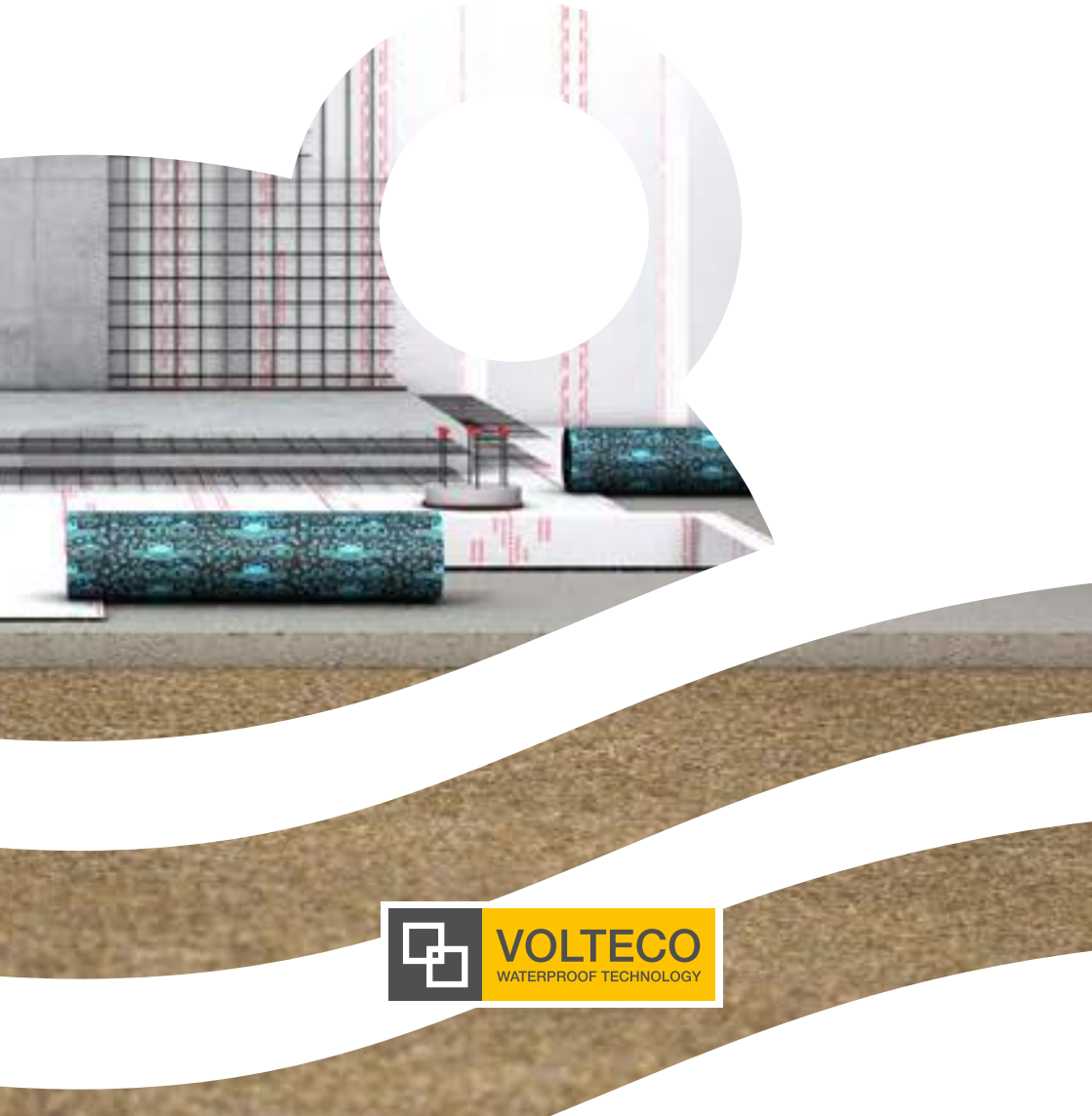
METHOD STATEMENT

Amphibia installation handbook



VOLTECO
WATERPROOF TECHNOLOGY

AMPHIBIA,
HYDRO REACTIVE MEMBRANE

Download
digital
version

INDEX

hydro-reactive
MEMBRANE

> 180 cm - 70,87 in > 90 cm - 35,43 in

> 2000 cm - 787,40 in
36 m² - 387,5 ft²
> 1000 cm - 393,70 in
9 m² - 96,9 ft²

AMPHIBIA 3000 GRIP

AMPHIBIA 3000 GRIP is an **EPDM PRE-APPLIED waterproof membrane**, reactive to contact with water, SELF-REPAIRING, SELF-SEALING and SELF-FASTENING to the concrete.

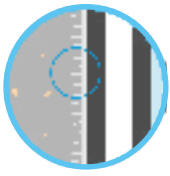
This is composed of **a co-extruded, multi-layer, polymer, continuous coat**, with differentiated function for total watertightness of underground structures against water seepage.

It is composed of 3 layers with expansive capacity differentiated by the following features:
- TIGHT BARRIER, WATERTIGHT LAYER
- CORE, self-sealing and self-repairing super expansive safety layer, even in the event of a puncture
- ACTIVE BARRIER, hydro-reactive layer with controlled expansion, prevents side water seepage and seals the overlaps.

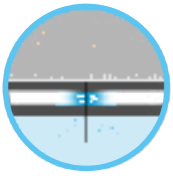
Moreover it is provided with a calibrated non-woven fabric on the inner face –side in contact with fresh concrete - which allows the **mechanical adhesion of the membrane to the structure**.

