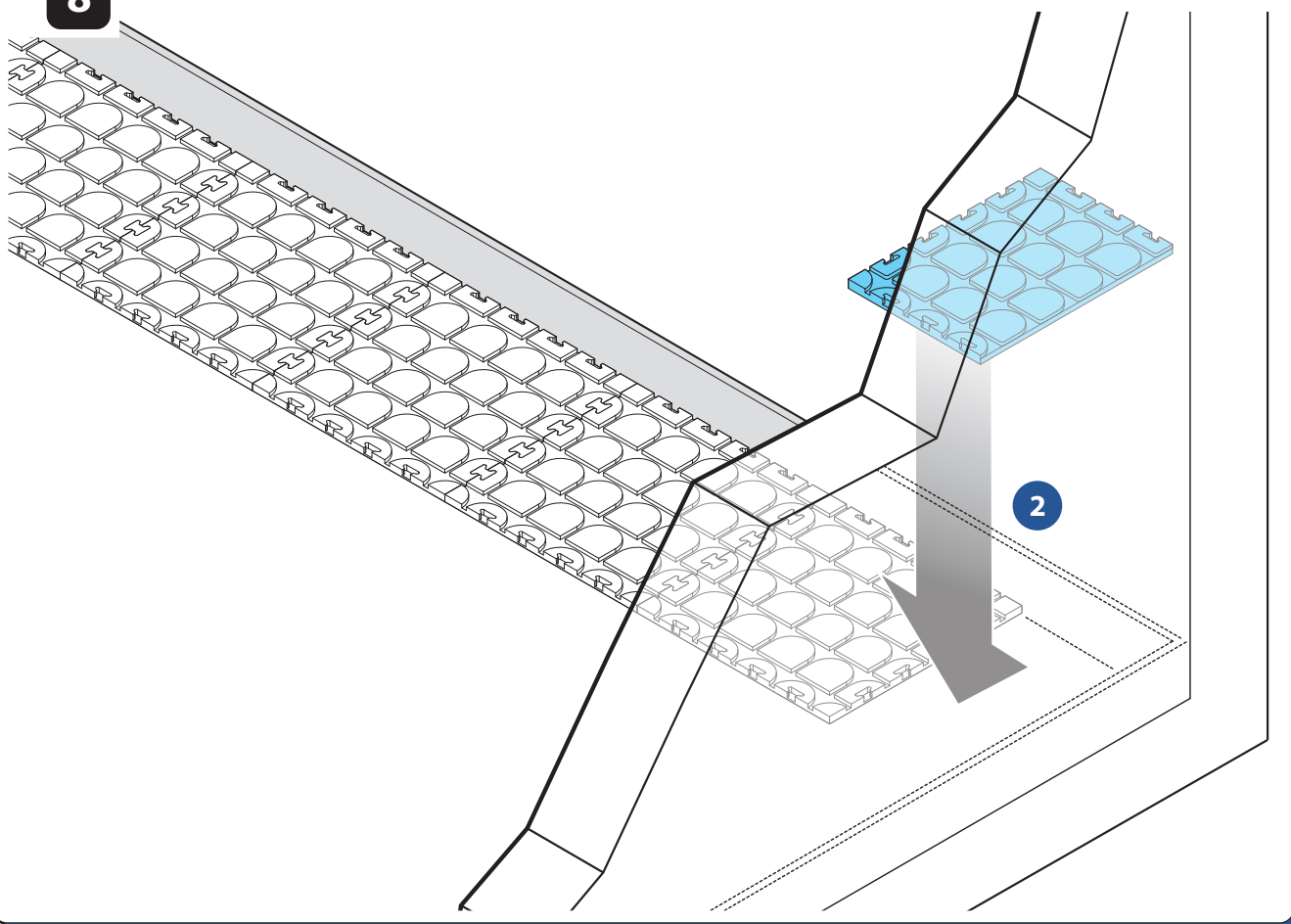




7

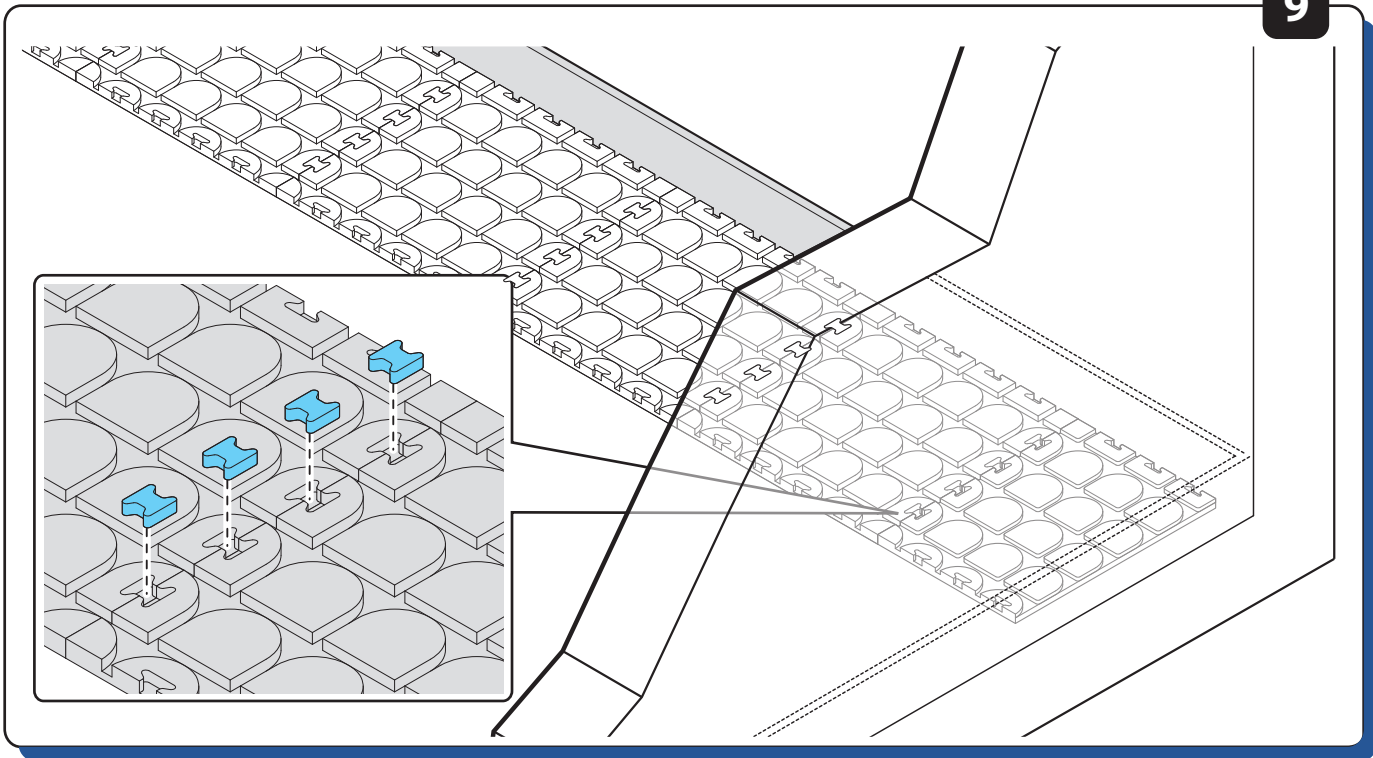


8

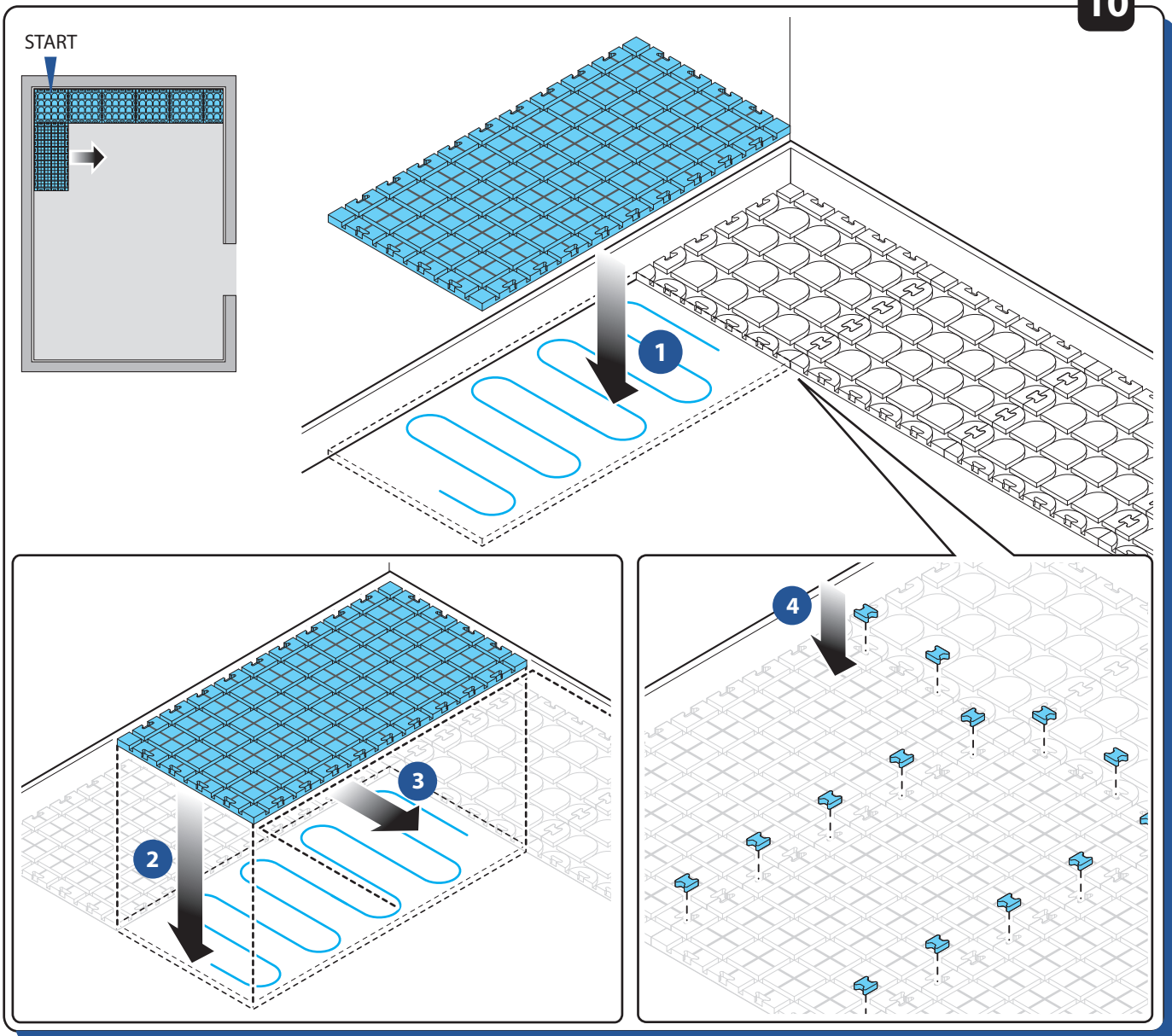




9



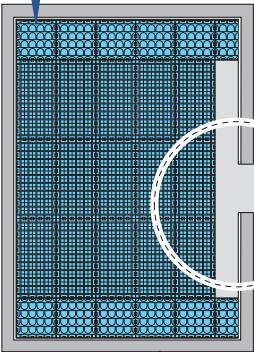
10





11

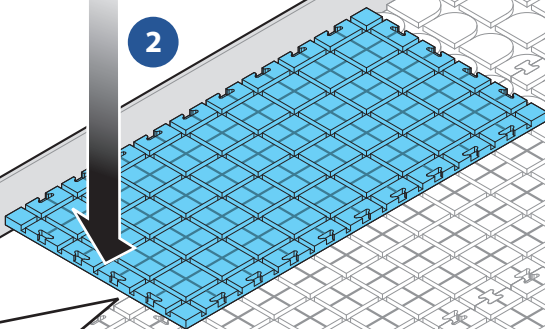
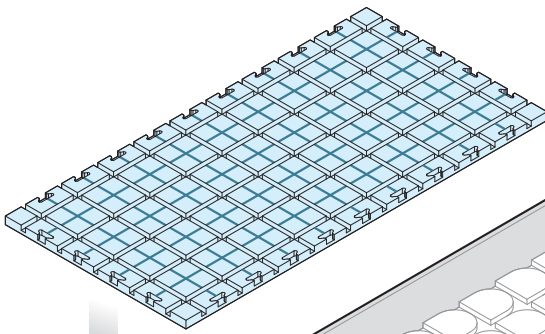
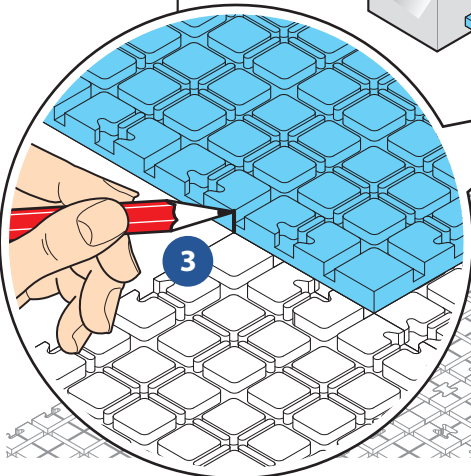
START



1

2

3



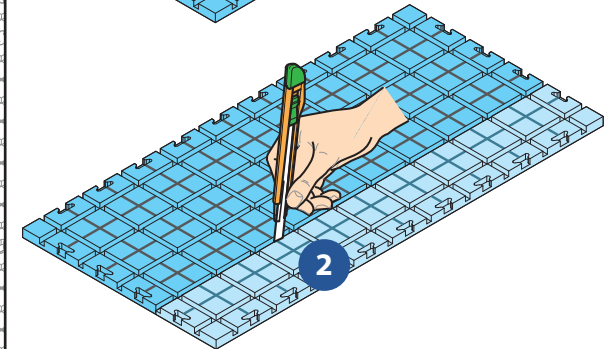
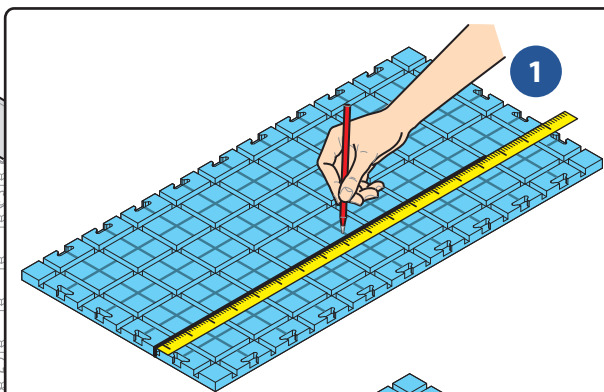
12

3

CRACK!