SELF REPAIRING

SELF OVERLAPPING



SELF GRIPPING



EASY FIXING NO WATER LEAKAGE

USE

• **Waterproofing and protection of concrete underground structures** such as residential and industrial buildings, shopping malls, public works etc...which require close and continuous contact between waterproofing product and structure (foundation slabs and walls, against slurry walls, piles, Berlinese or disposable formwork, internal tanking of existing structures). It can also be used in other structures such as channels, tanks, purification systems, tunnels, etc...

• **Radon and methane protection**

• **Anti-damp protection for concrete structures built at ground level** such as underfloor screeds.

TUTORIAL VIDEO AMPHIBIA

APPLICATION VIDEO AMPHIBIA

Look at the video > Look at the video>

ACCESSORIES
system components

AMPHIBIA PRESSURE LINE
METALLIC PROFILE, COATED ON ONE SIDE WITH AMPHIBIA 3000
size cm 150x4

AMPHIBIA PRESSURE CORNER 90°
CORNER METALLIC PROFILE COATED WITH AMPHIBIA 3000 MEMBRANE
size cm 150x5x10

AMPHIBIA PRESSURE CORNER 270°
CORNER METALLIC PROFILE COATED WITH AMPHIBIA 3000 MEMBRANE AND ADHESIVE BUTYLIC TAPE AMPHIBIA SAFETY TAPE BT
size cm 150x5x10

AMPHIBIA SAFETY TAPE
ADHESIVE TAPE FOR OVERLAPPING PROTECTION
size cm 6x2500

AMPHIBIA LAP SEAL
BUTYL ADHESIVE TAPE FOR GAS PROTECTION
size cm 6x1000

AMPHIBIA STOPPER
PROTECTION CAP FOR CLOSING FORMWORK PIPE SPACERS

AMPHIBIA 3000 STRIP
TAPE OF AMPHIBIA 3000 MEMBRANE
size cm 12x1850

BI MASTIC
DEFORMABLE ADHESIVE MASTIC WITH HIGH PERFORMANCE

AKTI-VO 201
SYNTHETIC RUBBER SWELLABLE SEALANT

WT CONSTRUCTION

EPDM HYDRO-SWELLABLE WATERSTOP REINFORCED WITH STEEL MESH
size mm 25x15 - lenght m 7

WT EXPANSION

EPDM HYDRO-SWELLABLE WATERSTOP FOR JOINTS
size 20.20: mm 20x20 - lenght m 5 | 30.30: mm 30x30 - lenght m 1,20

WT PANEL

EPDM HYDRO-SWELLABLE MODULAR WATERSTOP PANEL
size cm 25x120 - with mm 5

TOOLS

FLEXOMETER

CUTTER

SCISSORS

GUN FOR UNIPACK

GUN FOR SEALANT IN CARTRIDGES

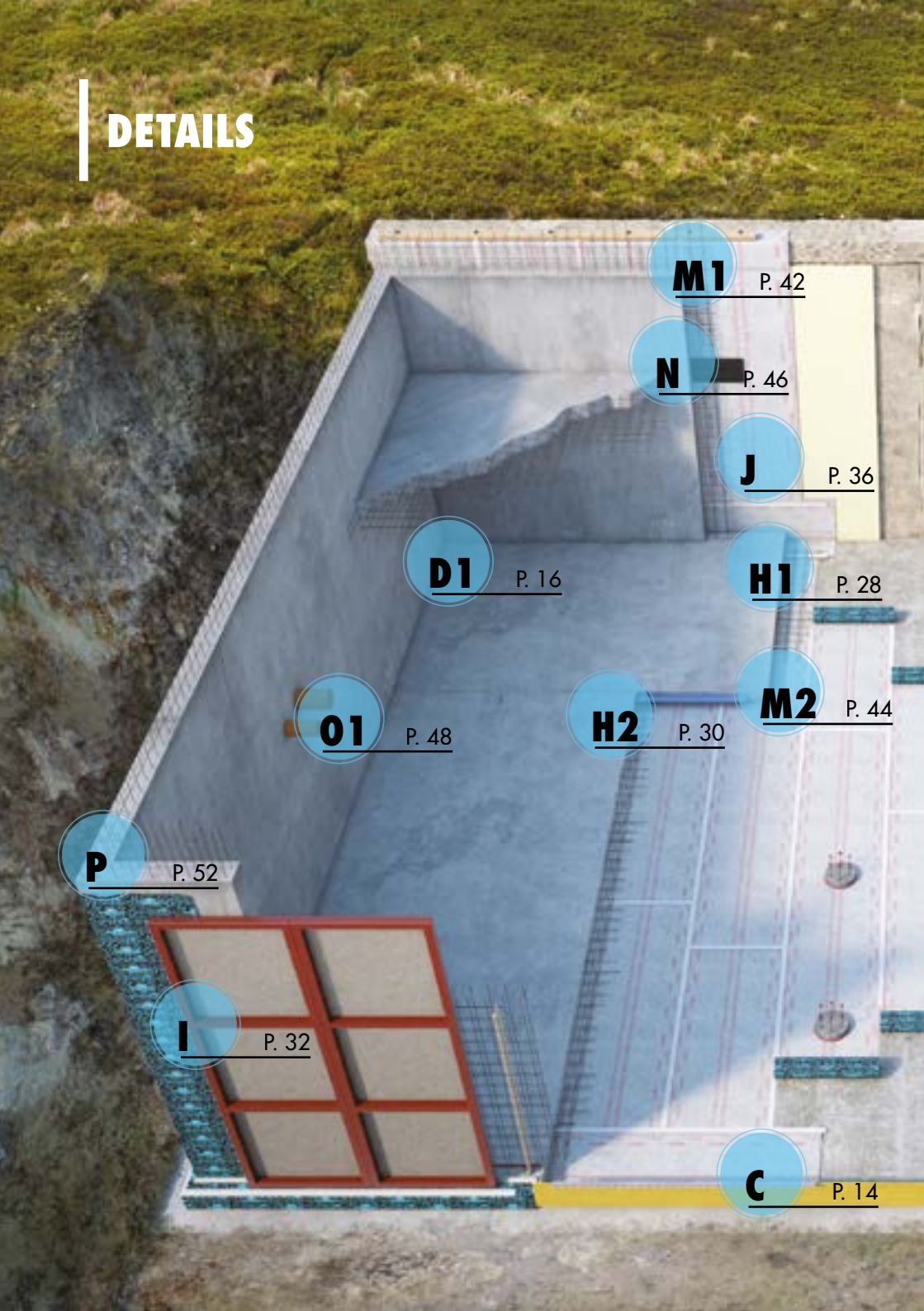
NAILER

STAPLER

ROLLER

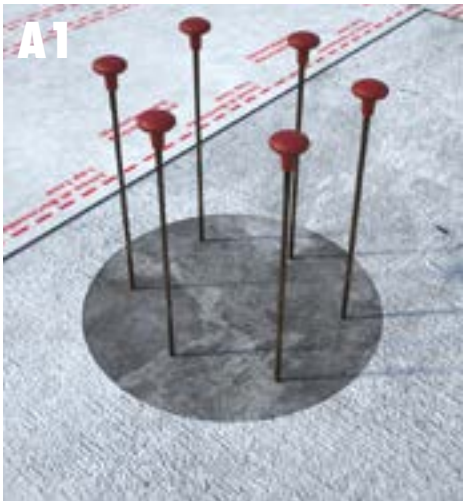
STRAIGHT EDGE

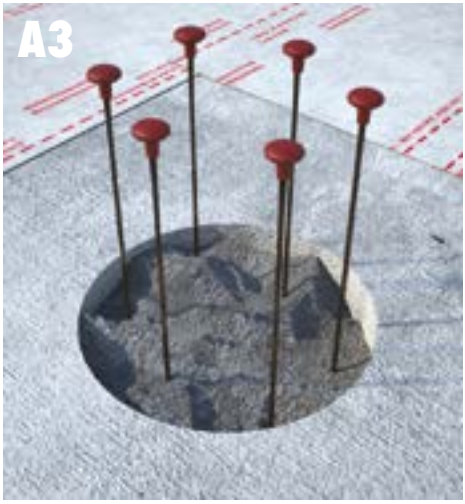
DETAILS

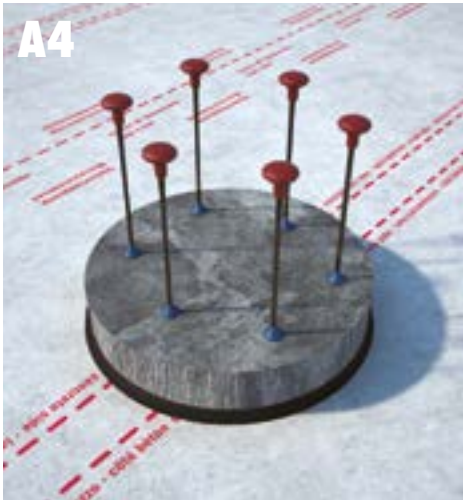

M1 P. 42
N P. 46
J P. 36
D1 P. 16
H1 P. 28
M2 P. 44
H2 P. 30
O1 P. 48
P P. 52
I P. 32
C P. 14

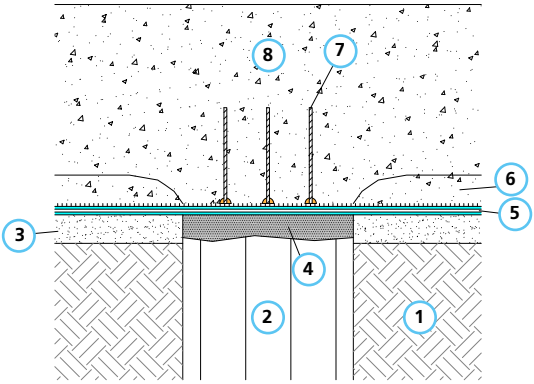

K P. 38
L P. 40
O2 P. 50
D2 P. 18
F P. 24
E2 P. 22
B P. 12
A P. 10
E1 P. 20
G P. 26

A FOUNDATION PILES







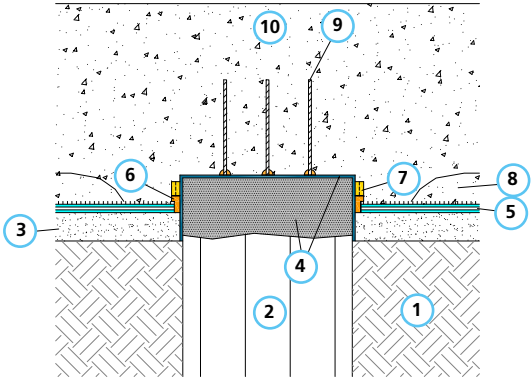


A1/A2

AMPHIBIA OVER PILE HEADS

1. Soil
2. Foundation pile
3. Lean concrete
4. Reconstruction with FLOWMIX 70, FIBRO HFR or with concrete
5. AMPHIBIA 3000 GRIP over pile heads
6. Concrete protective screed (optional)
7. Steel bars sealed with AKTI-VO 201
8. RC structure suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SS 079 - AMP]