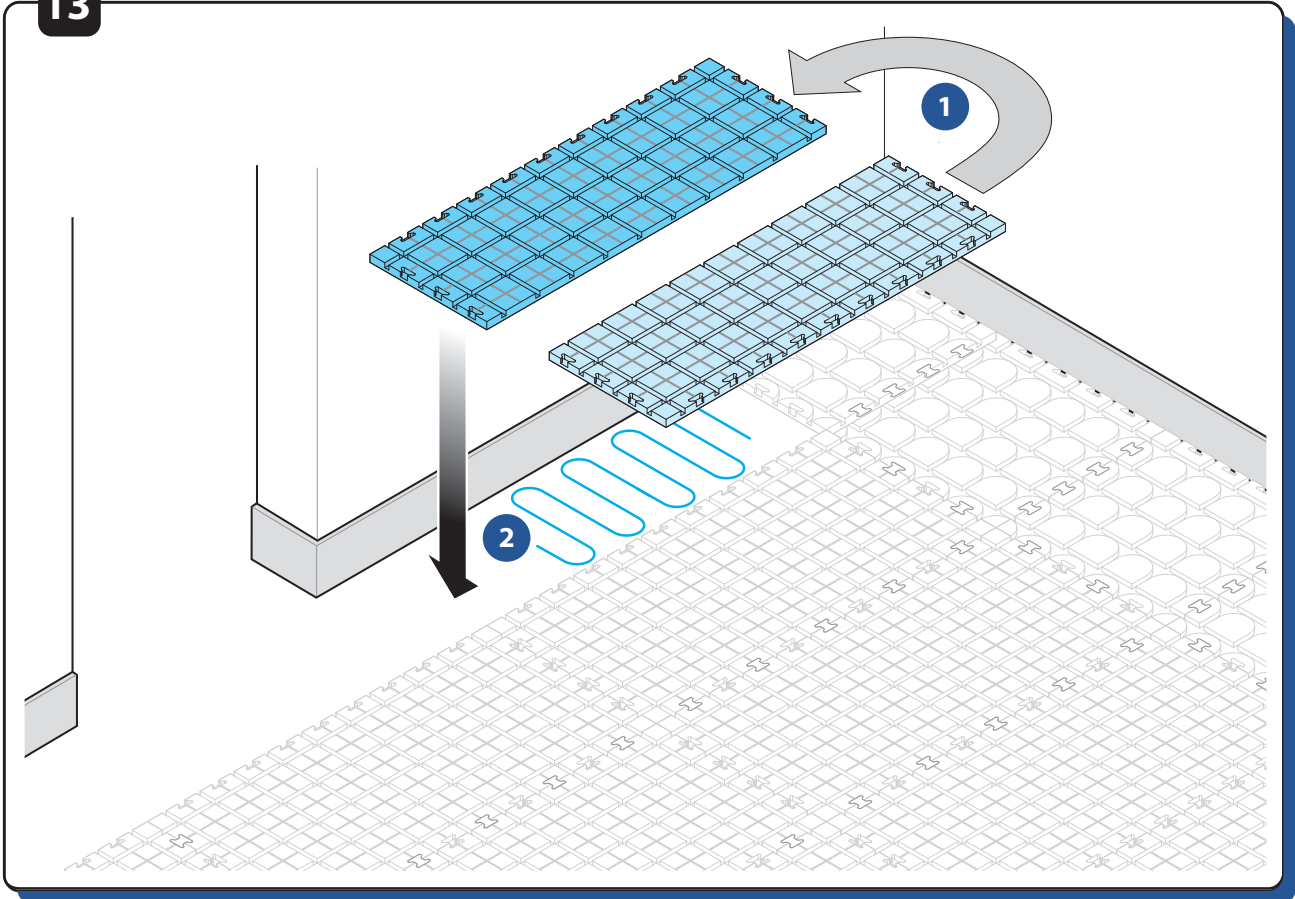
1

2

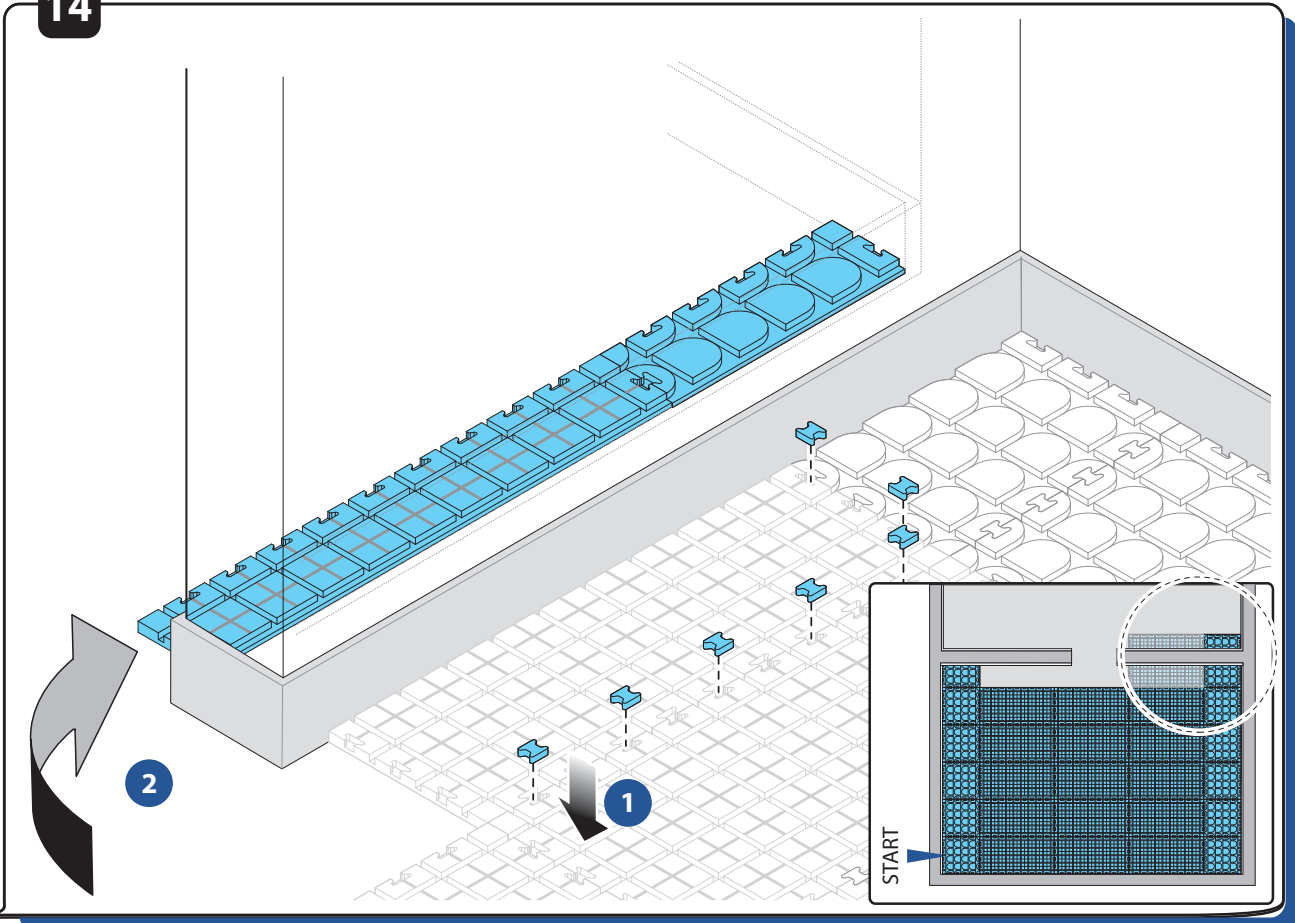


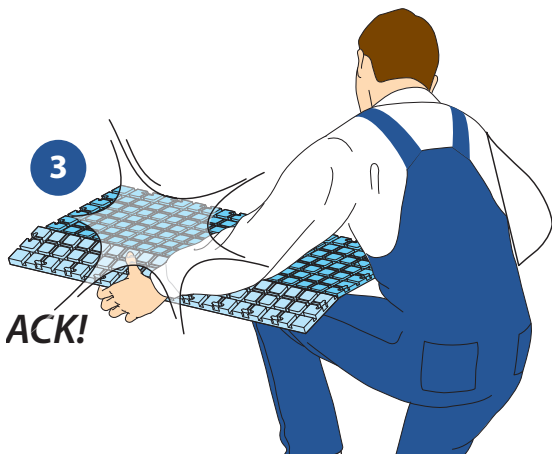
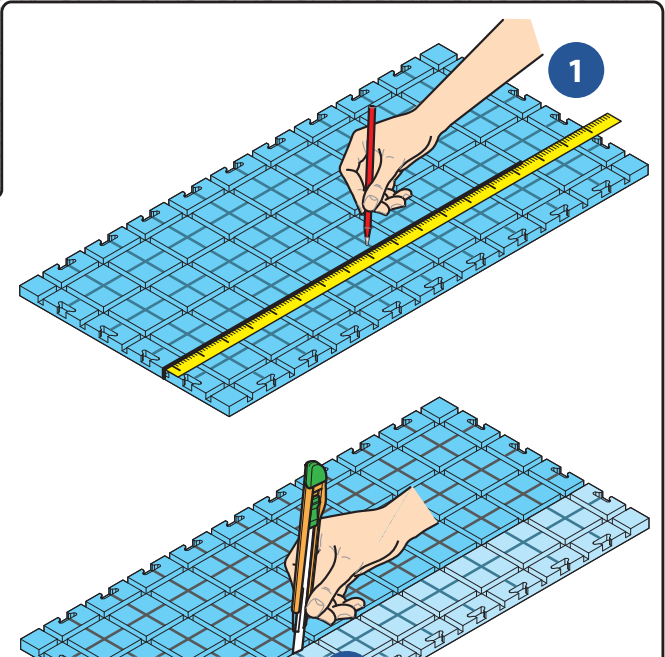
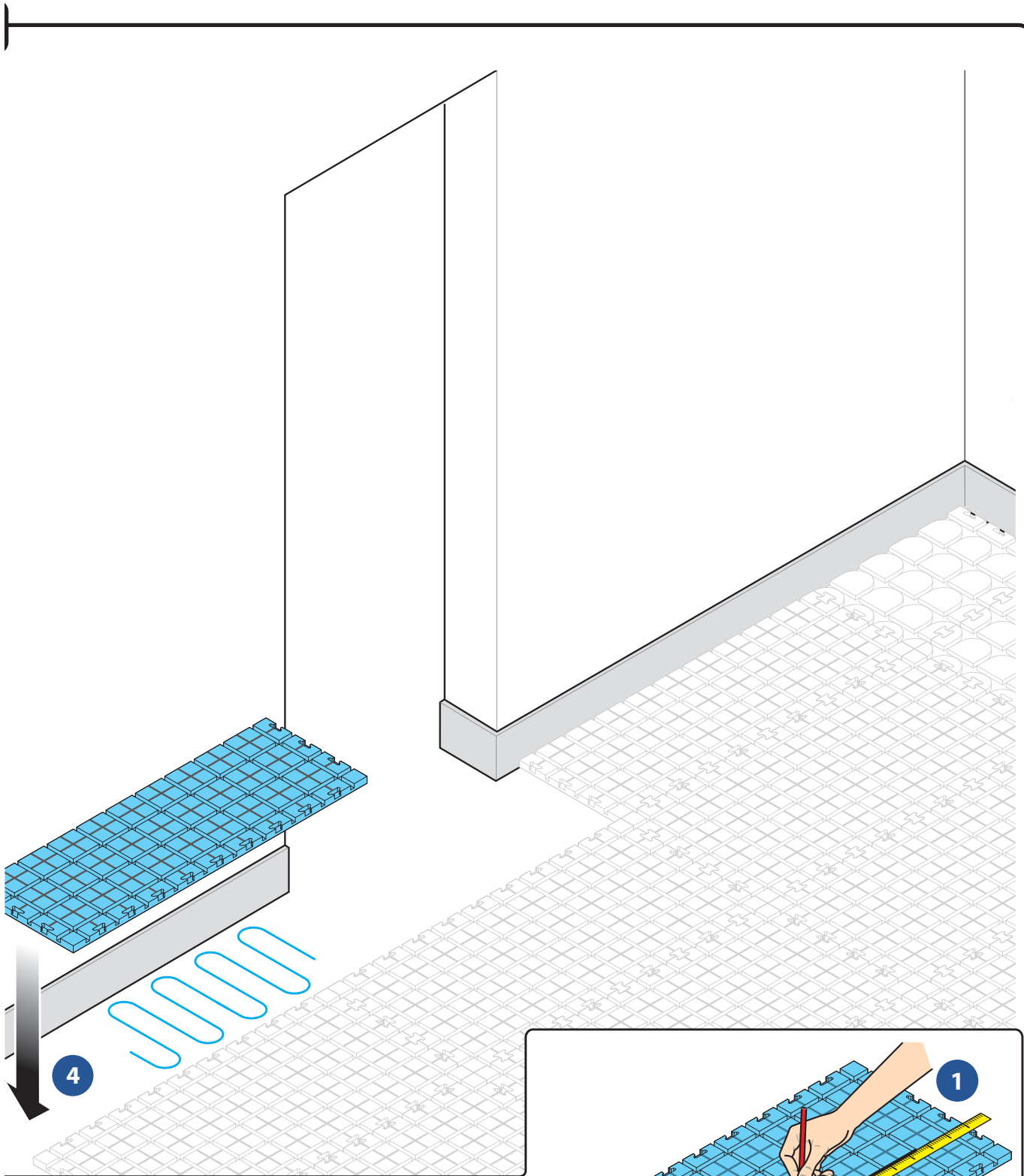


13



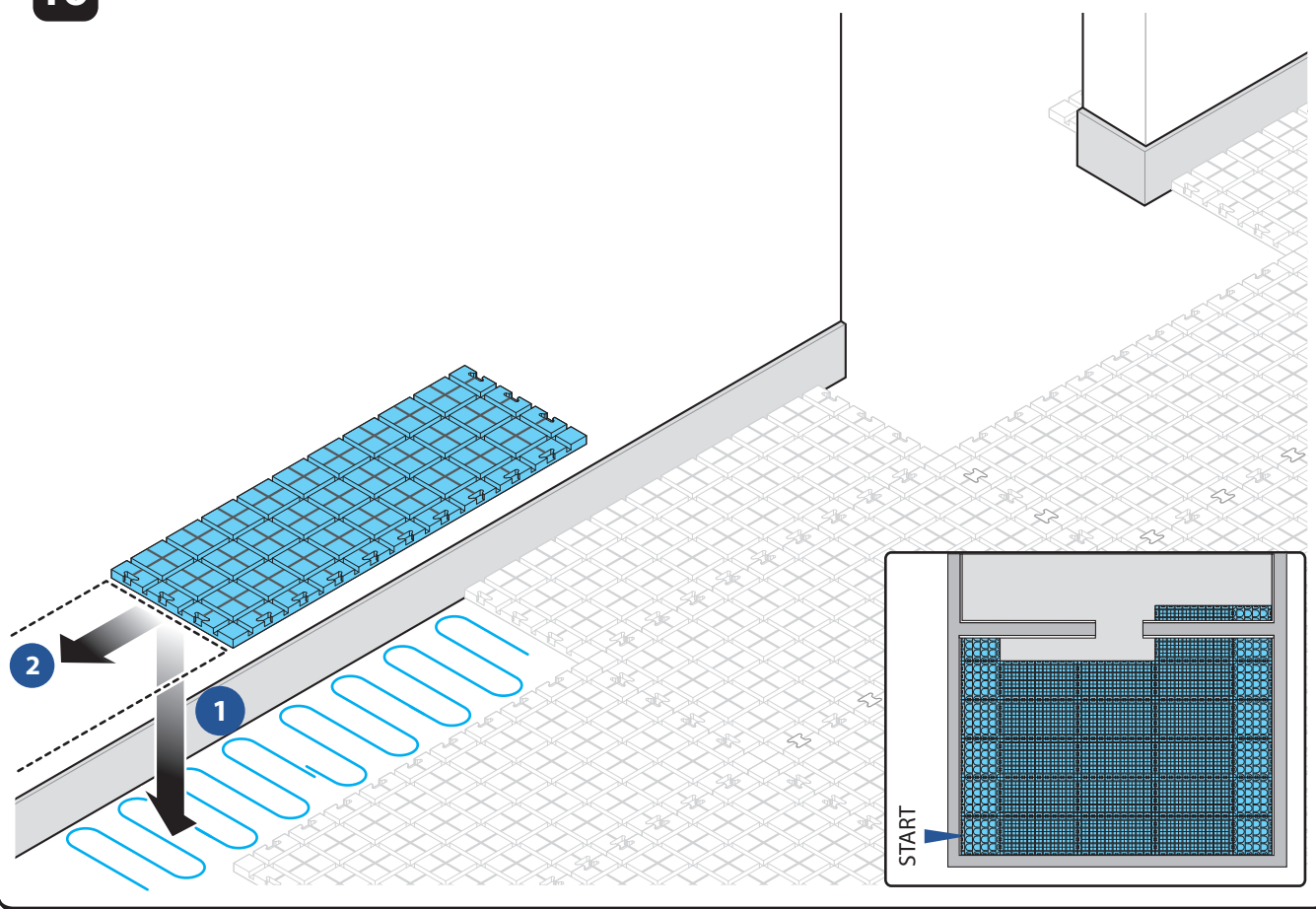
14



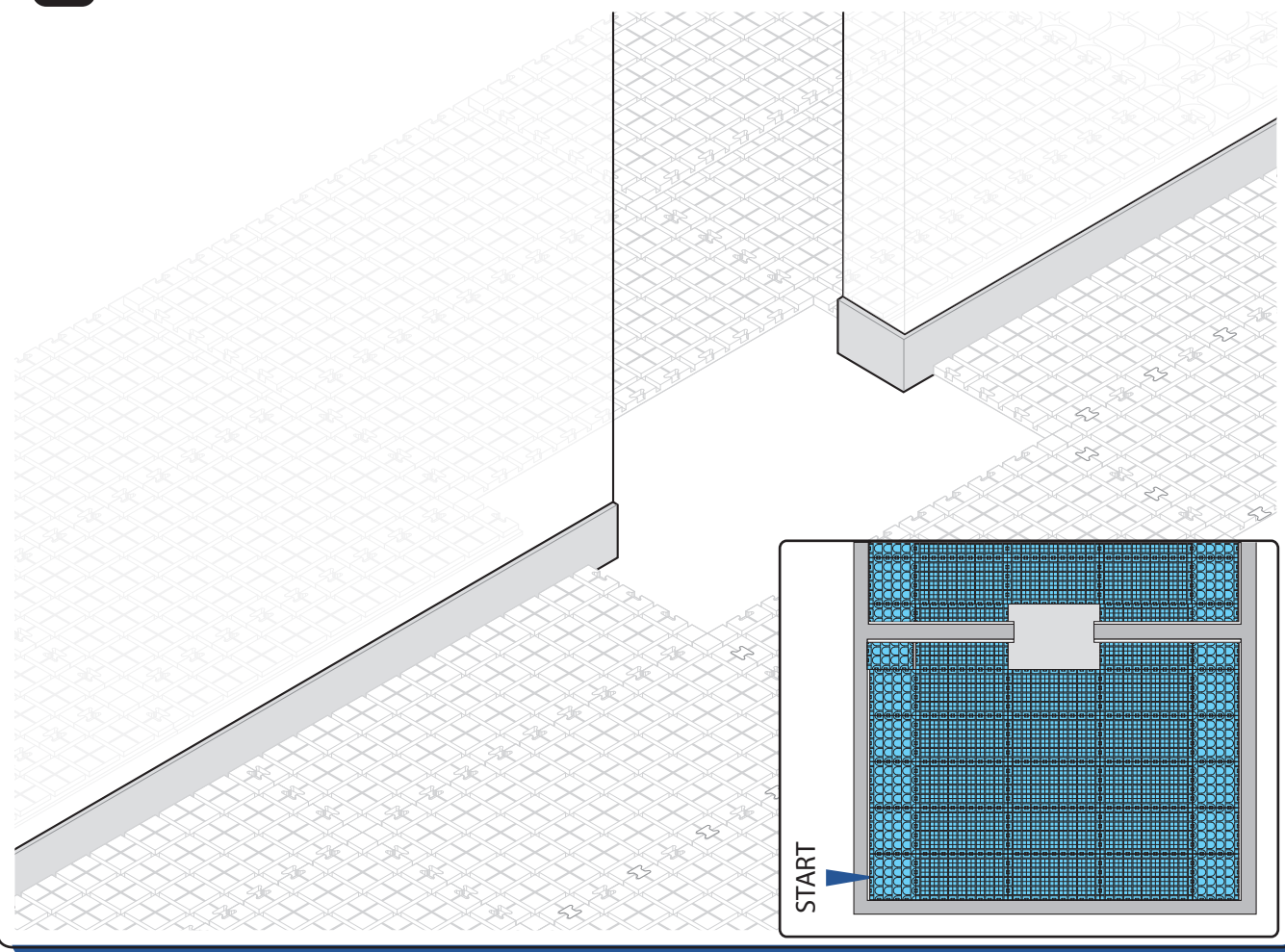




16

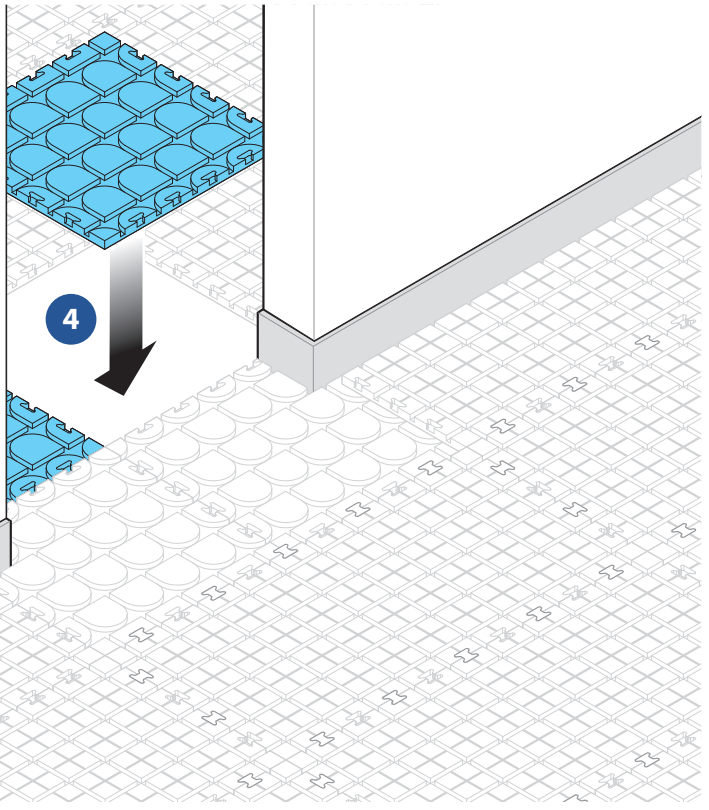
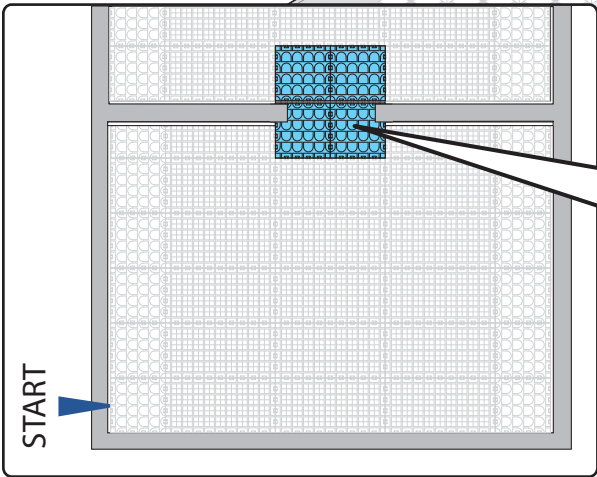
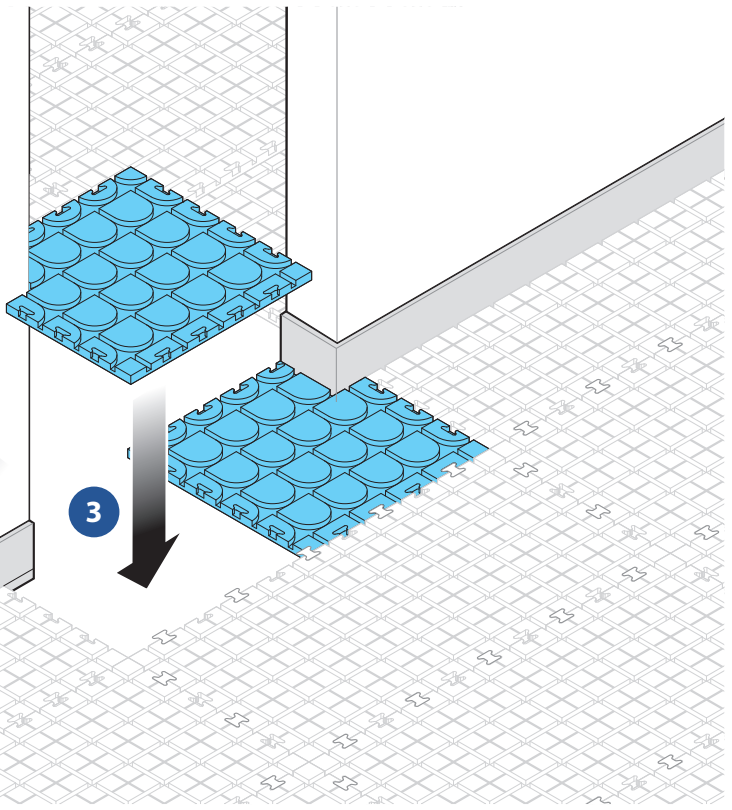