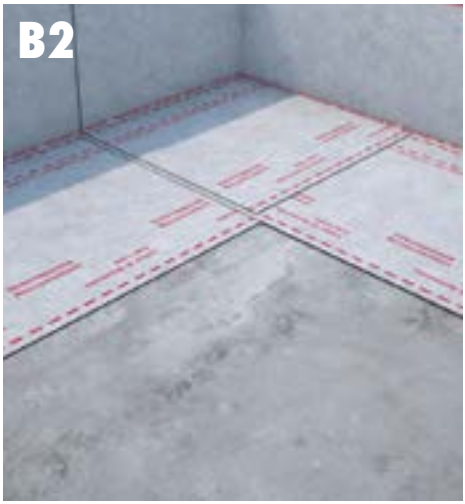
A3/A4

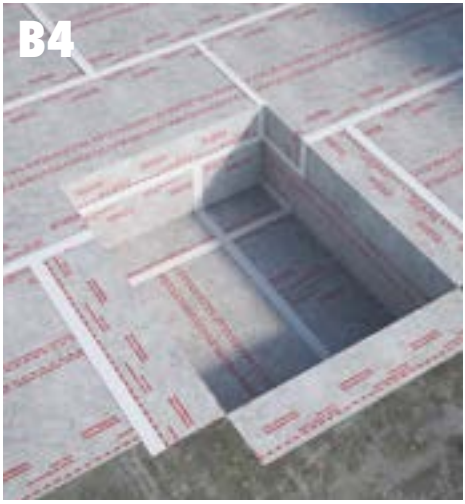
AMPHIBIA AROUND PILE HEADS

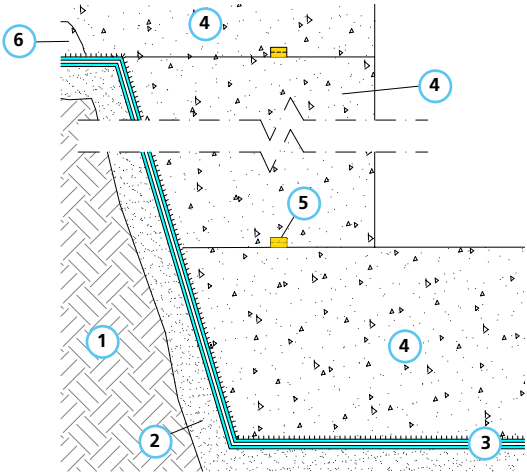
1. Soil
2. Foundation pile
3. Lean concrete
4. Suitable reconstruction with FIBRO HFR/ FLOWMIX 70 or with concre-te externally waterproofed with BI MORTAR CONCRETE SEAL
5. AMPHIBIA 3000 GRIP
6. AKTI-VO 201
7. WT CONSTRUCTION
8. Concrete protective screed (optional)
9. Steel bars sealed with AKTI-VO 201
10. RC structure suitable to withstand hydraulic pressures and exempt from defects

[EN_SS 097 - AMP - WTC]

B LIFT PIT AND DIFFERENT HEIGHTS





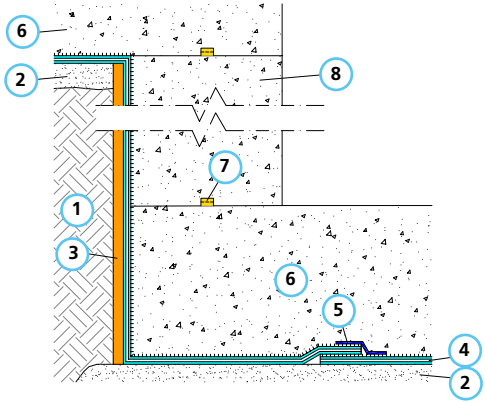


B1/B2/B3/B4

LIFT PIT

1. Soil
2. Lean concrete
3. AMPHIBIA 3000 GRIP
4. RC structure suitable to withstand hydraulic pressures and exempt from defects
5. WT CONSTRUCTION
6. Concrete protective screed (optional)

[EN_UT SS 016]



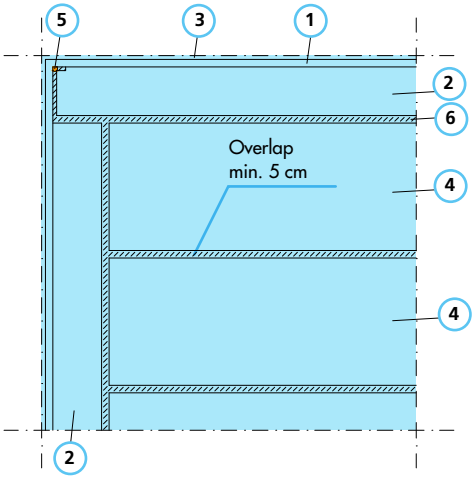
B3

RAFT FOUNDATIONS AT DIFFERENT HEIGHTS

1. Terreno
2. Lean concrete
3. Disposable formwork or lean concrete
4. AMPHIBIA 3000 GRIP
5. AMPHIBIA SAFETY TAPE o BI MASTIC
6. Raft foundation suitable to withstand hydraulic pressures and exempt from defects
7. WT CONSTRUCTION
8. RC structure suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SS 112]