17

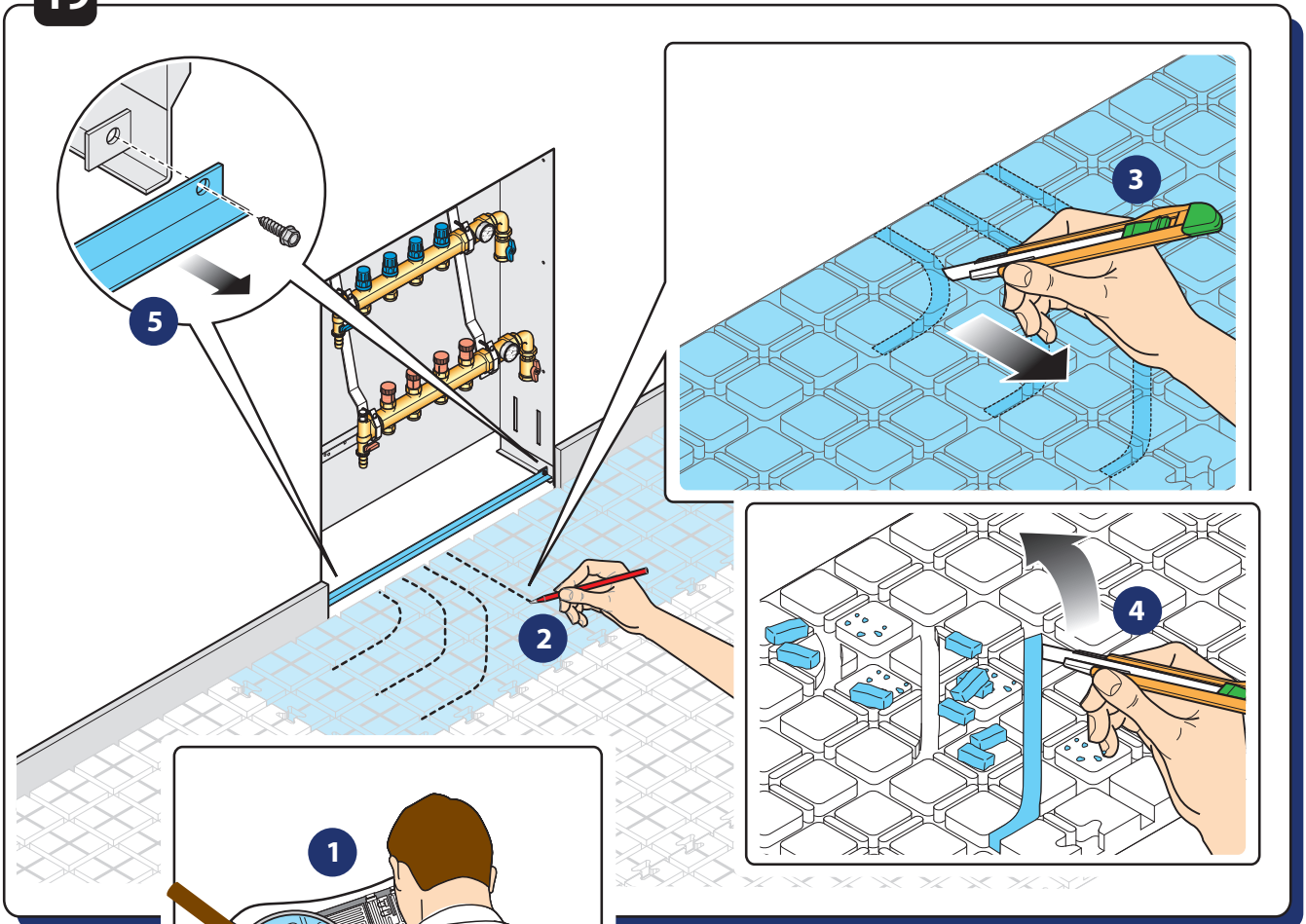




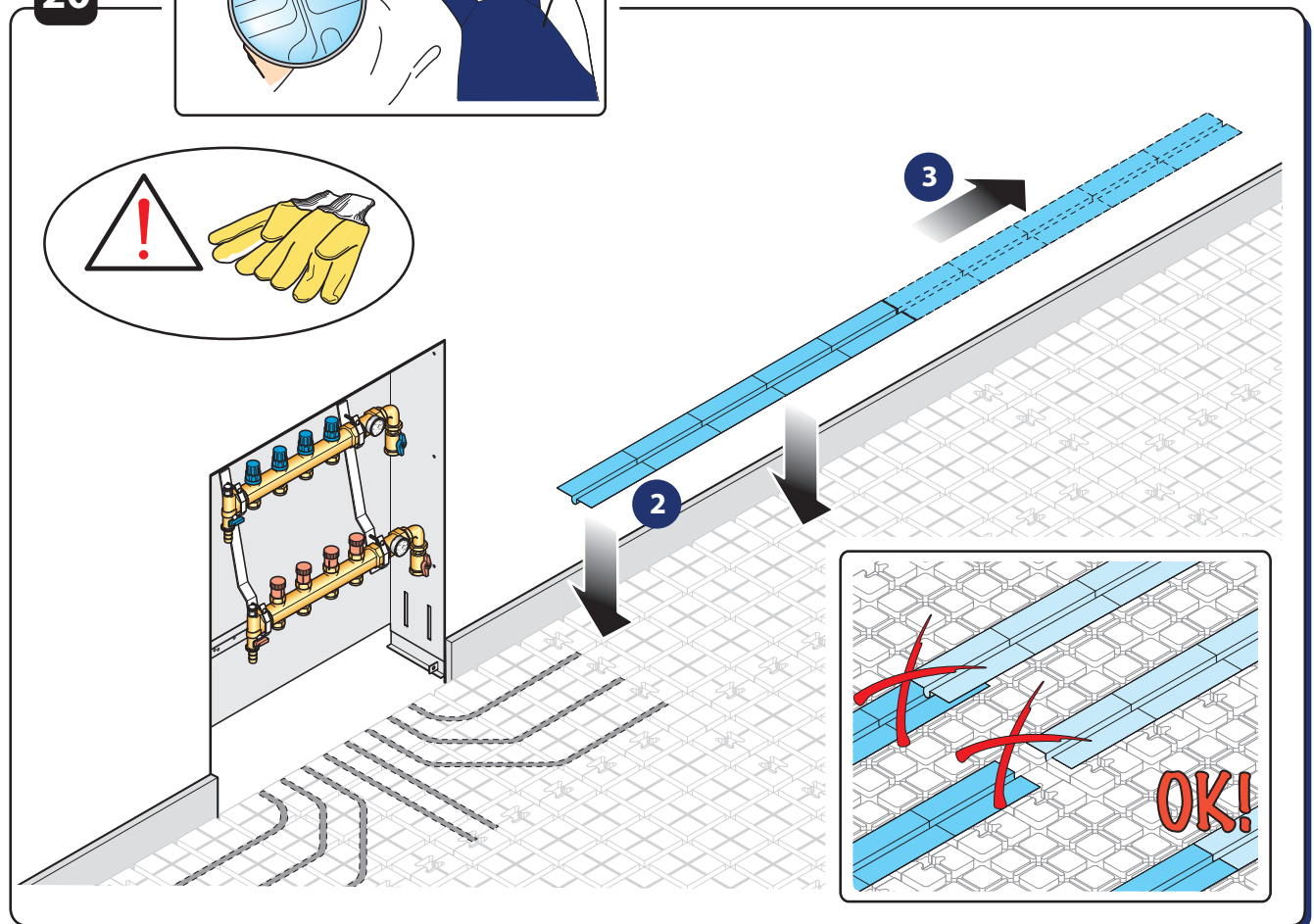
18



19

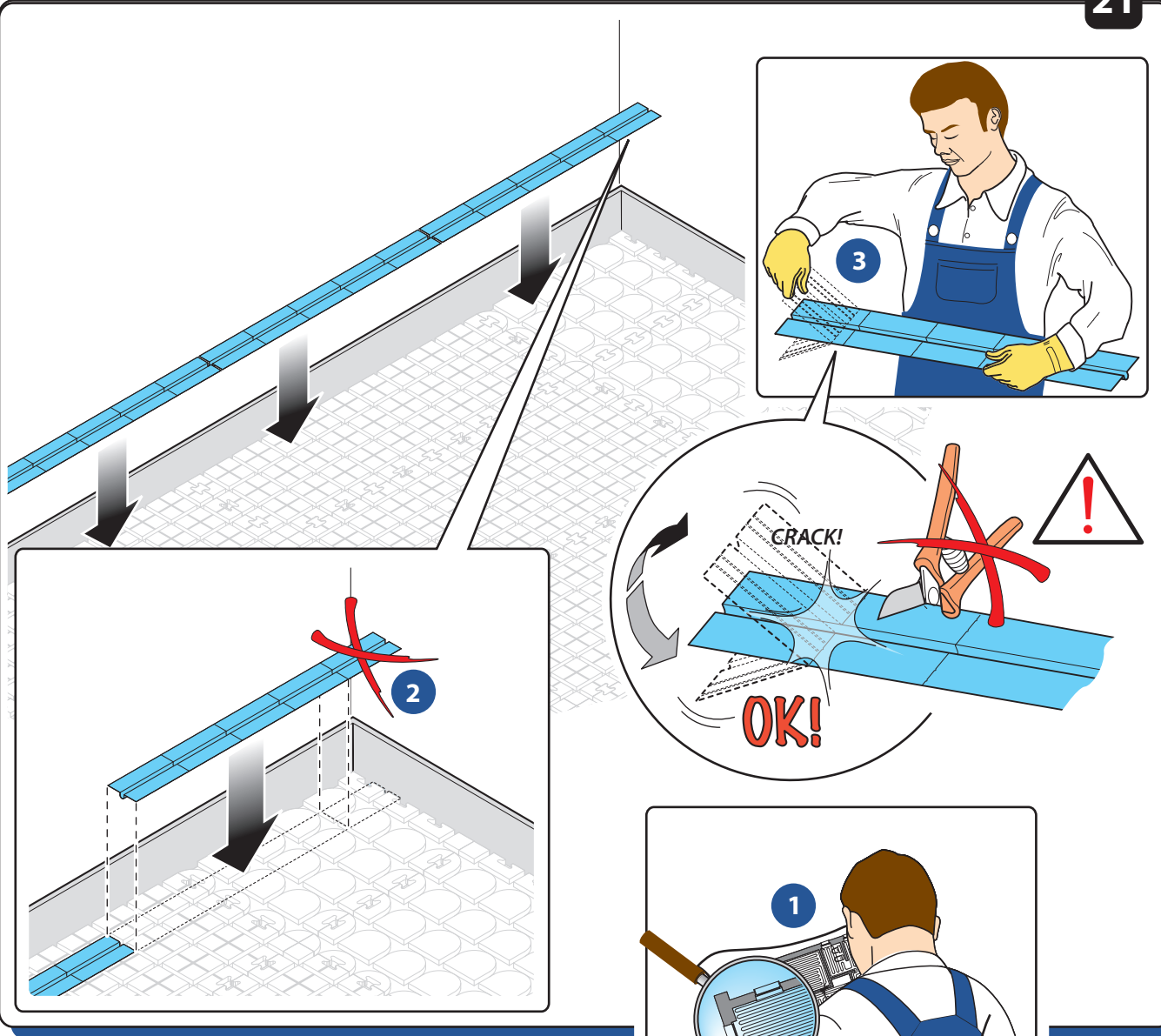


20

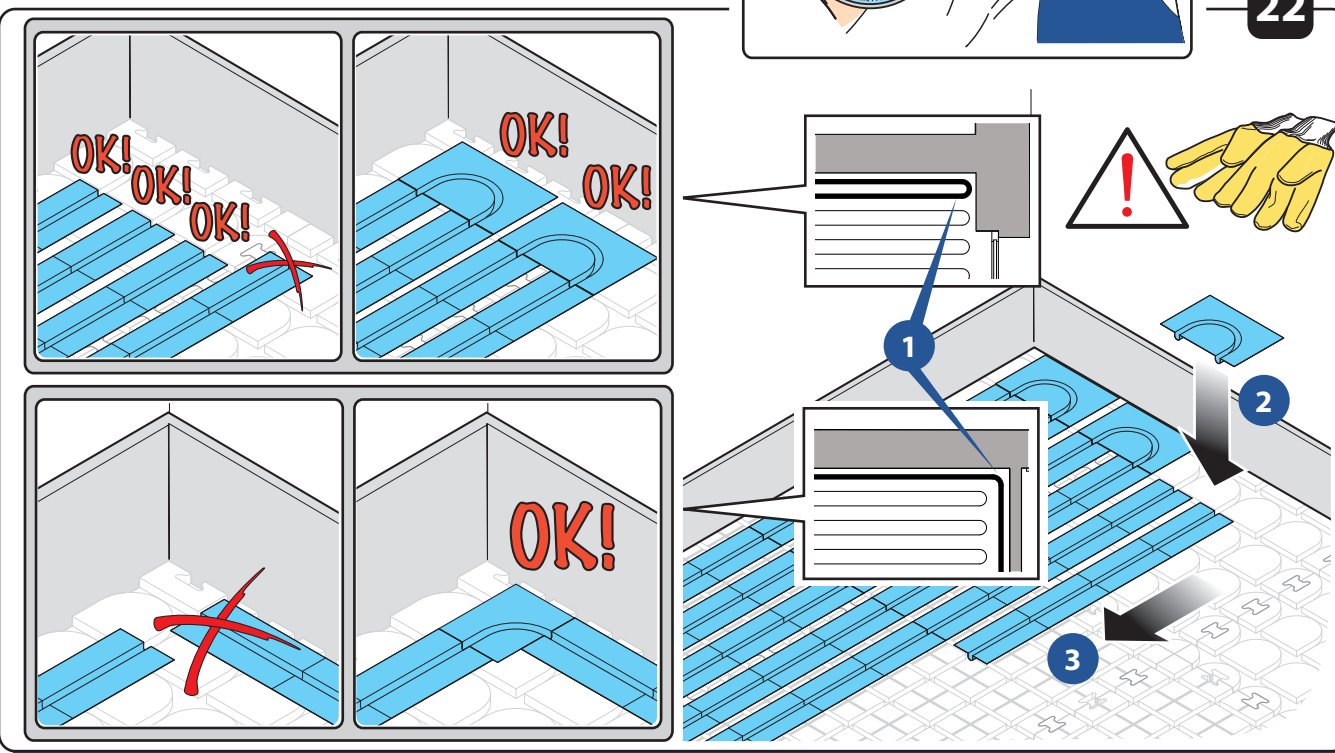




21

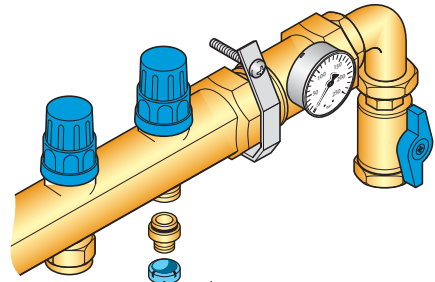
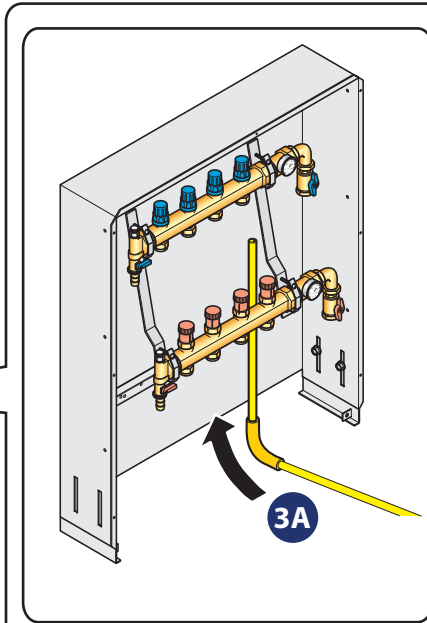
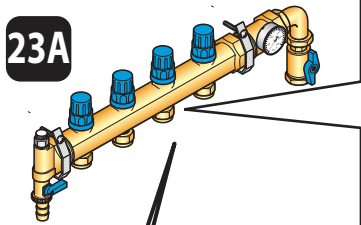


22

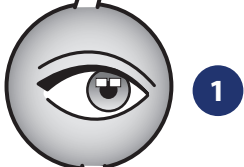


CONTROL
TOP-CONTROL

23A

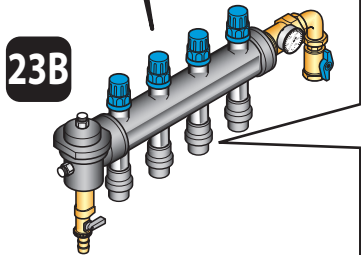


23A

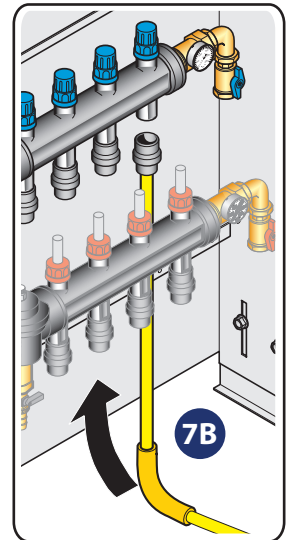
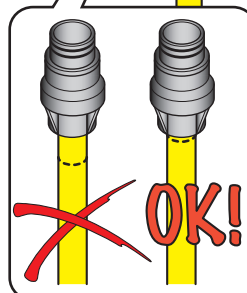
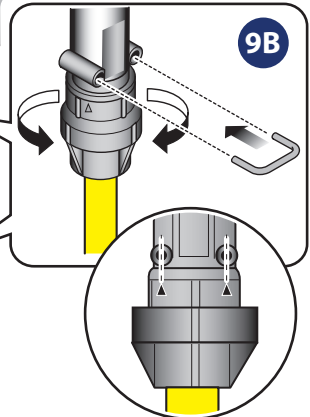
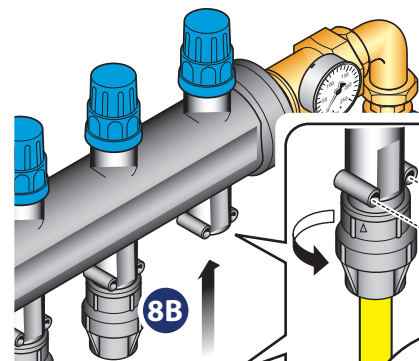
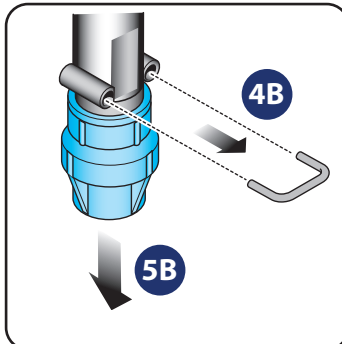
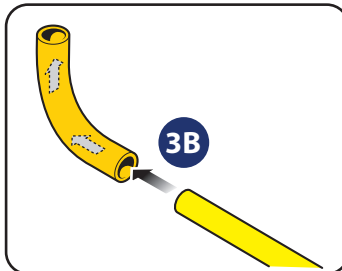
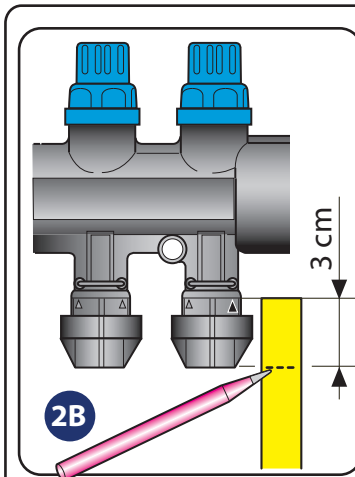