C APPLICATION ON RAFT FOUNDATION TOE
Open basement excavation



C1/C2

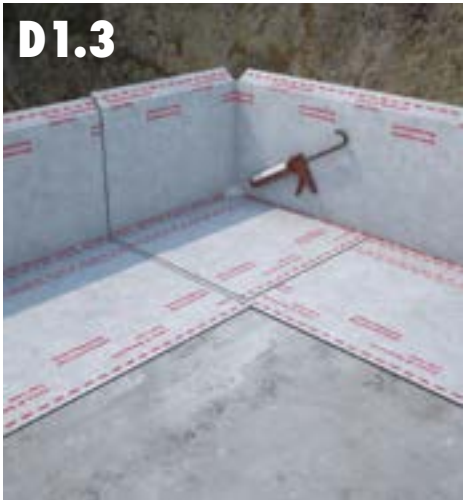
RAFT FOUNDATION: INSTALLATION ON LEAN CONCRETE BLINDING

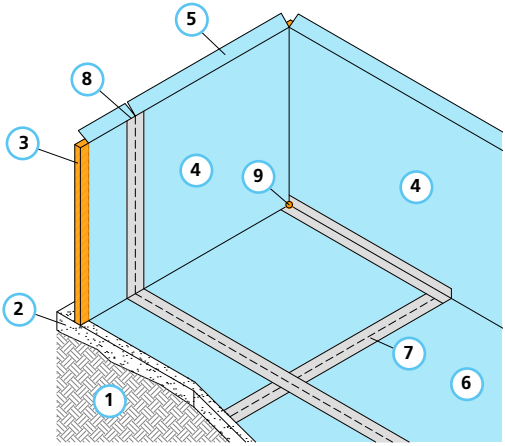
1. Formworks
2. AMPHIBIA 3000 GRIP vertically installed all along the formworks and folded on the raft foundation
3. AMPHIBIA 3000 GRIP flap over the formwork
4. AMPHIBIA 3000 GRIP on lean concrete
5. AKTI-VO 201
6. AMPHIBIA SAFETY TAPE or BI MASTIC

[EN_UT SS 003 B]

> Raft foundation with AMPHIBIA system

D1 CORNER 90°
Open basement excavation





D1.1/D1.2/D1.3/D1.4

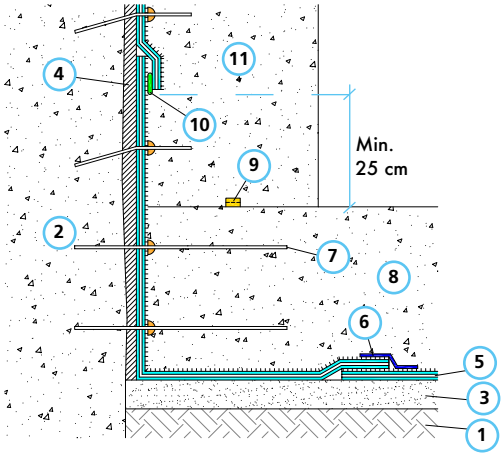
SEALING OF INTERNAL 90° CORNER ON FORMWORKS

1. Soil
2. Lean concrete
3. Formwork
4. AMPHIBIA 3000 GRIP vertically applied all along the formworks and folded on the raft foundation
5. AMPHIBIA 3000 GRIP flap over the formwork
6. AMPHIBIA 3000 GRIP on lean concrete
7. AMPHIBIA SAFETY TAPE or BI MASTIC
8. Apply staples to fix vertically the sheets to the formworks
9. AKTI-VO 201

[EN_UT SS 074]

> 90° corner in case of open basement excavation with AMPHIBIA system

D2 CORNER 90°
Blindside



D2.1/D2.2/D.2.3/D2.4/D2.5

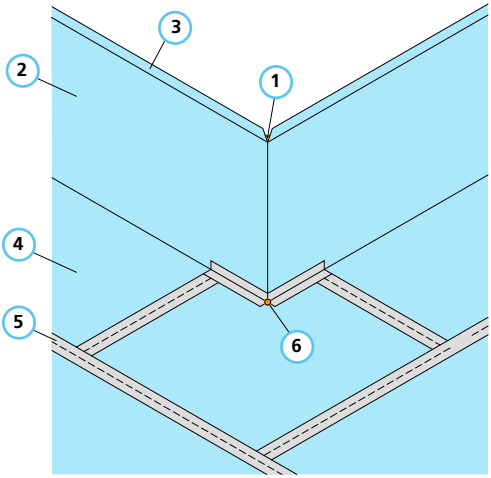
SEALING OF INTERNAL 90° CORNER ON DIAPHRAGM WALLS

1. Soil
2. Diaphragm walls
3. Lean concrete
4. Smoothing or non-degradable rigid panel
5. AMPHIBIA 3000 GRIP
6. AMPHIBIA SAFETY TAPE or BI MASTIC
7. Connectors sealed with AKTI-VO 201
8. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
9. WT CONSTRUCTION
10. BI MASTIC
11. RC walls suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SD 024]

> 90° corner in case of blindside application with AMPHIBIA system

E1 CORNER 270°
Open basement excavation



E1.1/E1.2/E1.3/E1.4/E1.5

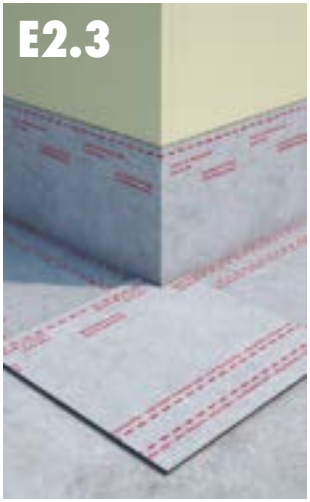
SEALING OF INTERNAL 270° CORNER ON FORMWORKS

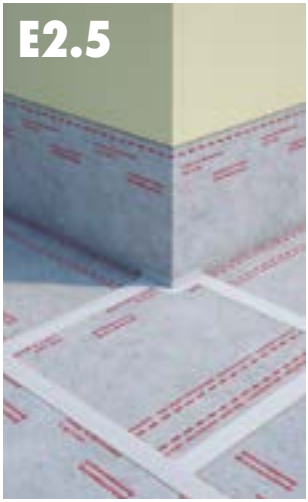
1. Formwork
2. AMPHIBIA 3000 GRIP vertically applied all along the formworks and folded on the raft foundation
3. AMPHIBIA 3000 GRIP flap over the formwork
4. AMPHIBIA 3000 GRIP on lean concrete
5. AMPHIBIA SAFETY TAPE or BI MASTIC
6. AKTI-VO 201