1

23B



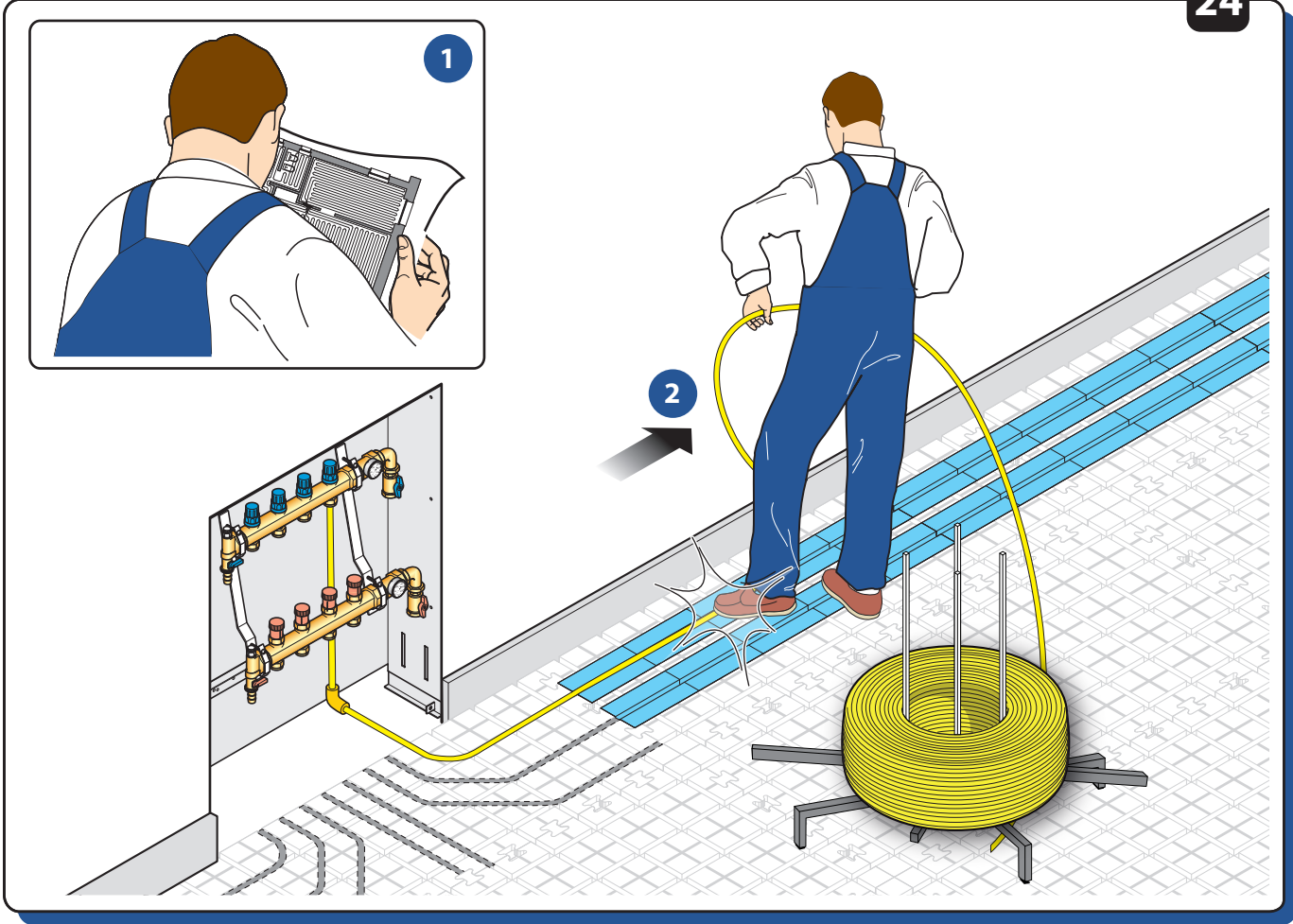
TOP-COMPOSIT



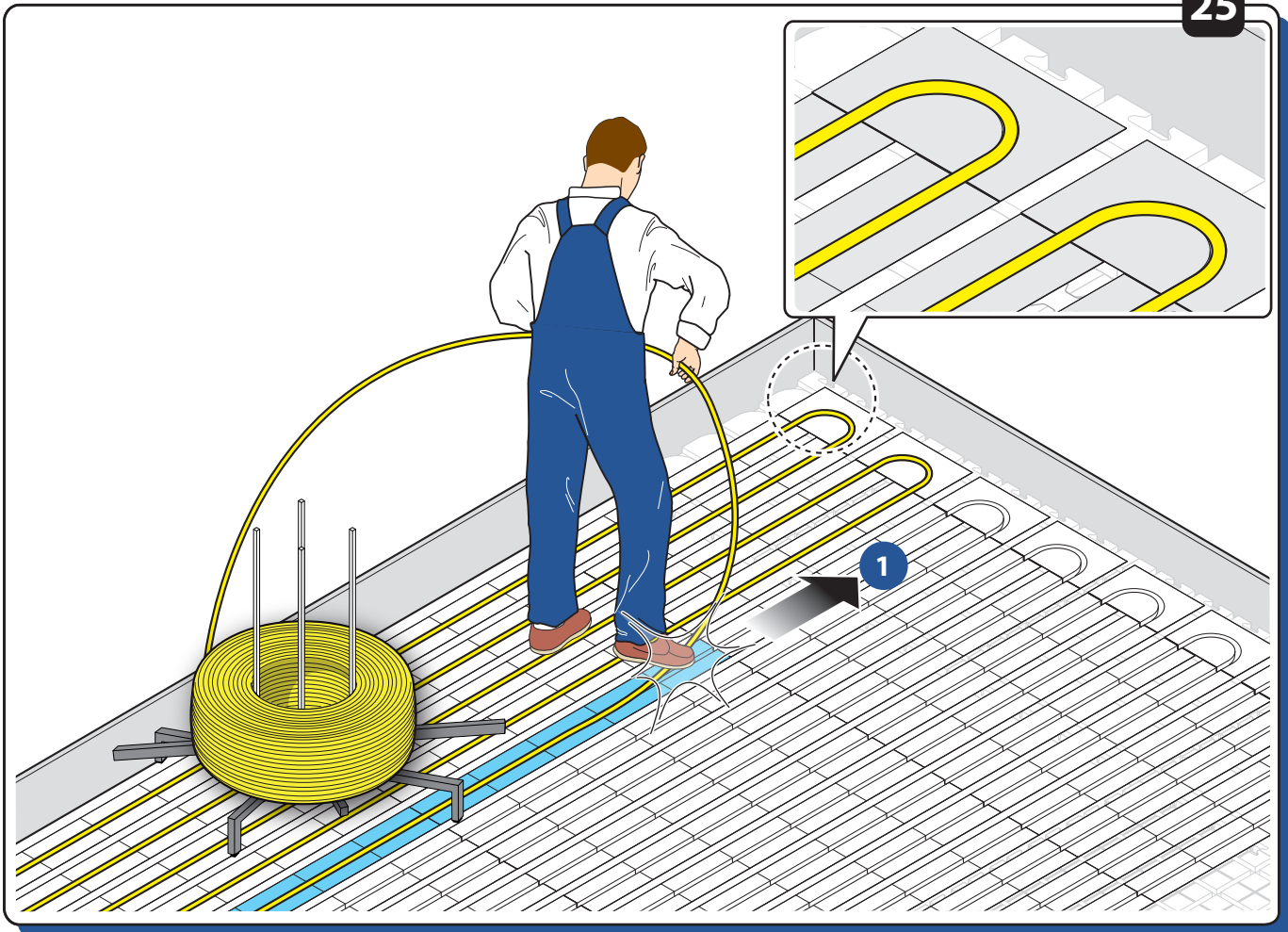
23B

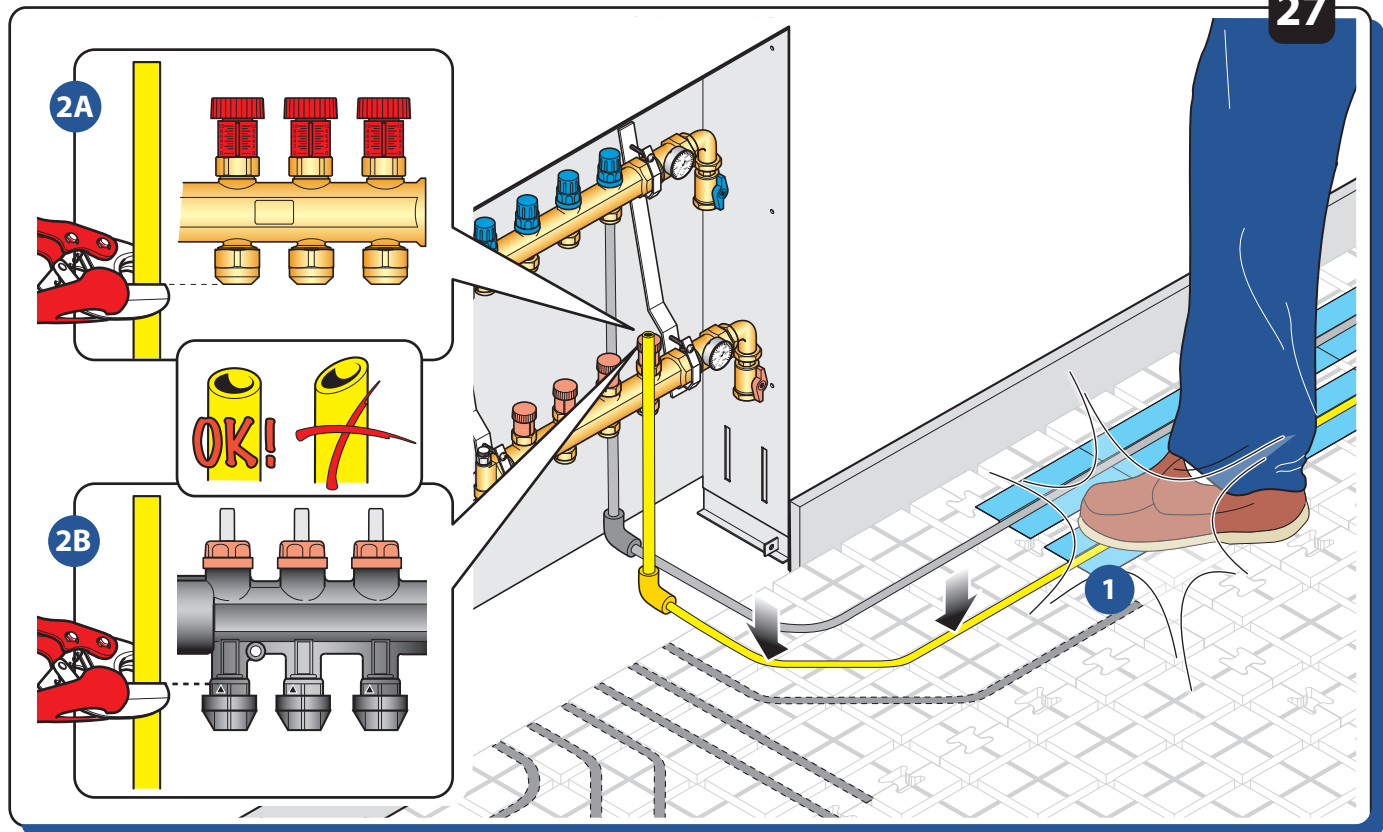
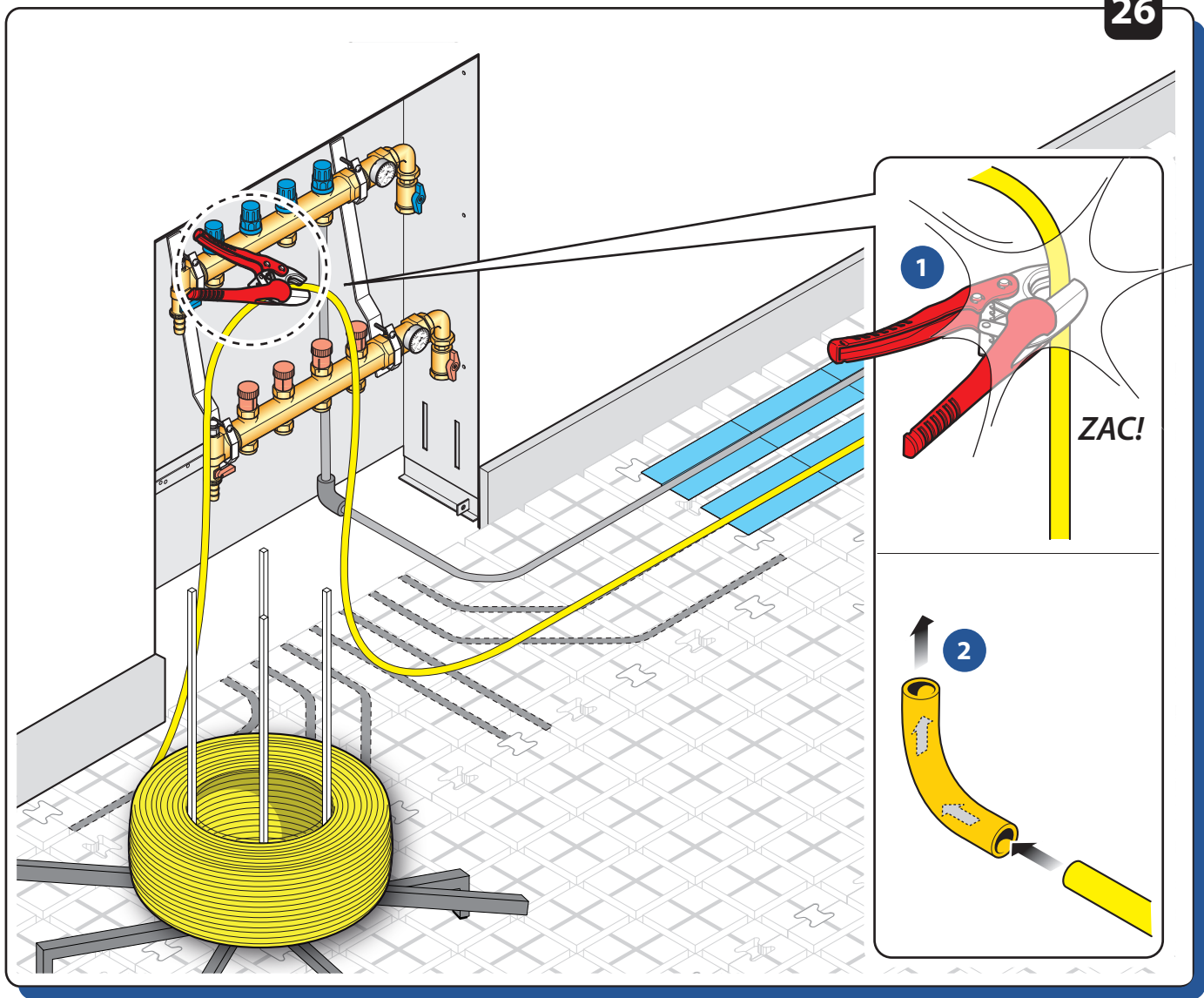


24



25

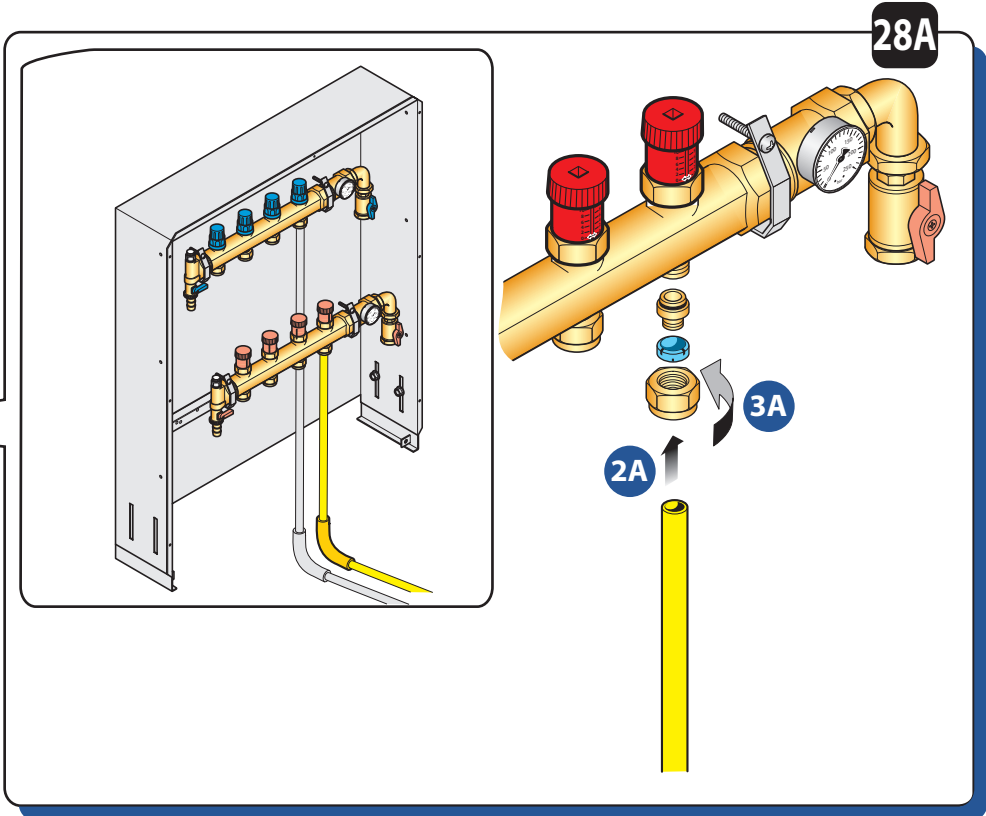






CONTROL
TOP-CONTROL

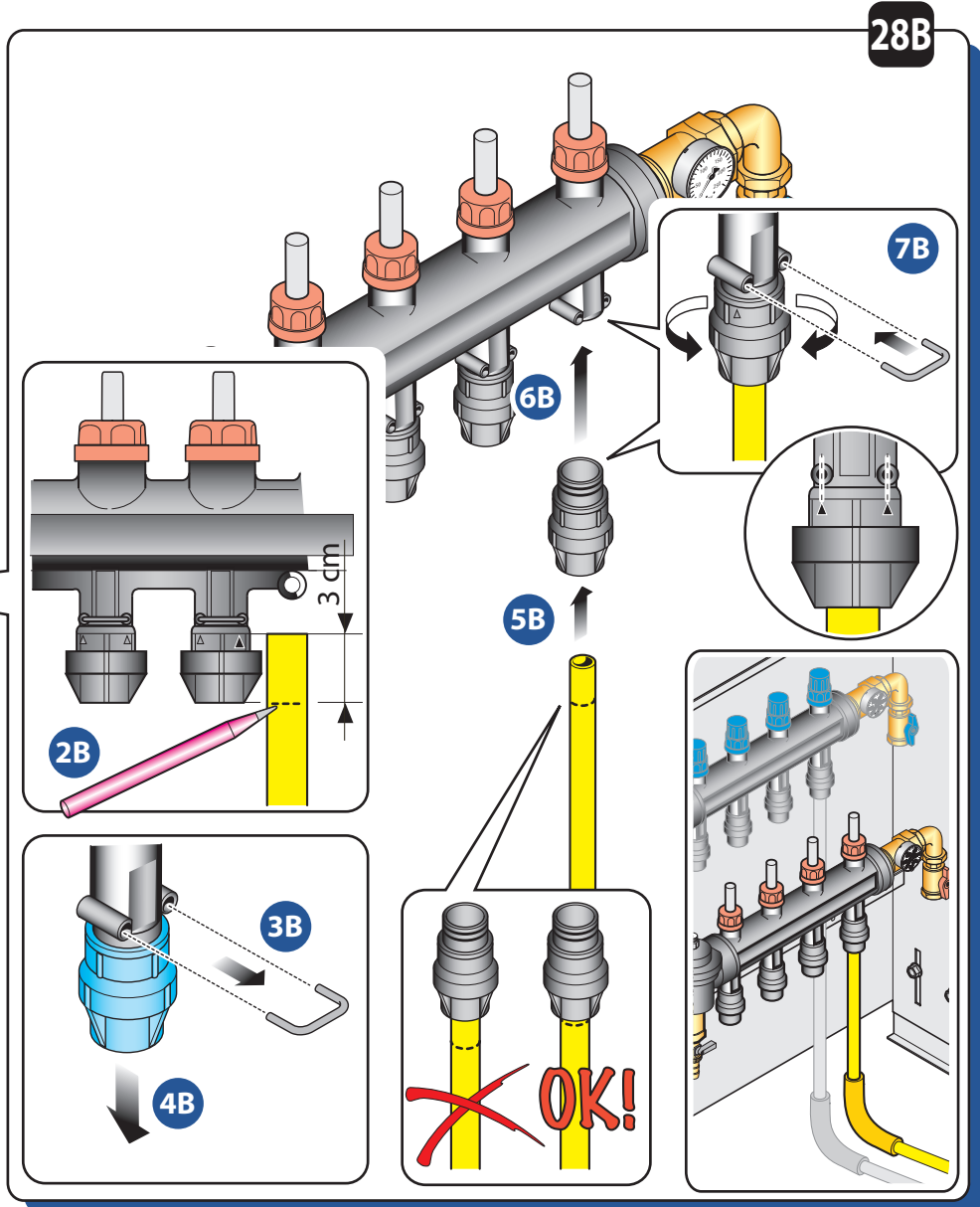
28A



1

28B

TOP-COMPOSIT



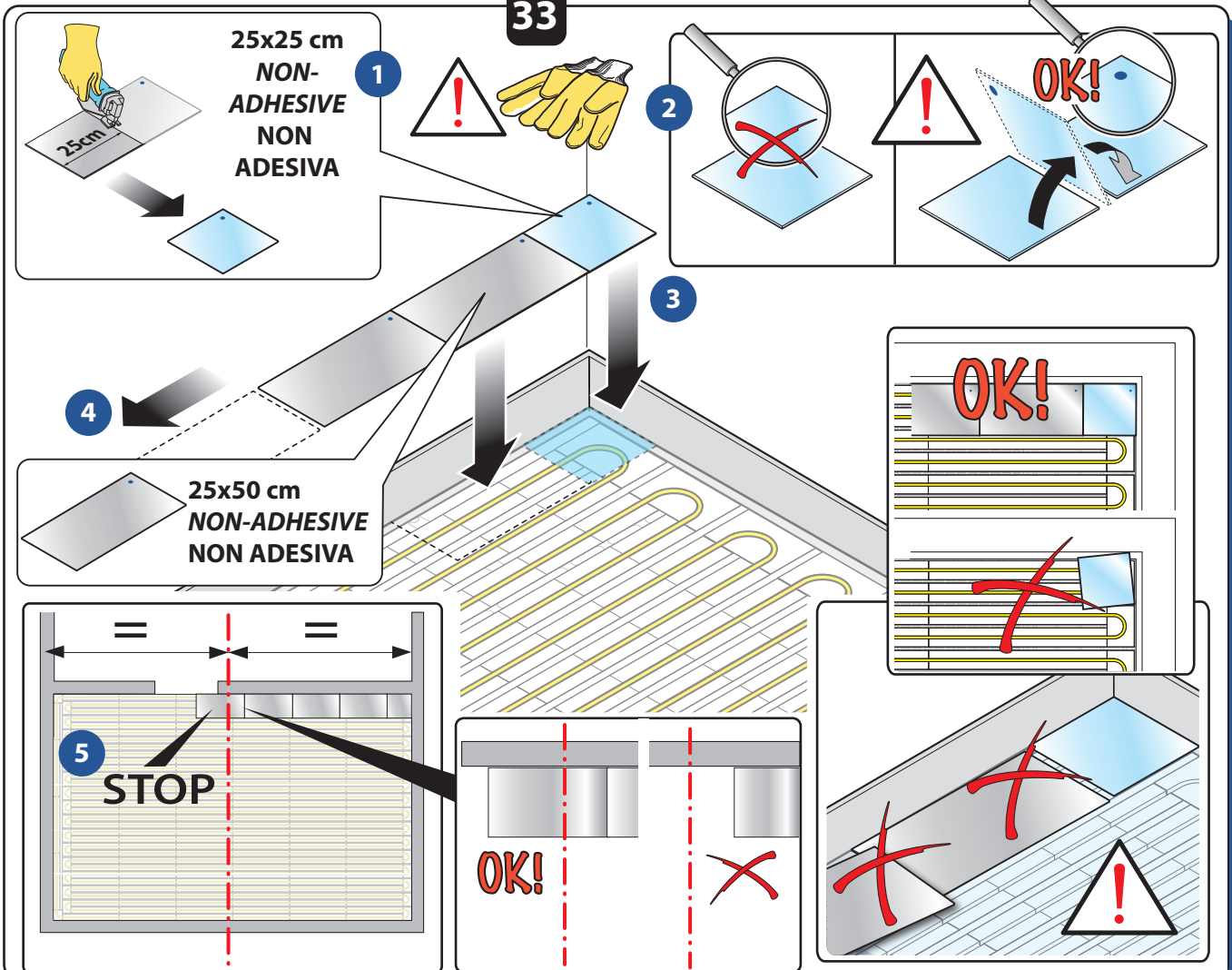


3.7 **INSTALLATION OF THE WEIGHT ZINC-PLATED STEEL PLATES**
POSA DELLE LASTRE IN ACCIAIO ZINCATO

32



33



25x50 cm
NON-ADHESIVE
NON ADESIVA

1

25x25 cm
NON-ADHESIVE
NON ADESIVA

2

3

4
STOP

5

6

1

4

2

5

3

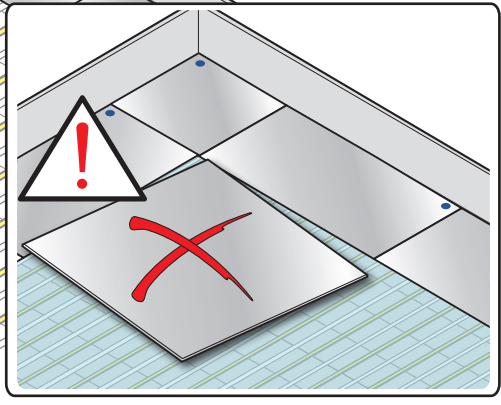
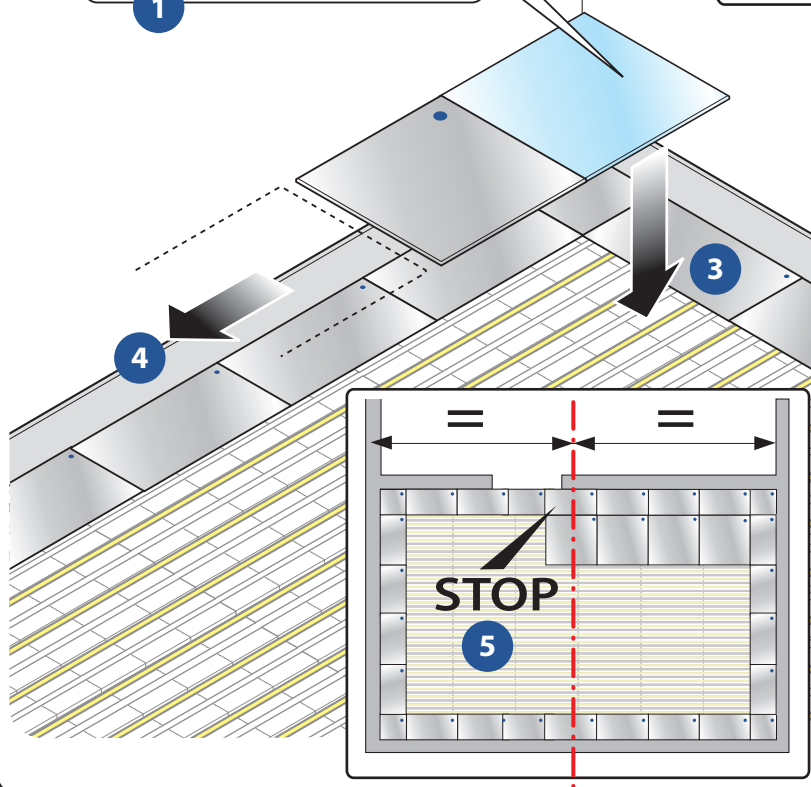
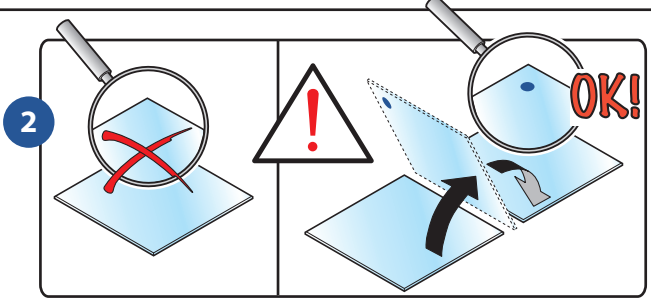
7



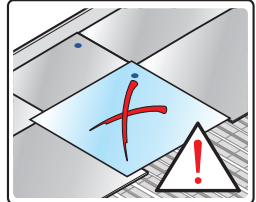
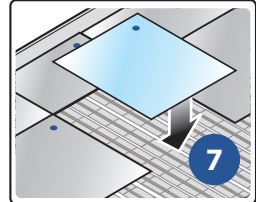
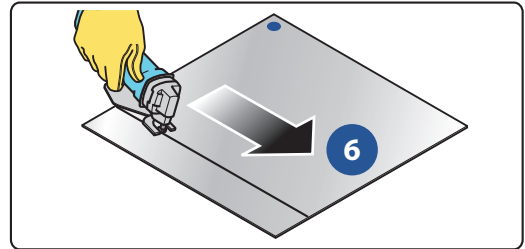
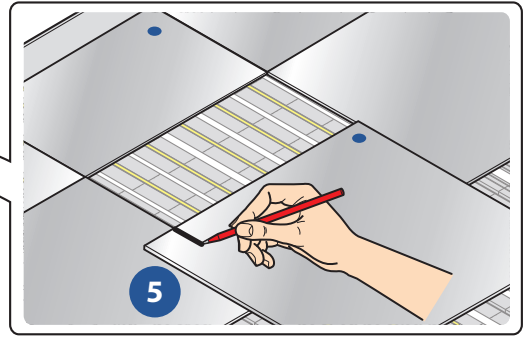
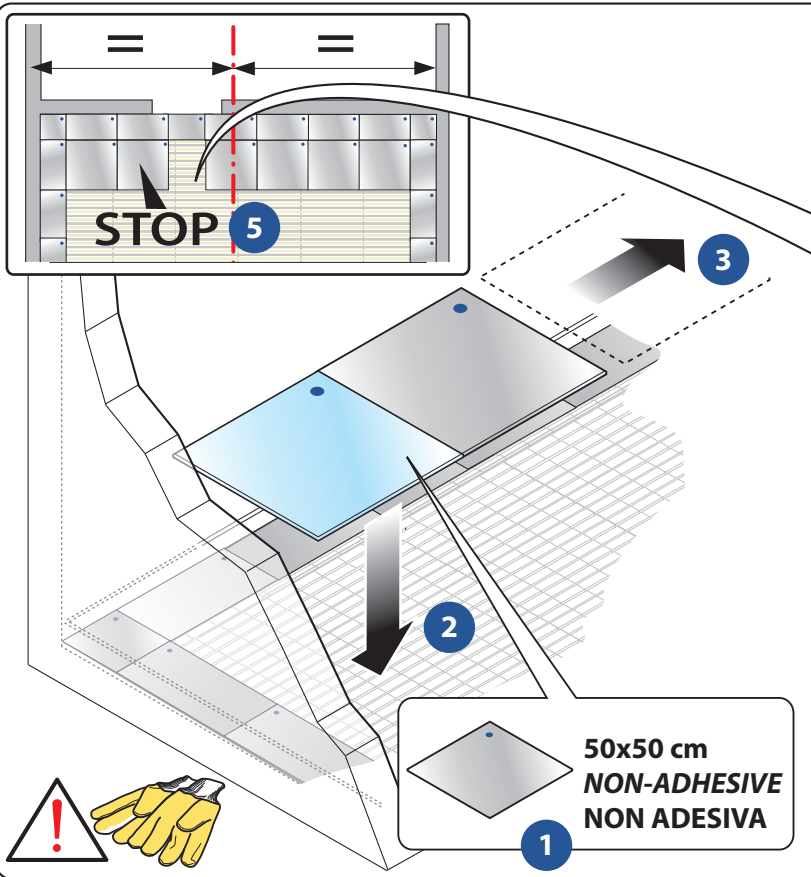
36

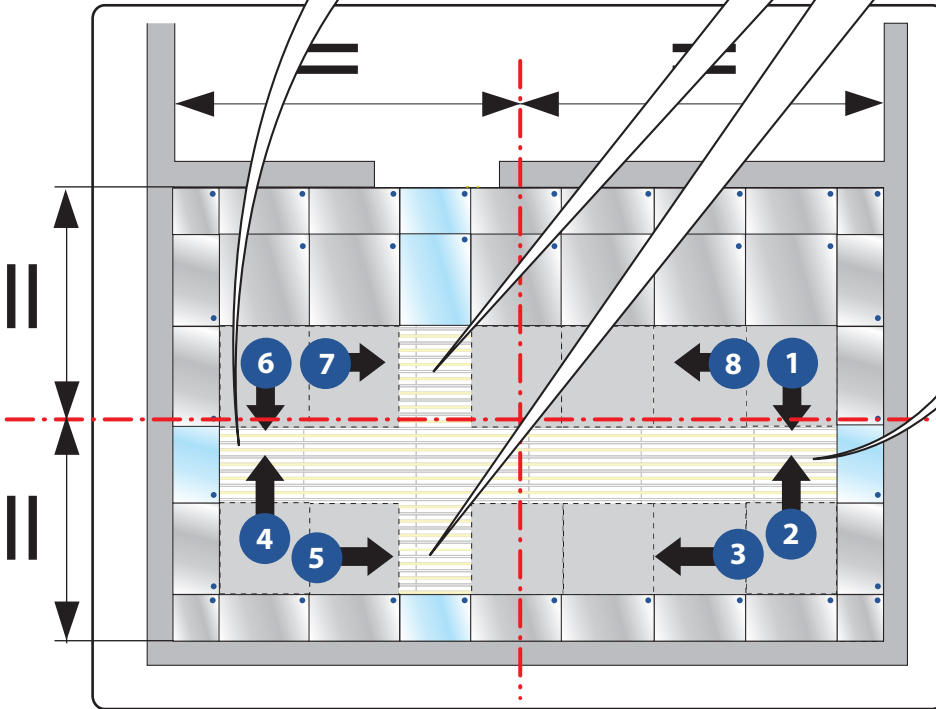
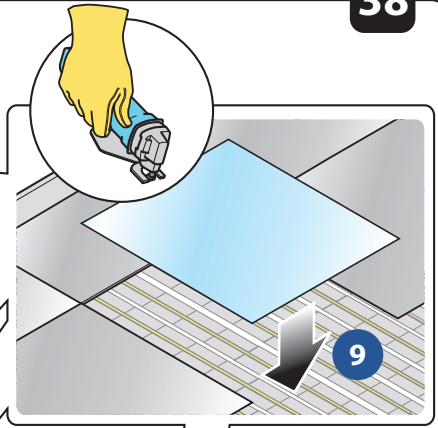
50x50 cm
NON-ADHESIVE
NON ADESIVA

1



37

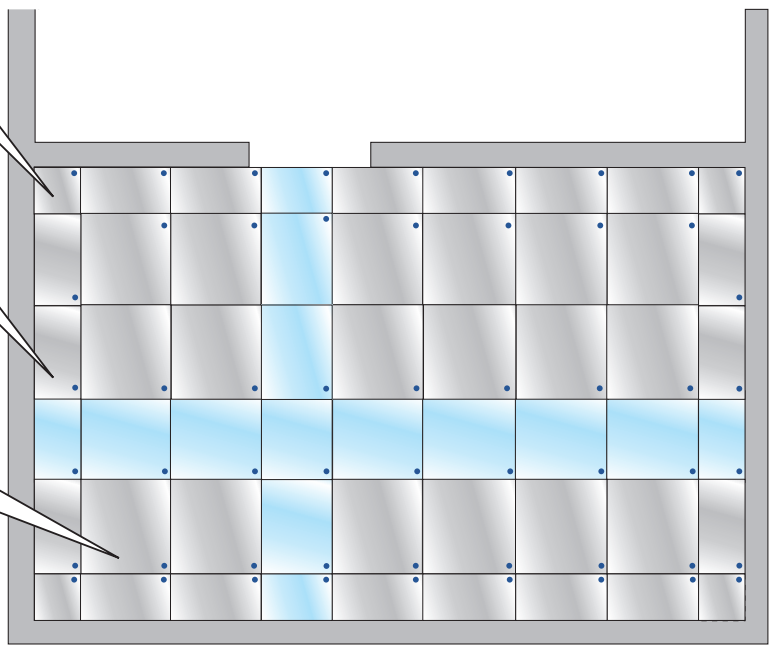




25x25 cm
NON-ADHESIVE
NON ADESIVA

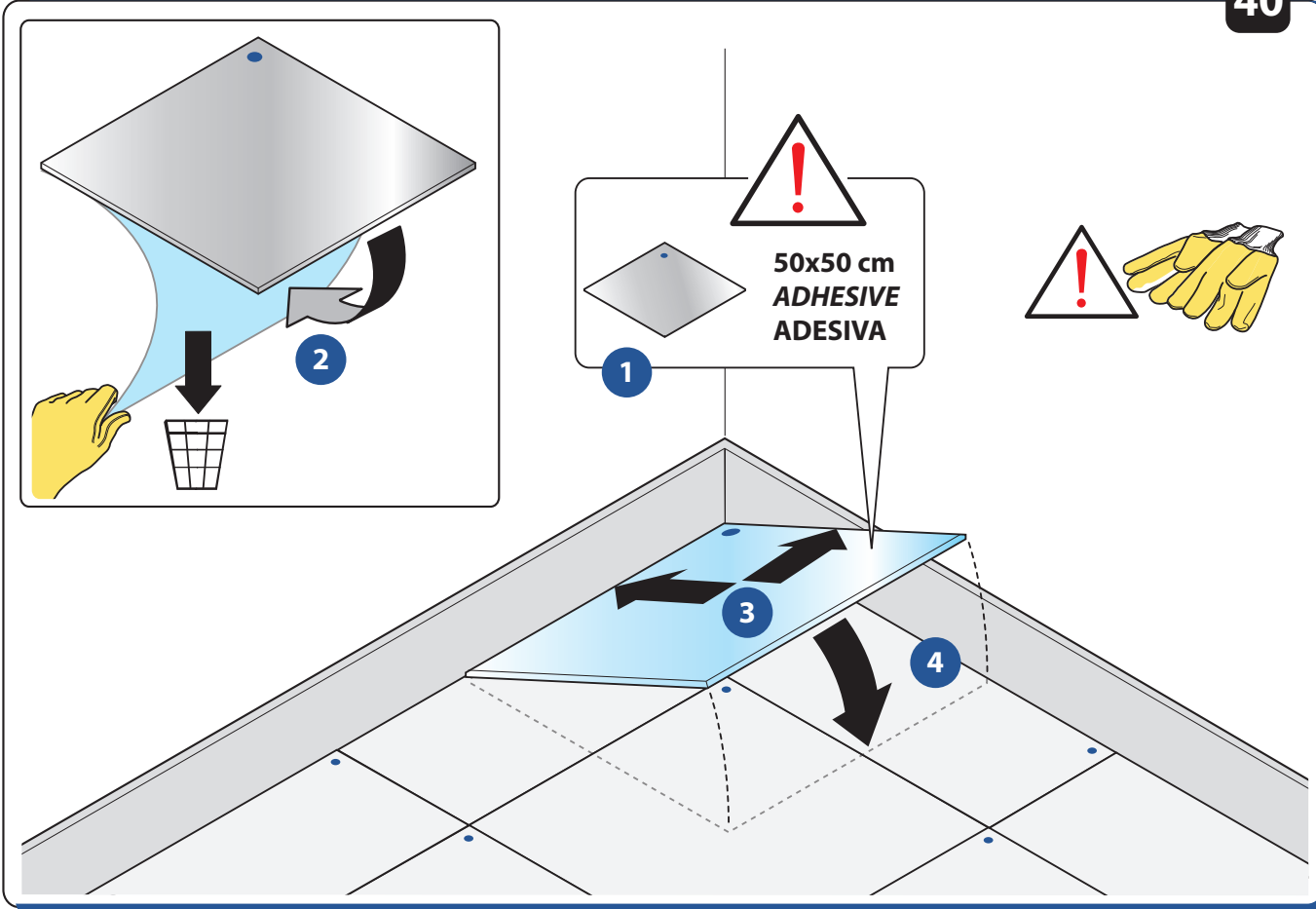
25x50 cm
NON-ADHESIVE
NON ADESIVA

50x50 cm
NON-ADHESIVE
NON ADESIVA

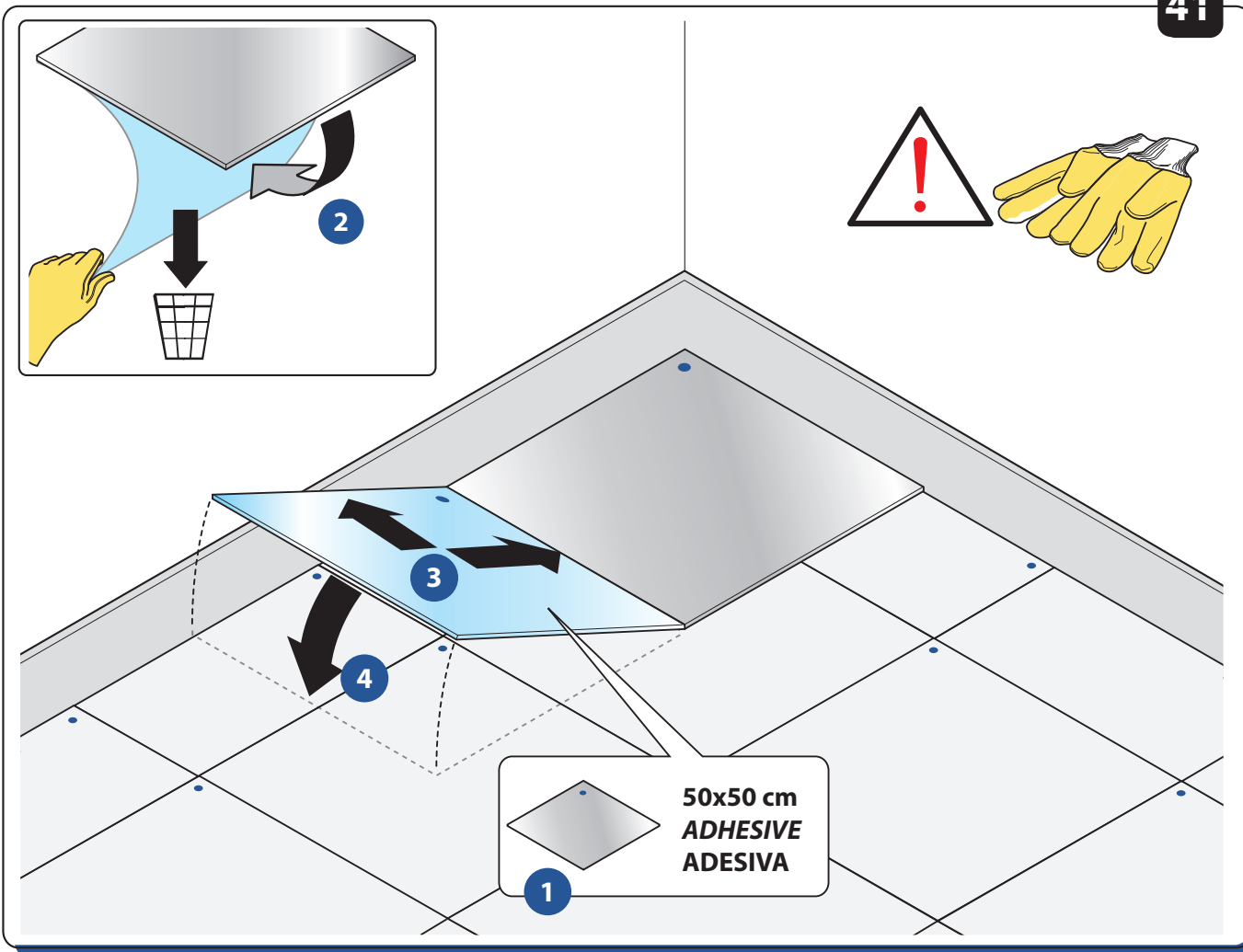


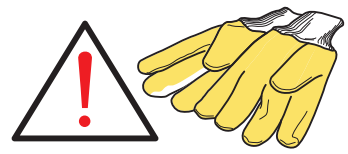
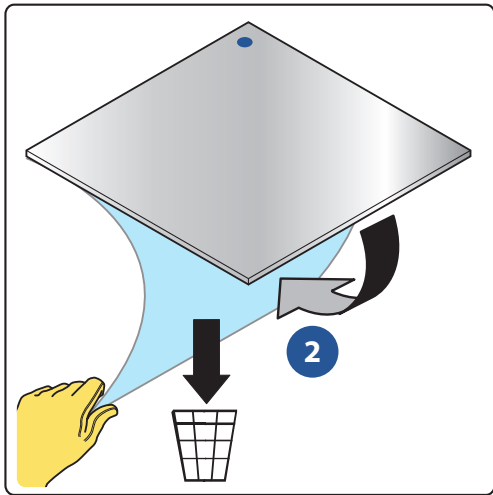