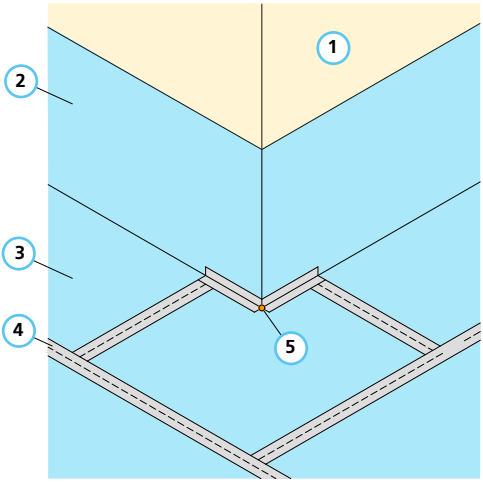
[EN_UT SS 075]

> 270° corner in case of open basement excavation with AMPHIBIA system

E2 CORNER 270° Blindside







E2.1/E2.2/E2.3/E2.4/E2.5

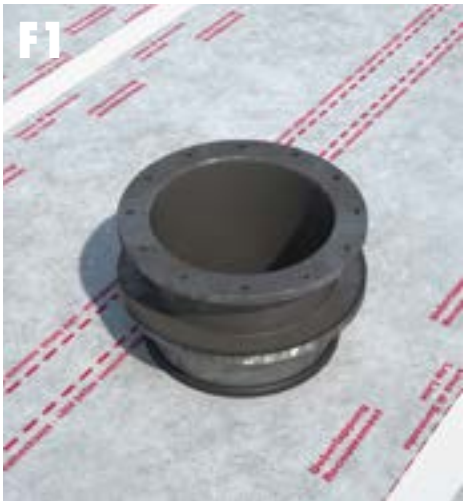
SEALING OF INTERNAL 270° CORNER ON DIAPHRAGM WALLS

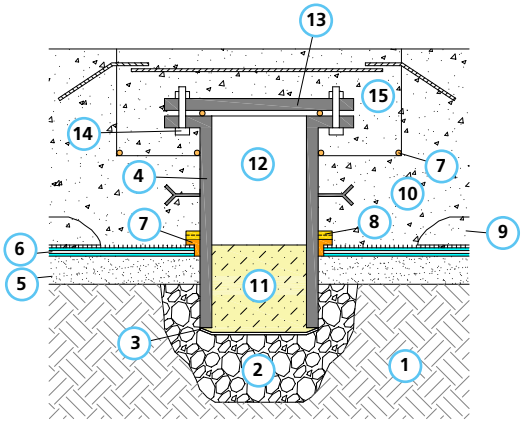
1. Smoothing or non-degradable rigid panels
2. AMPHIBIA 3000 GRIP vertically applied, folded on the raft foundation
3. AMPHIBIA 3000 GRIP on lean concrete
4. AMPHIBIA SAFETY TAPE or BI MASTIC
5. AKTI-VO 201

[EN_UT SD 041]

> 270° corner in case of blindside application with AMPHIBIA system

F PRESENCE OF DEWATERING WELLS AND DIFFERENT HEIGHTS



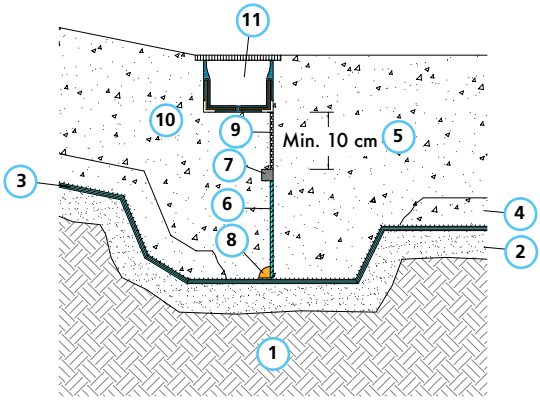


F1/F2

DEWATERING WELL

1. Soil
2. Drainage area
3. Non-woven textile + net
4. Flanged pipe with clamp-irons (stainless or galvanised)
5. Lean concrete
6. Amphibia 3000 Grip
7. Akti-Vo 201
8. WT CONSTRUCTION
9. Protective screed (optional)
10. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
11. Granular bentonite
12. Cast-in-place concrete to fill the well
13. Stainless steel cap sealed with AKTI-VO 201
14. Welded bolts
15. Cast-in-place concrete to fill the void on the raft

[EN_UT SS 025]



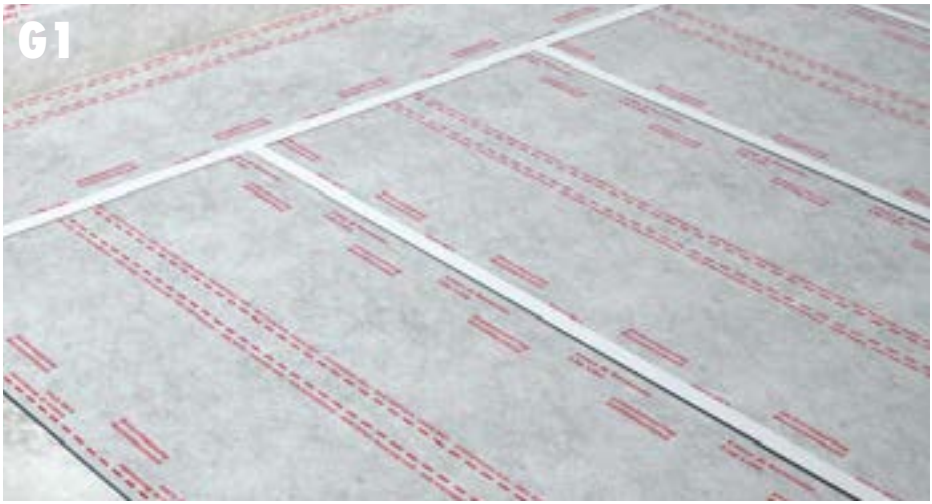
F3

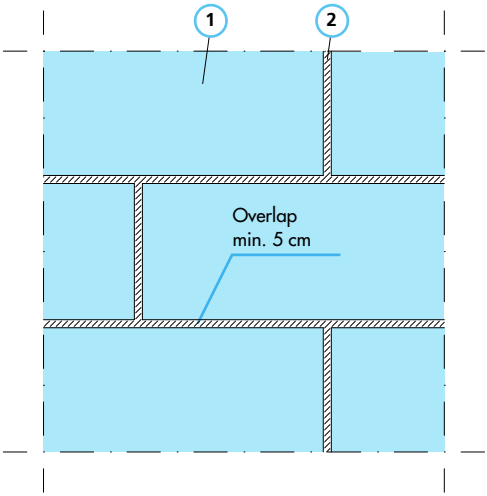
SLOPE

1. Soil
2. Lean concrete
3. AMPHIBIA 3000 GRIP
4. Concrete protective screed (optional)
5. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
6. WT PANEL
7. WT EXPANSION
8. AKTI-VO 201
9. Separating element
10. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
11. Gutter with grid

[EN_UT SS 085 A]

G SHEET APPLICATION





G1/G2

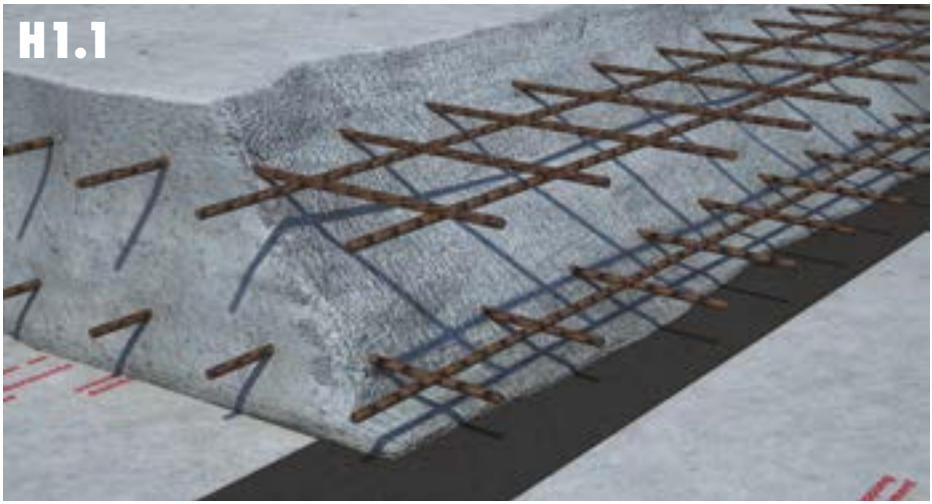
AMPHIBIA INSTALLATION PATTERN TYPE

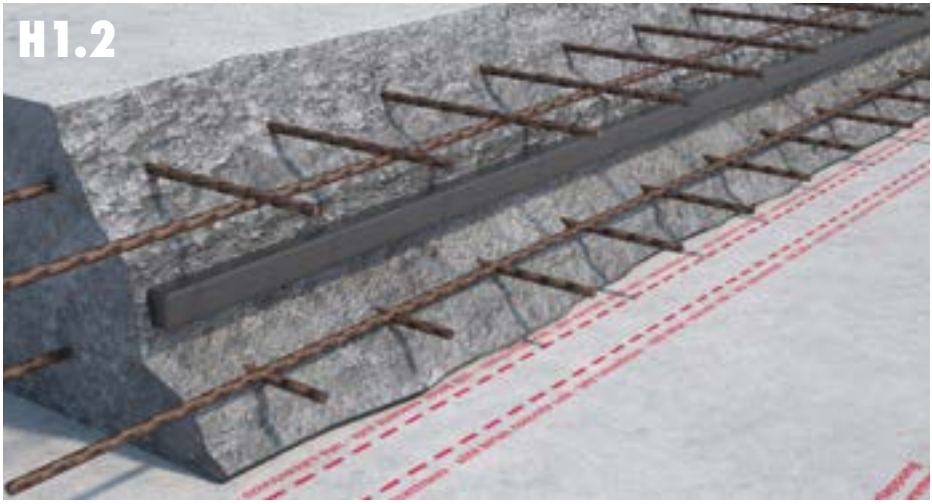
1. AMPHIBIA 3000 GRIP
2. AMPHIBIA SAFETY TAPE or BI MASTIC

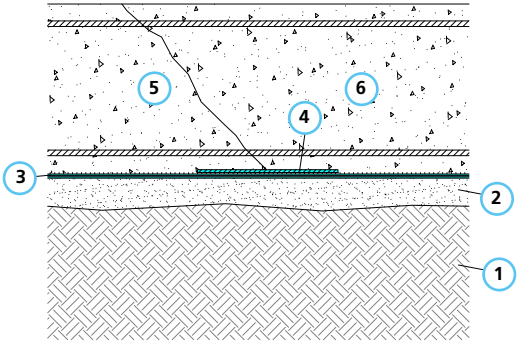
[EN_UT SS 003 A]

> Raft foundation with AMPHIBIA system

H1 JOINTS IN RAFT FOUNDATION
Construction joints





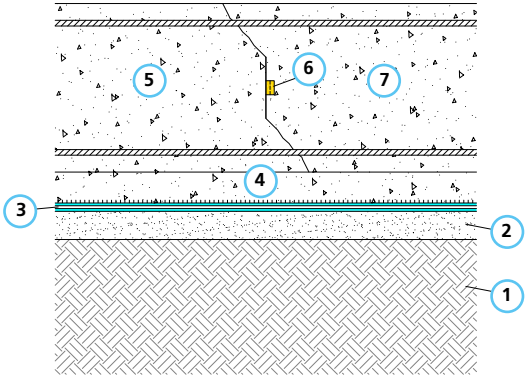


H1.1

HORIZONTAL CONSTRUCTION JOINT - RAFT FOUNDATION

1. Soil
2. Lean concrete
3. AMPHIBIA 3000 GRIP
4. WT PANEL
5. First part of the RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
7. Second part of the RC raft foundation suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SS 083 A-AMP-WTP]