40



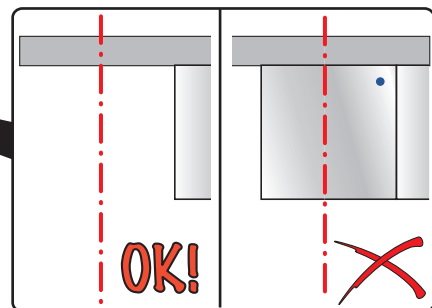
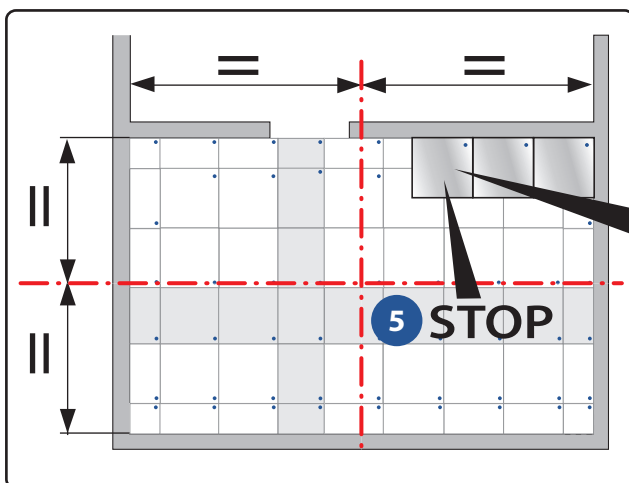
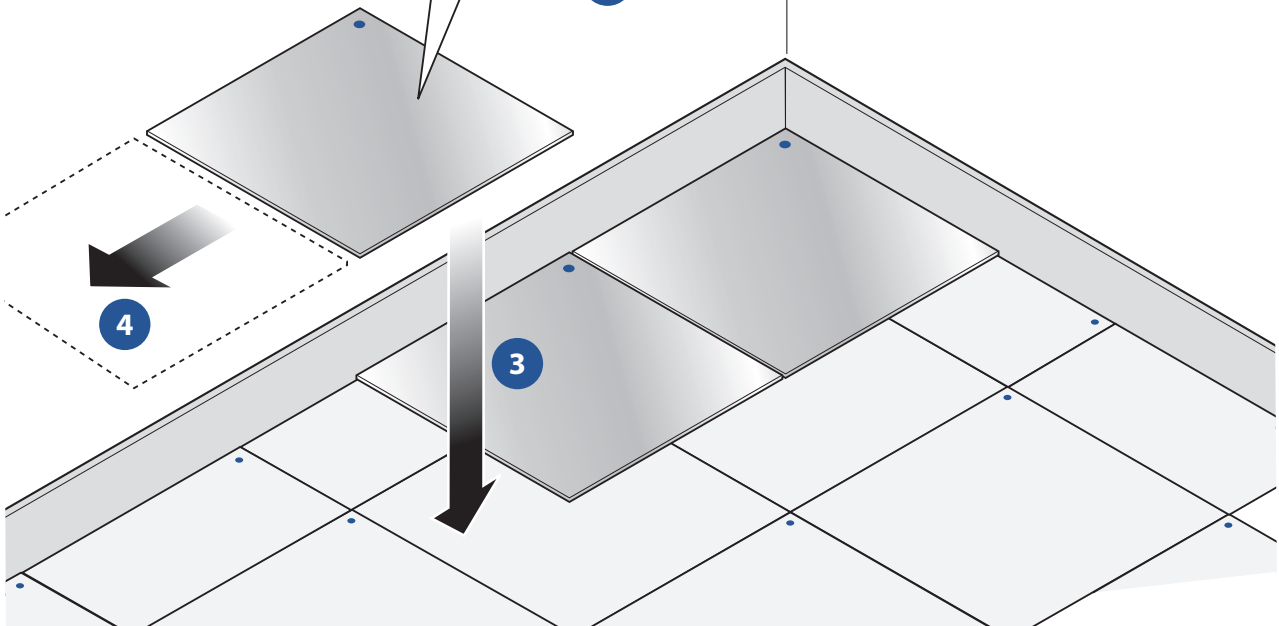
41





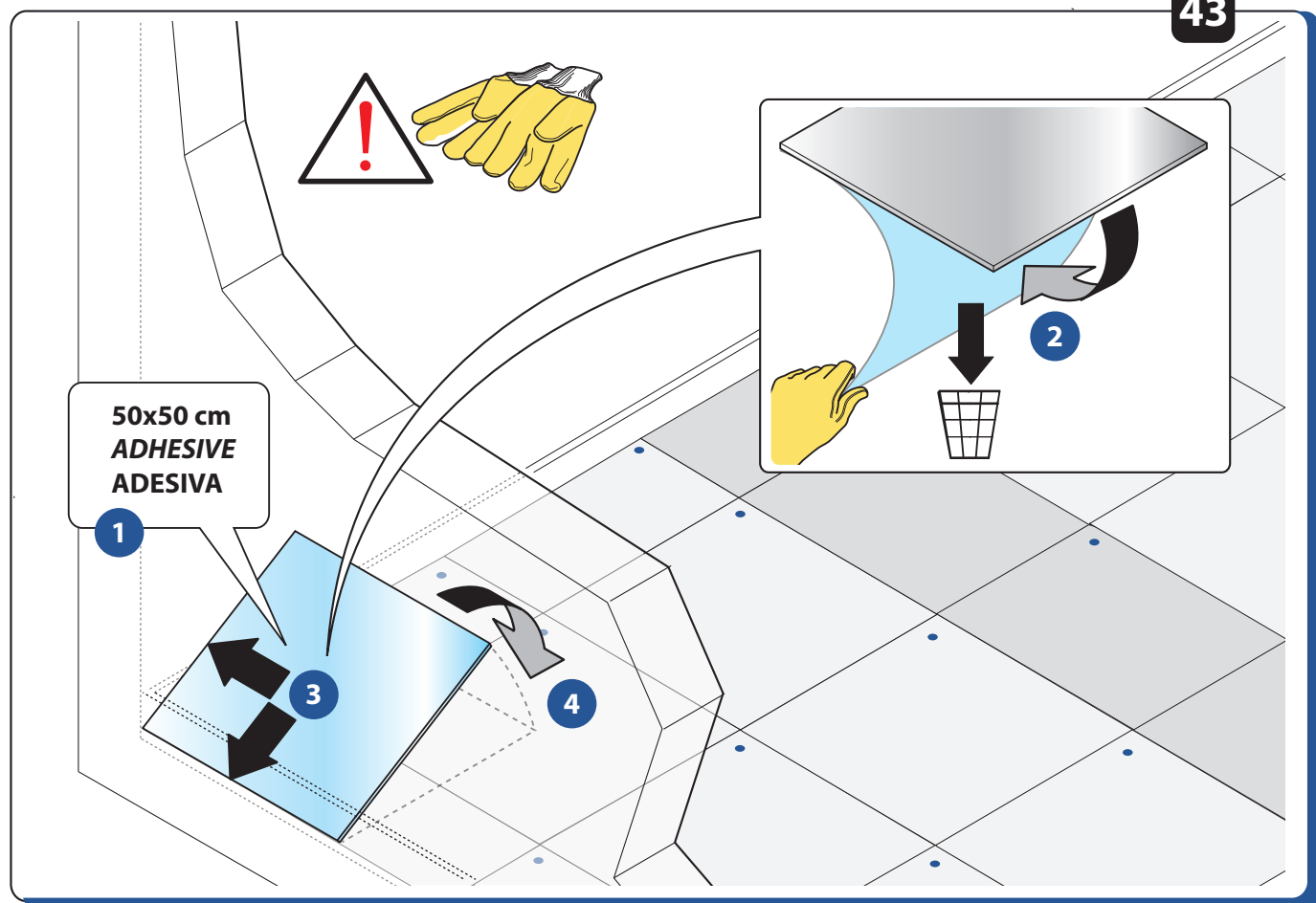
50x50 cm
ADHESIVE
ADESIVA

1

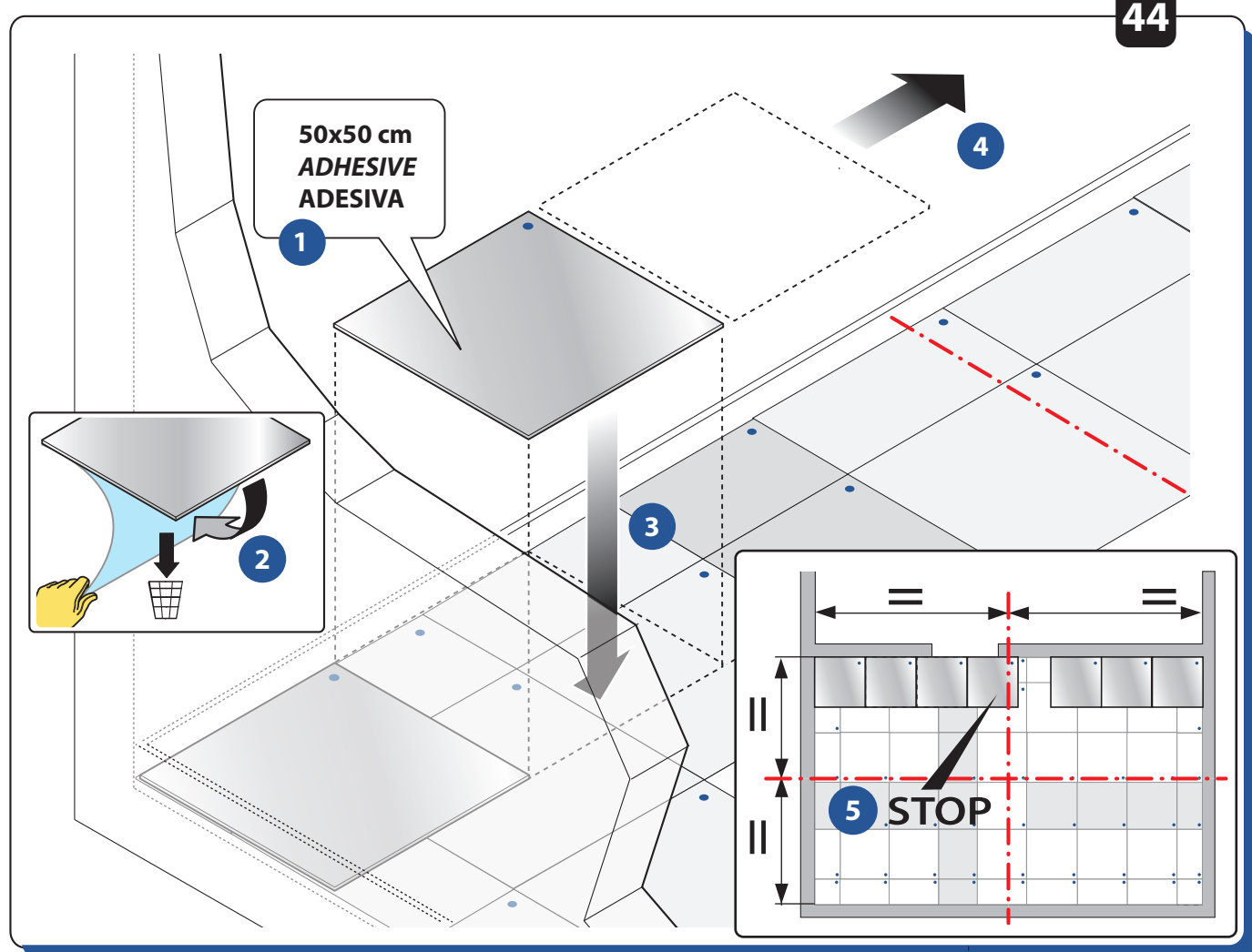




43



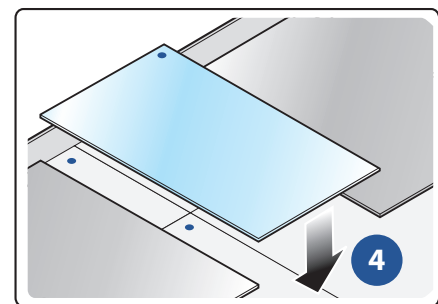
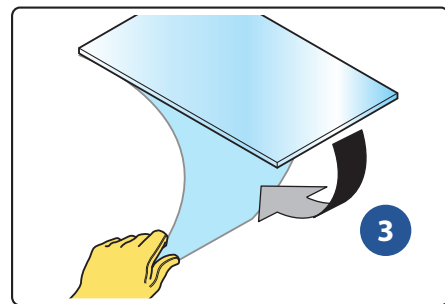
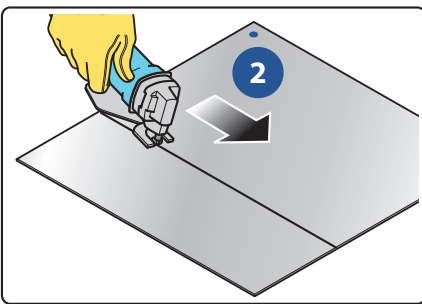
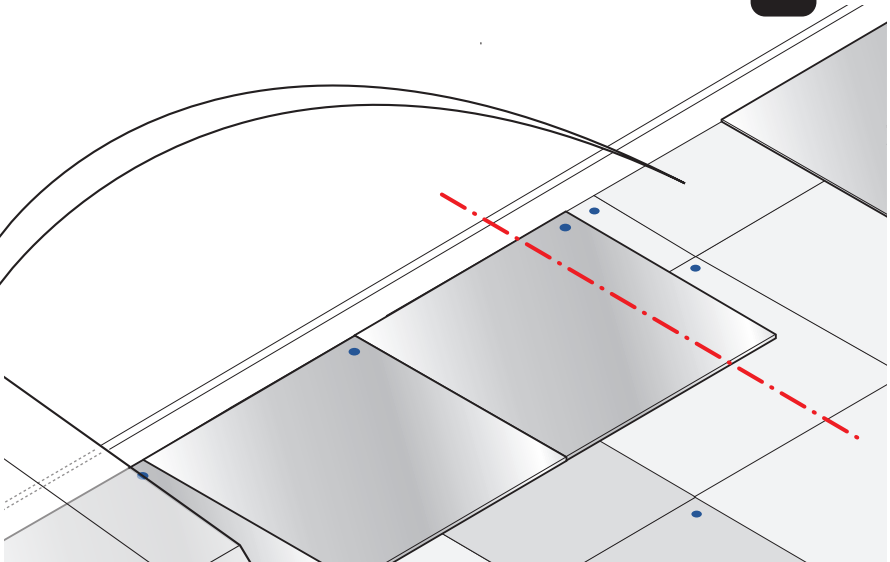
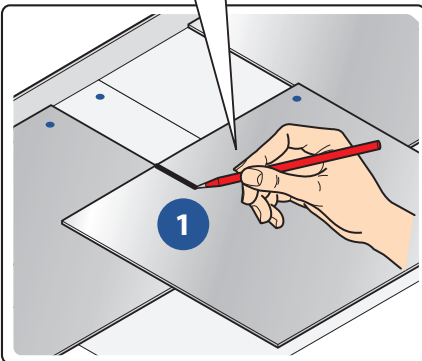
44



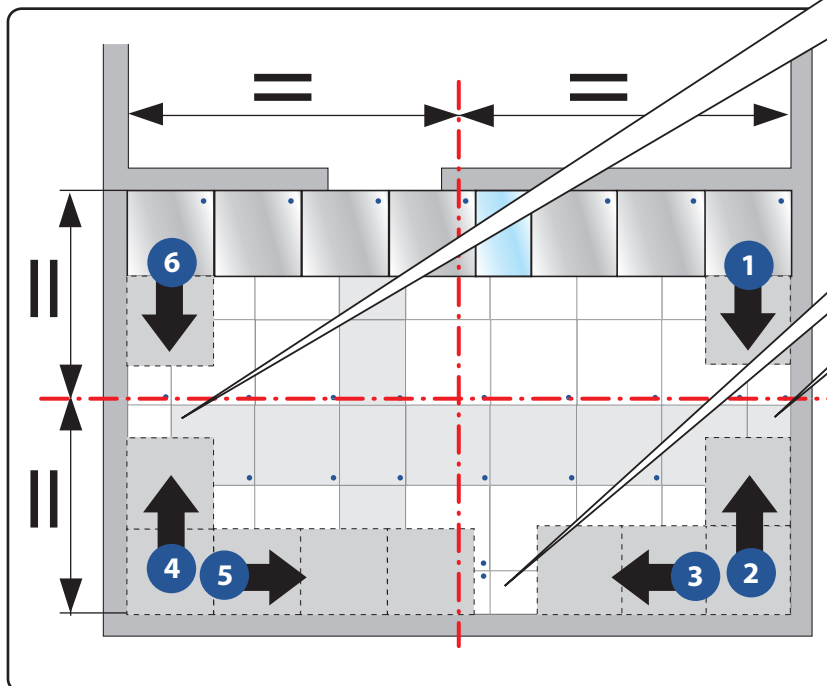
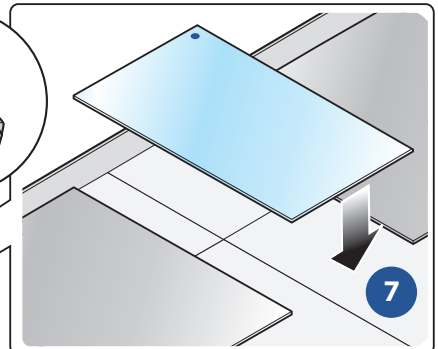
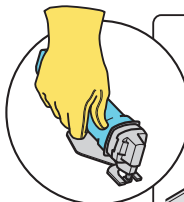
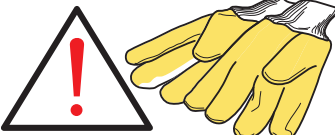