H1.2

RAFT FOUNDATION CONSTRUCTION JOINT MADE BY FORMWORK

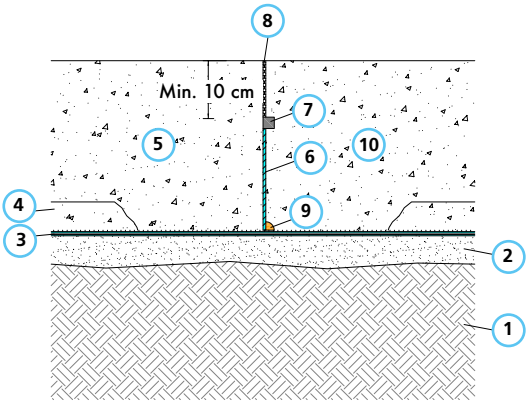
1. Soil
2. Lean concrete
3. Amphibia 3000 Grip
4. Concrete protective screed (optional)
5. First part of the RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
6. WT CONSTRUCTION
7. Second part of the RC raft foundation suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SS 010 AMP -WTC]

H2 JOINTS IN RAFT FOUNDATION
Expansion joints

H2.1

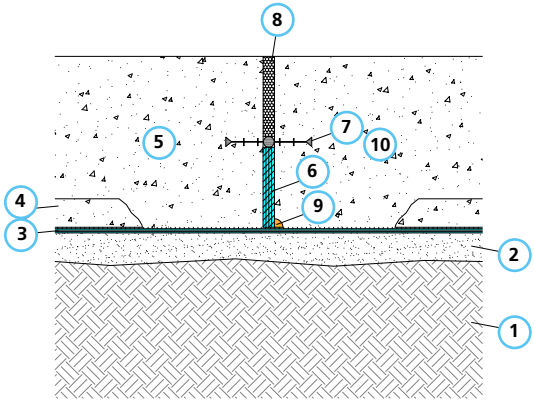
H2.2



H2.1
HORIZONTAL EXPANSION JOINT

1. Soil
2. Lean concrete
3. AMPHIBIA 3000 GRIP
4. Concrete protective screed (optional)
5. First part of the RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
6. WT PANEL
7. WT EXPANSION
8. Separating element
9. AKTI-VO 201
10. Second part of the RC raft foundation suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SS 073 A]

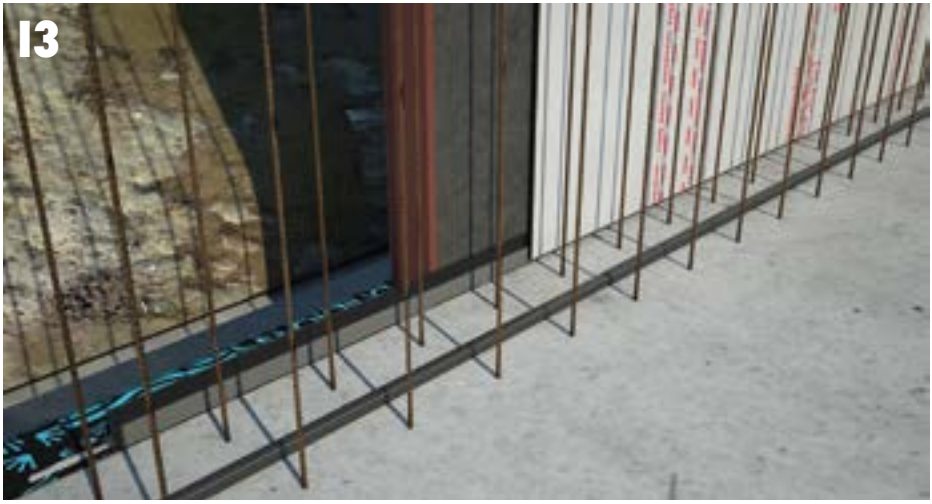


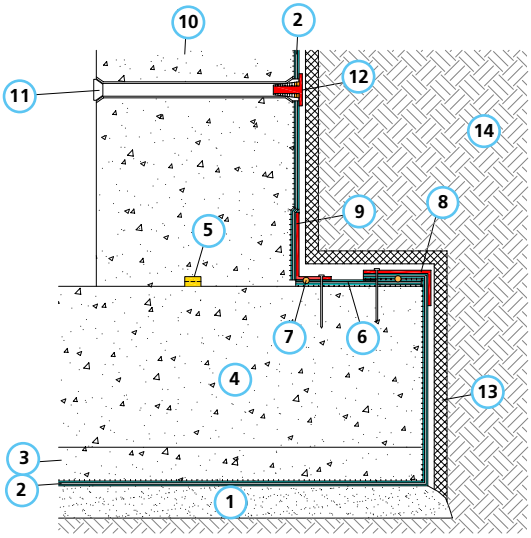
H2.2
EXPANSION JOINT WITH PVC WATERSTOP

1. Soil
2. Lean concrete
3. AMPHIBIA 3000 GRIP
4. Concrete protective screed (optional)
5. First part of the RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
6. WT PANEL (multiples)
7. PVC waterstop
8. Separating element
9. AKTI-VO 201
10. Second part of the RC raft foundation suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SS 073 B]

VERTICAL APPLICATION
PRE AND POST APPLIED