45

50x50 cm
ADHESIVE
ADESIVA

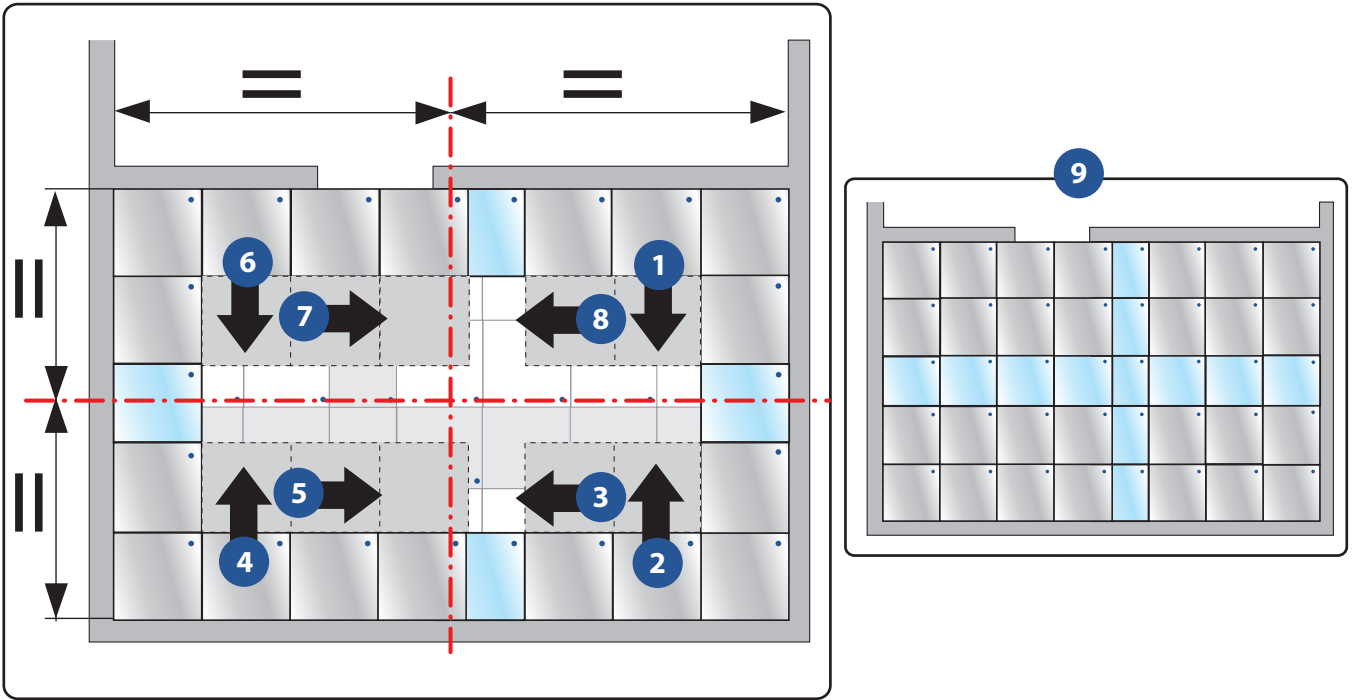


46

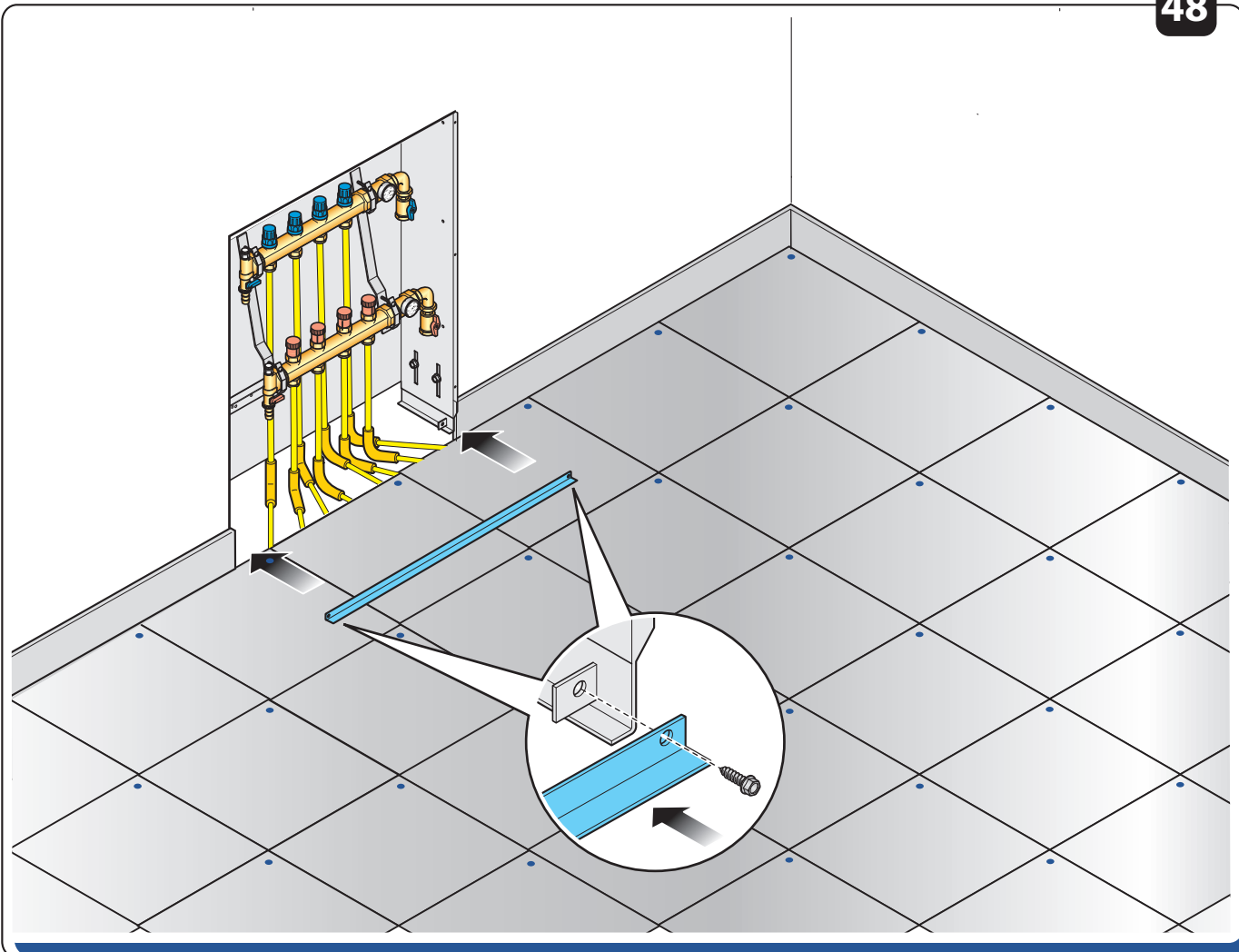




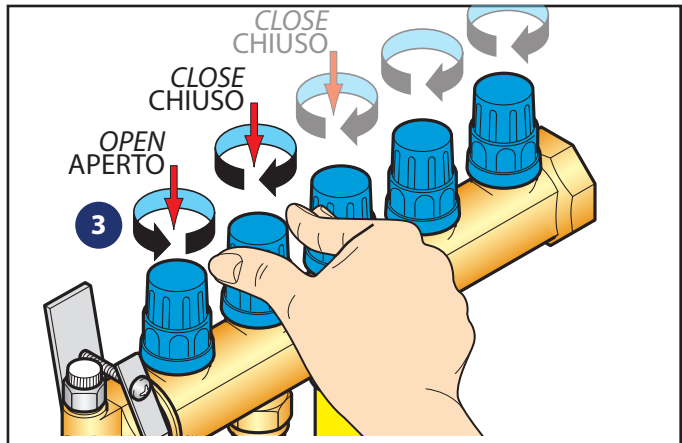
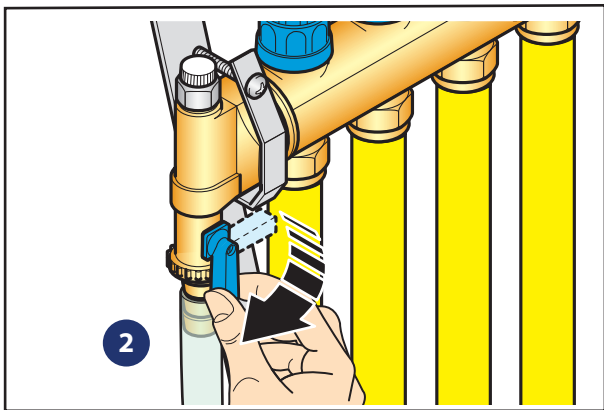
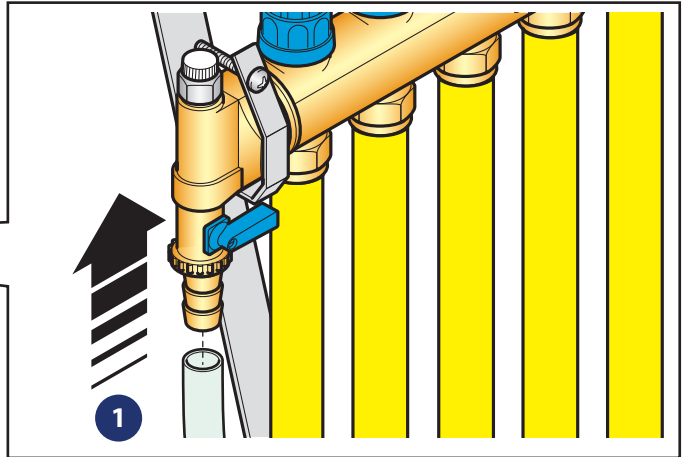
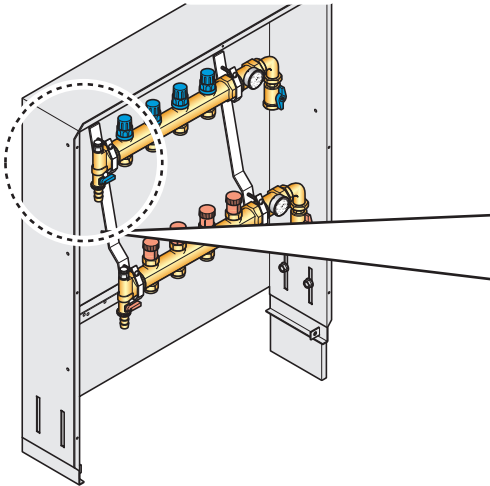
47



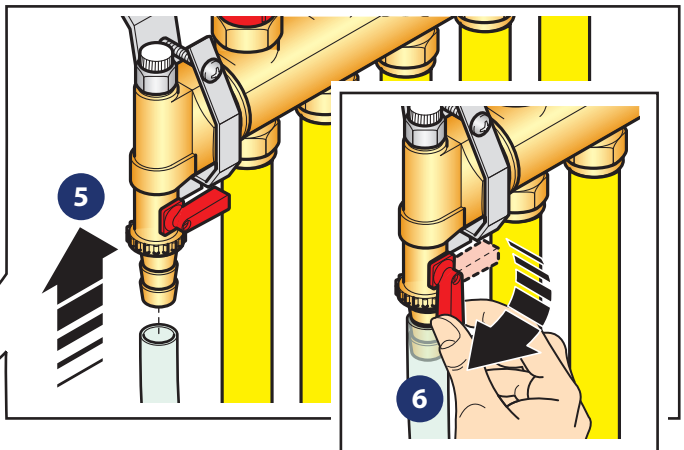
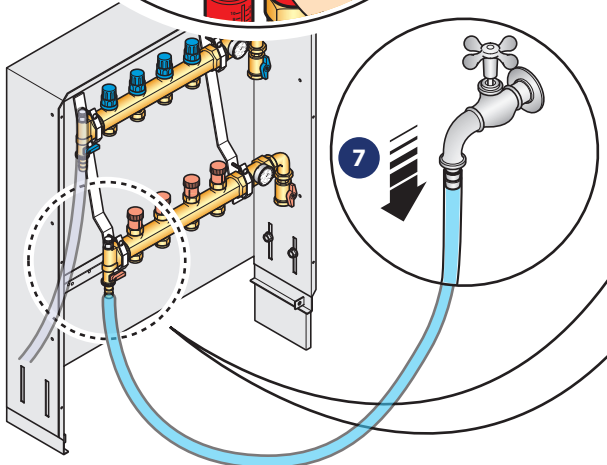
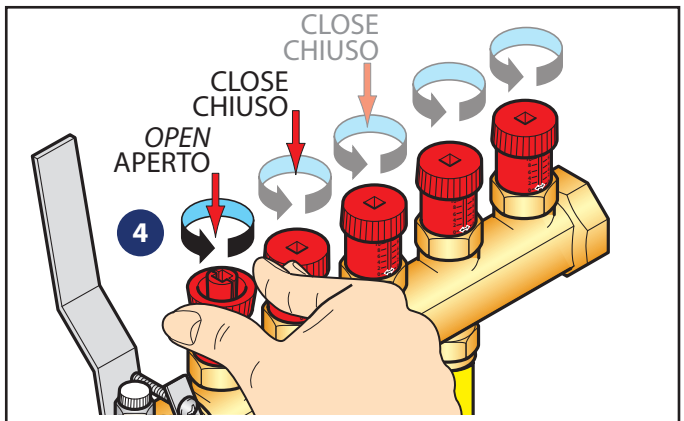
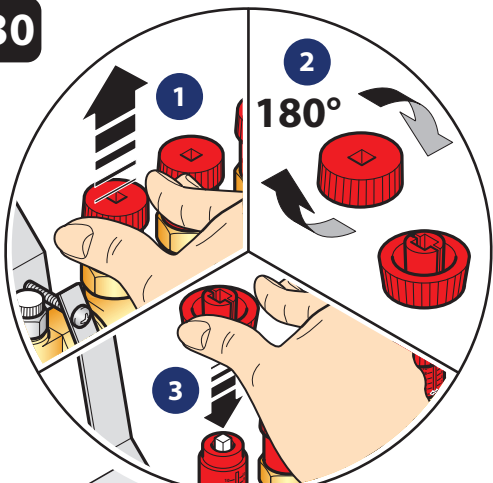
48

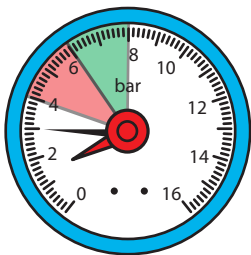
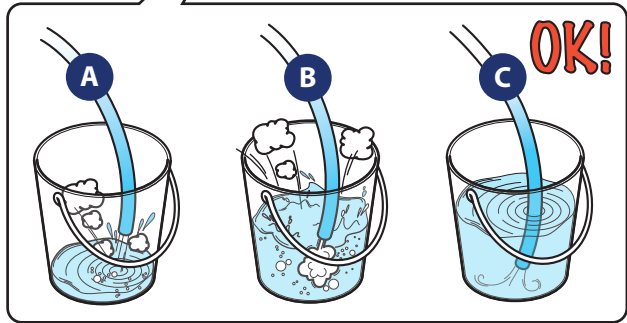
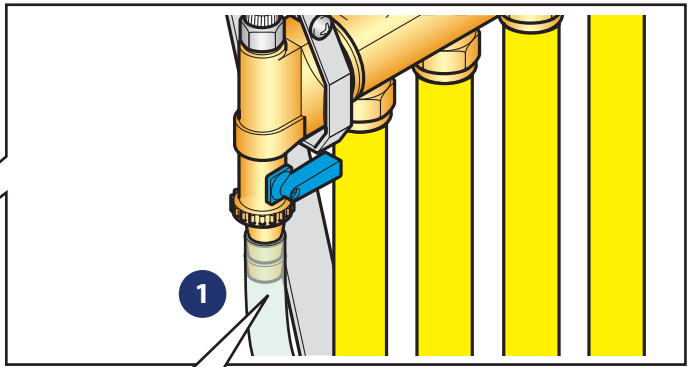
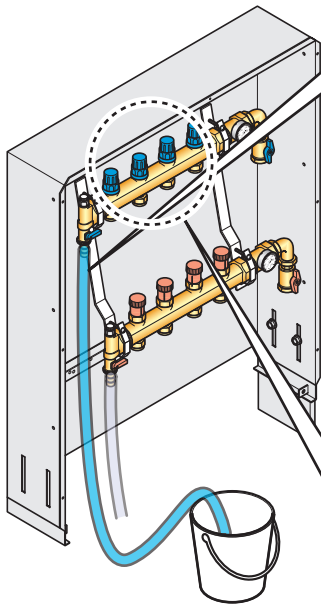


29



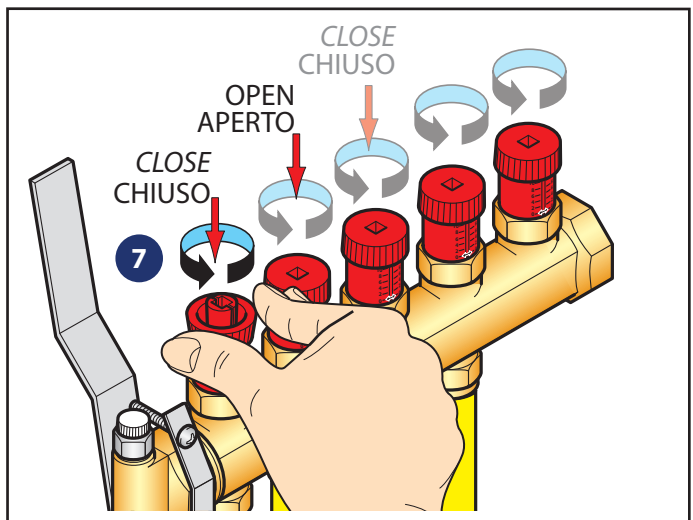
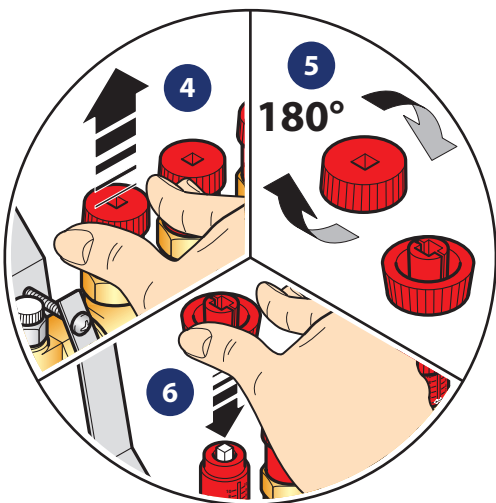
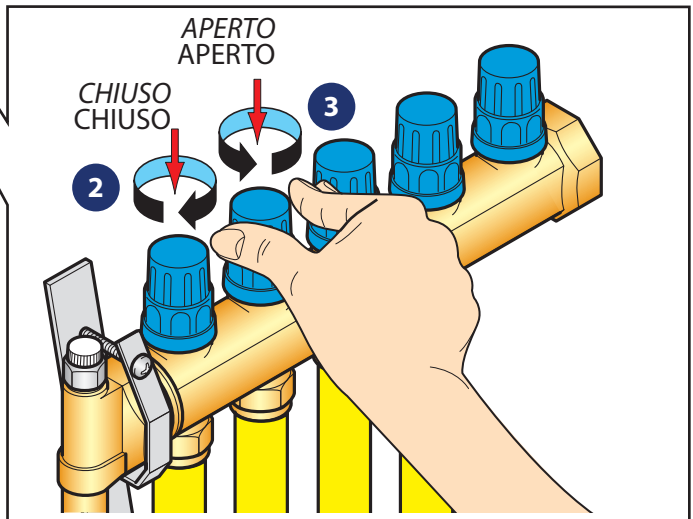
30





CONTROL - TOP CONTROL
6÷8 bar

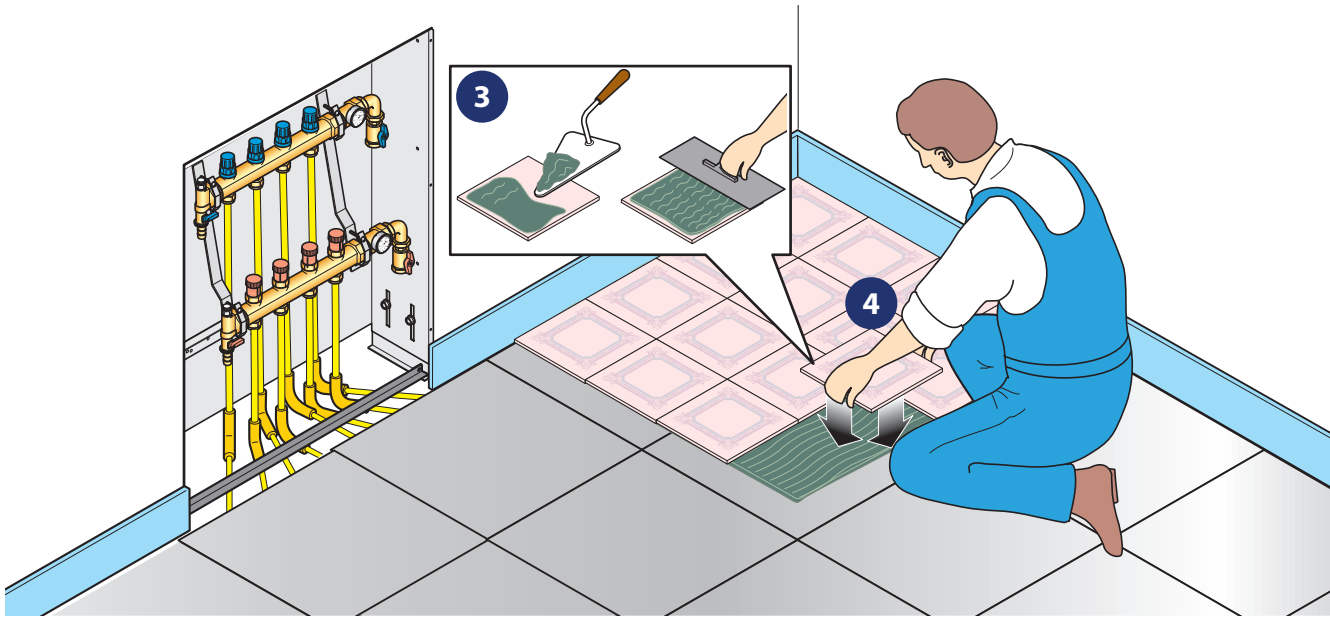
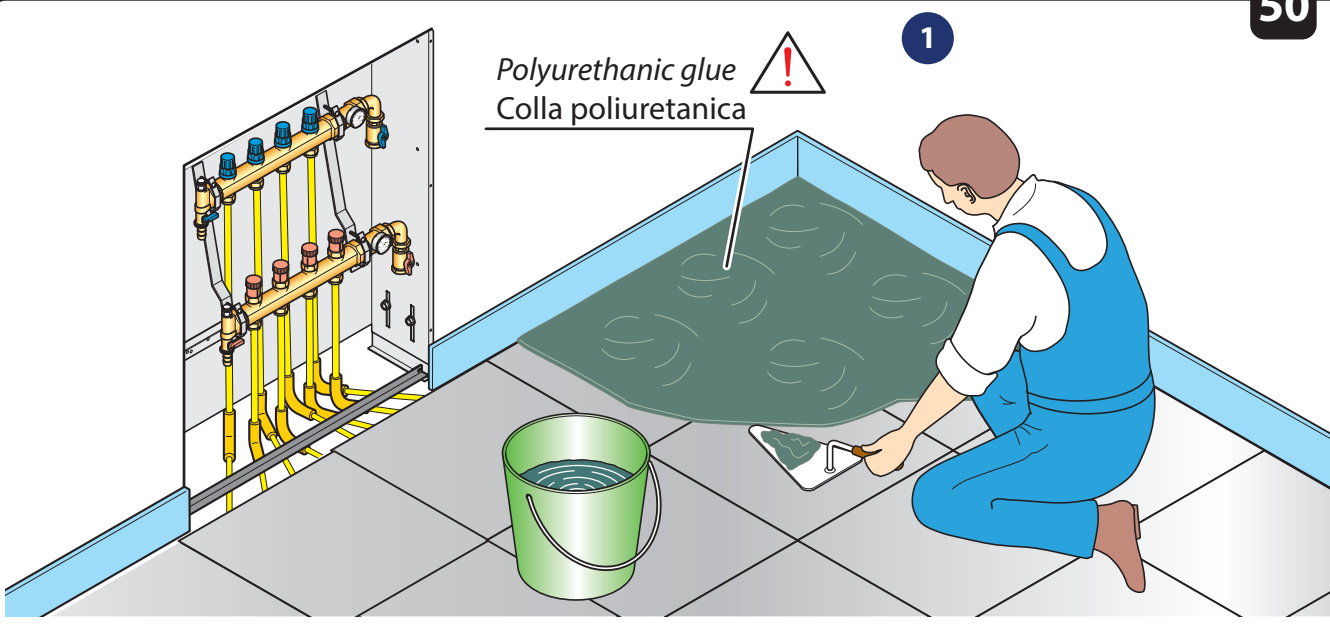
TOP COMPOSIT
4÷6 bar



The system shall be kept with pressure until the work is finished (flooring excluded)

La tenuta in pressione dell'impianto dovrà avvenire fino al completamento dei lavori (rivestimenti esclusi)







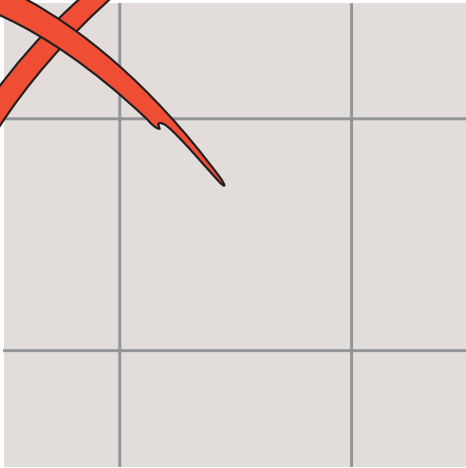
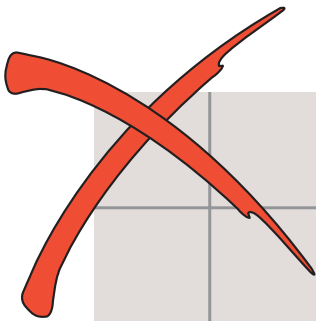
INSTRUCTIONS ABOUT GROUTING

*It is forbidden to use it with flooring without grout.
The space between the tiles (≥ 4 mm) depends on the kind of the flooring and it shall consider any upright movement of the covering itself, even if limited, in order to avoid friction and breaking of the tiles before grouting.
According to the supplier of the grouting, its size shall be enough to ensure a suitable resistance of the flooring in order to avoid any vertical movement, which can be caused by a wrong levelling of the base and crack the grouting.
Suitable laying is ensured only if epoxy grout is used.*

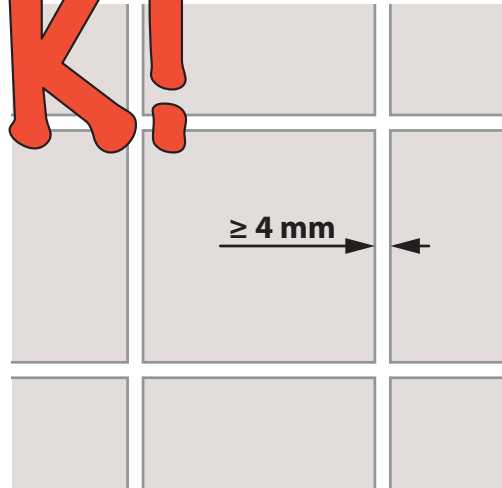
INDICAZIONI PER LE FUGHE

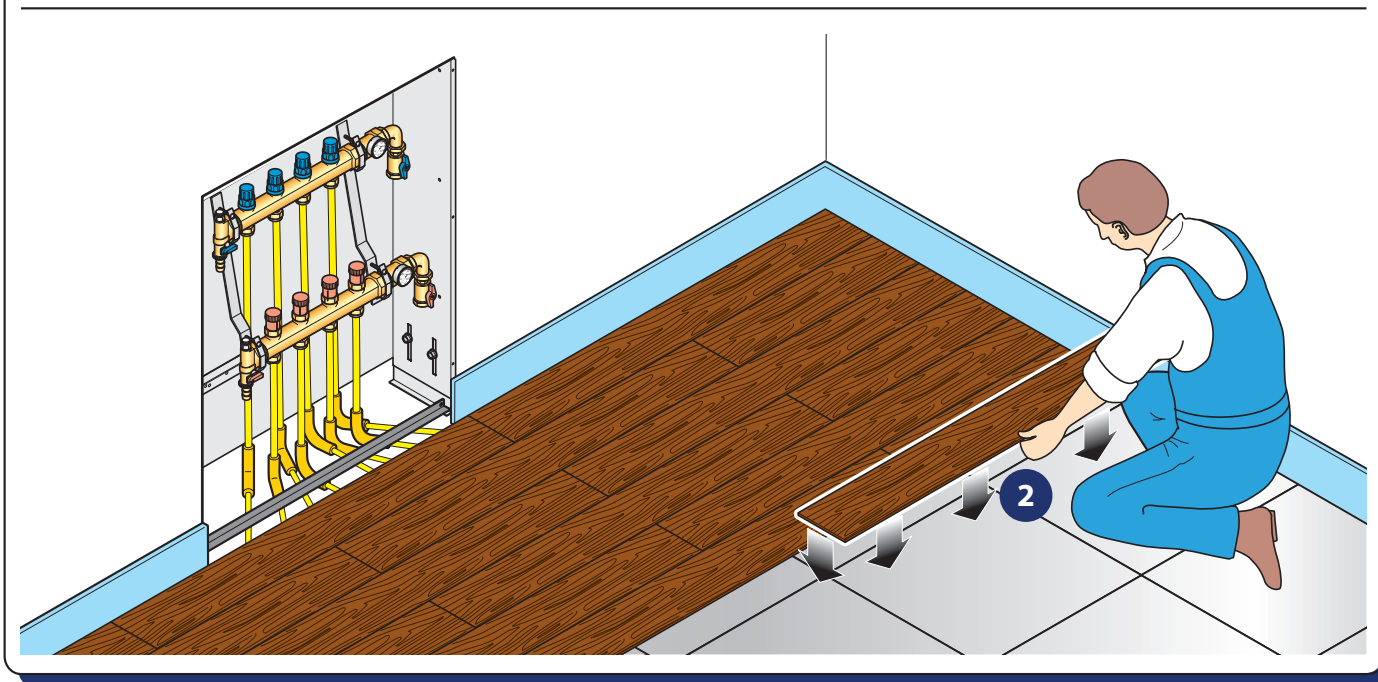
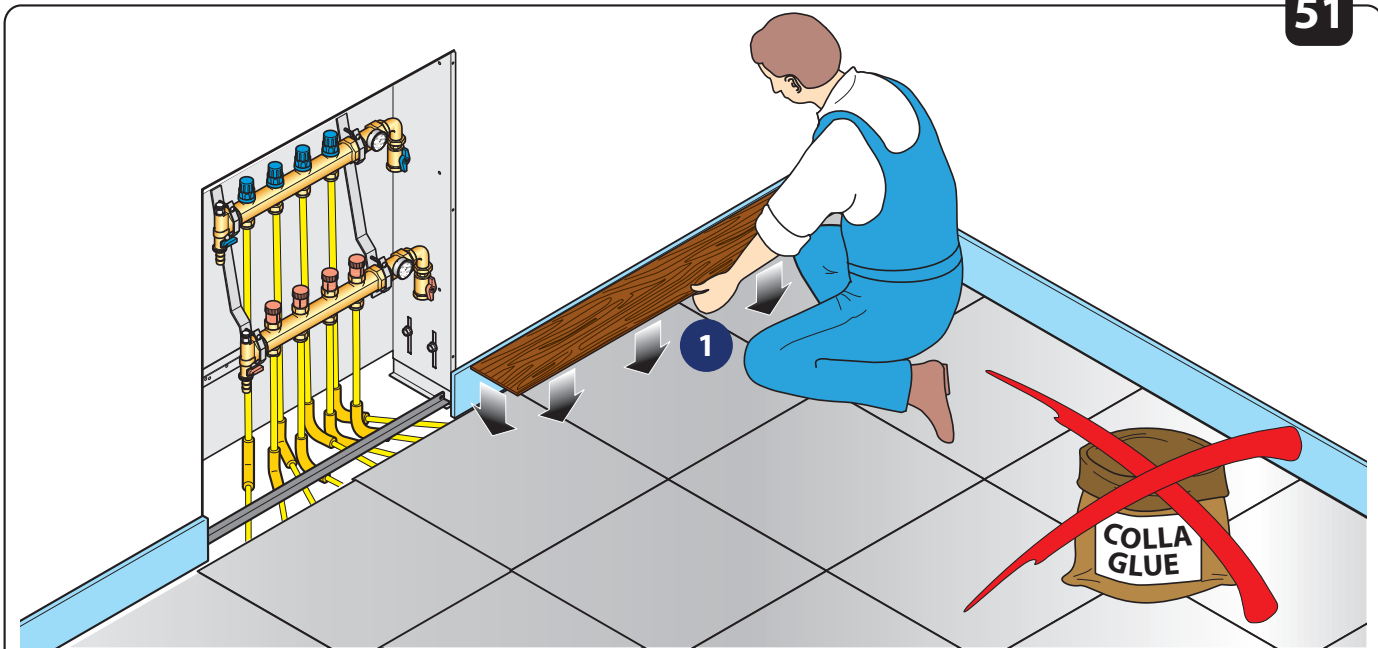
E' vietata la posa di rivestimenti privi di fughe.
Lo spessore delle fughe (≥ 4 mm) dovrà essere commisurato al formato del rivestimento adottato e comunque dovrà tener conto di eventuali movimenti verticali, anche se limitati del rivestimento, tutto ciò al fine di evitare lo sfregamento (con conseguente rottura) delle piastrelle antecedente alla posa del fugante.
Lo spessore delle fughe inoltre, in accordo con il fornitore del fugante stesso, dovrà essere tale da garantire una adeguata robustezza della pavimentazione al fine di evitare che eventuali movimenti verticali (causati da un non adeguato livellamento del sottofondo) possano fessurare le fughe stesse.
La posa viene garantita solamente in presenza di fugante di tipo epossidico.

46



OK!





! We suggest you should avoid sticking wooden flooring with glue since the change in temperature and humidity on the flooring itself can cause cross tension between covering and weight distribution layer and raising of the flooring.

! L'incollaggio dei rivestimenti lignei è sconsigliato, in quanto le variazioni termo-igrometriche nel rivestimento stesso creano tensioni trasversali tra il rivestimento e il ripartitore provocando l'inarcamento o il sollevamento dei bordi del pacchetto incollato.

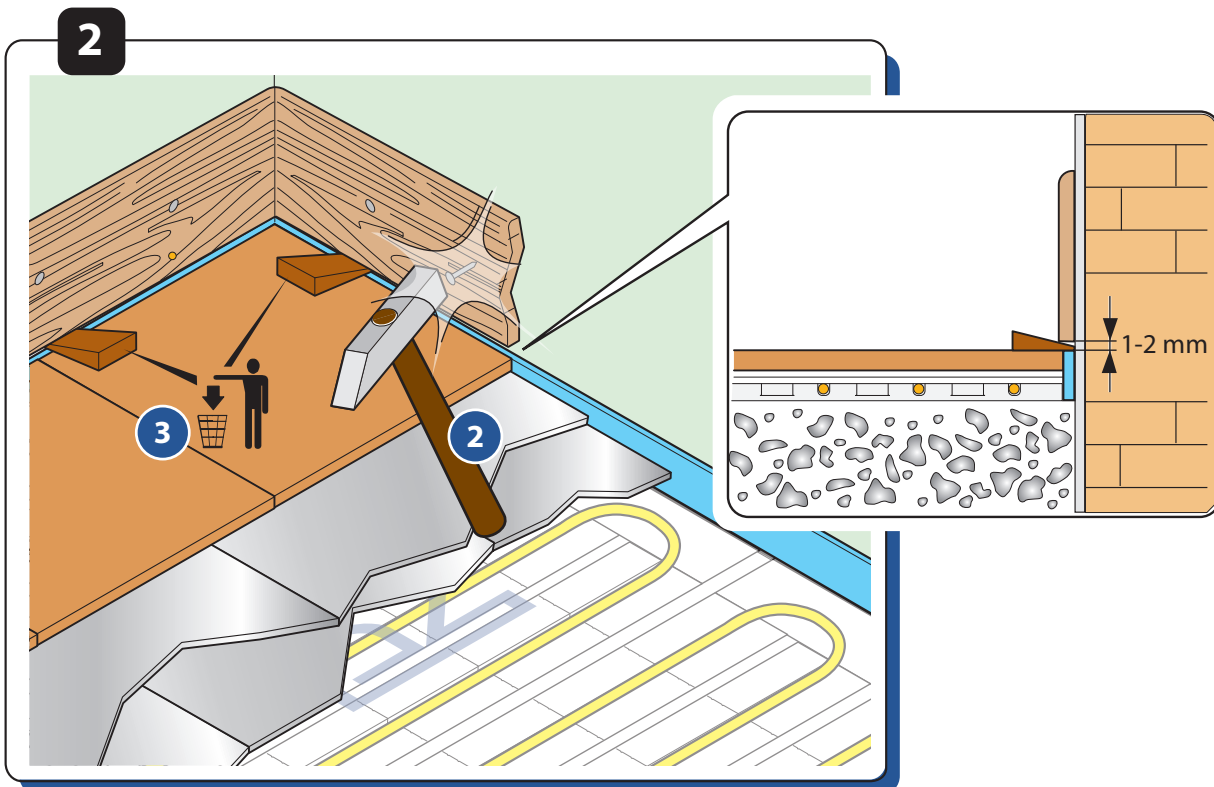
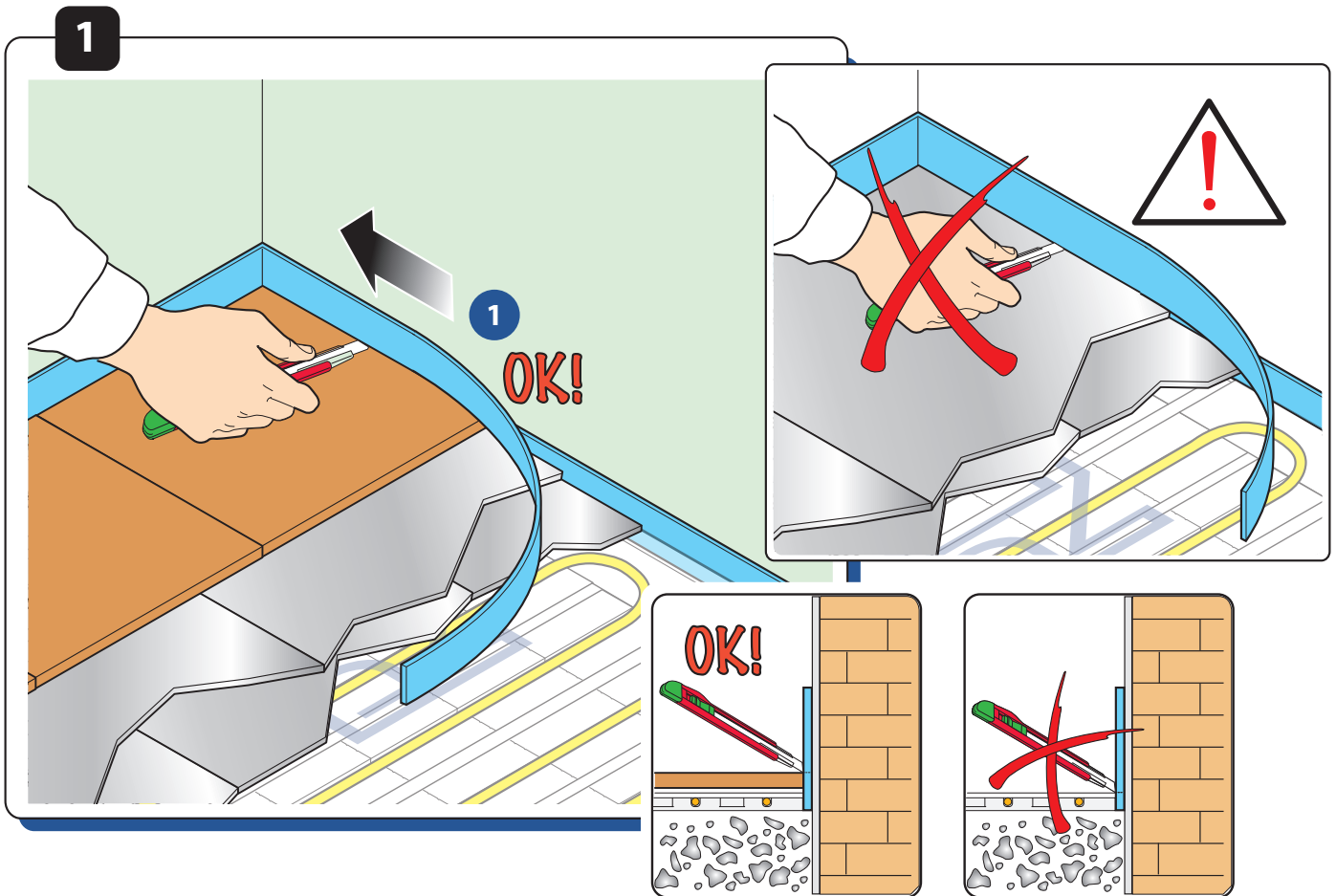
OTHER FLOORINGS

In case of ceramic or wooden flooring please contact RDZ Technical Department.

ALTRI RIVESTIMENTI

Per la posa di rivestimenti diversi dai ceramici o lignei contattare l'ufficio tecnico RDZ.

3.10 | INSTALLATION OF THE SKIRTING BOARD - POSA DEL BATTISCOPIA



**Fix the skirting board to the walls only, do not fix it to the floor!
Otherwise the flooring can get broken!**

**Fissare il battiscopa unicamente alle pareti, non ancorarlo
alla pavimentazione!
Pericolo di rottura del rivestimento!**



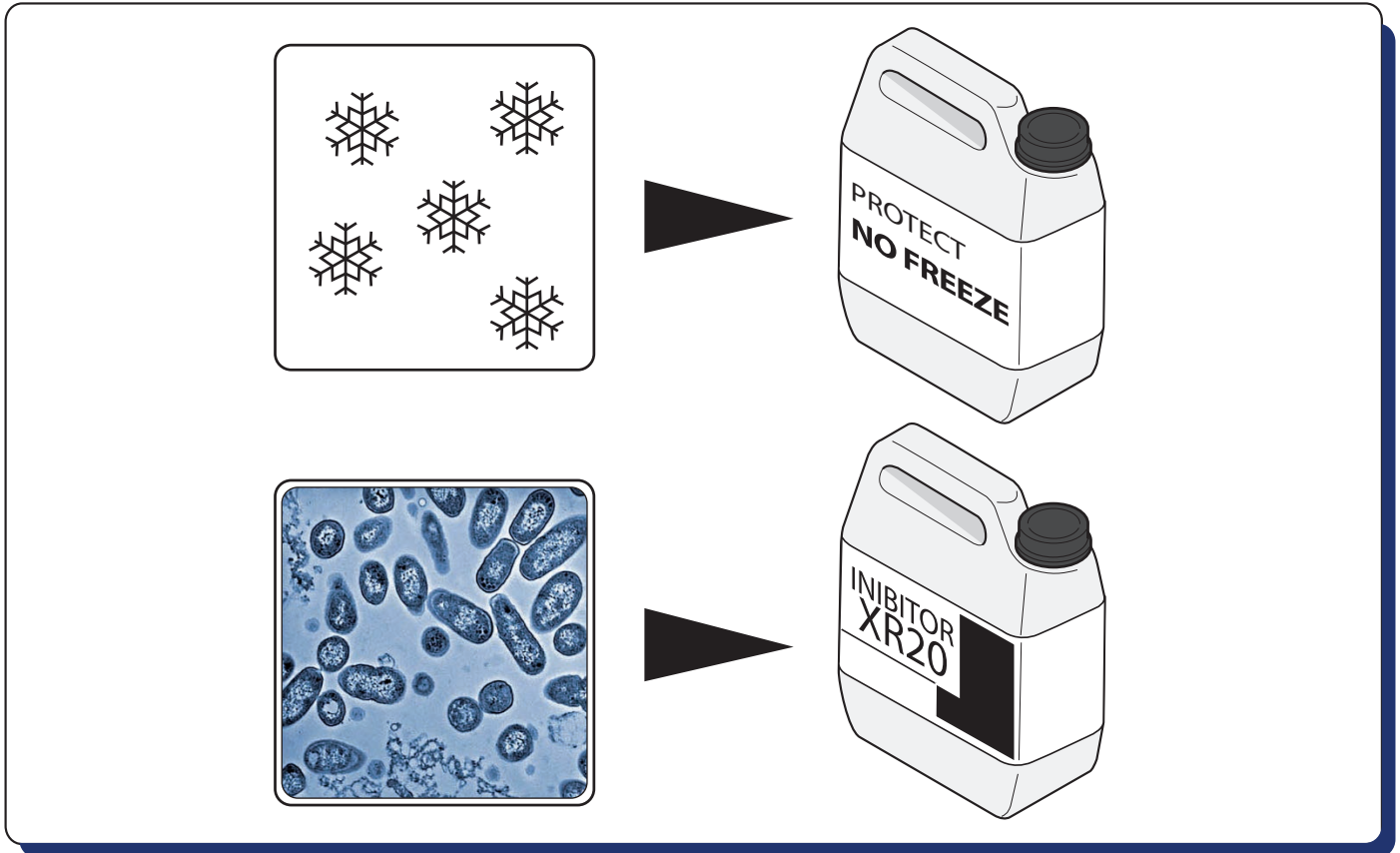
3.11 | ADVICE FOR USE - CONSIGLI DI UTILIZZO

The system shall be switched on to reach the project temperature gradually.

The first activation starts with water at 20°C -25°C, which shall be gradually increased with 3°C a day until the maximum set temperature has been reached.

L'impianto va avviato e portato alla temperatura di progetto con gradualità.

Il primo avviamento comincia con il fluido ad una temperatura compresa tra i 20°C -25°C per essere gradatamente aumentata nel periodo successivo di 3°C al giorno fino al raggiungimento della massima temperatura prevista.





NOTE

Dotted lines for writing notes.



NOTE

A series of horizontal dotted lines for taking notes, spanning the width of the page below the 'NOTE' header.



NOTE

A series of horizontal dotted lines providing space for handwritten notes.



bit.ly/rdzwebsite

02/2018
FOAZ000AB.00



RDZ S.p.A.
📍 V.le Trento, 101 (S.S. 13 Km 64.5) 33077 SACILE (PN) - Italy
☎ Tel. +39 0434.787511 📠 Fax + 39 0434.787522
🌐 www.rdz.it ✉ rdzcentrale@rdz.it

**COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =**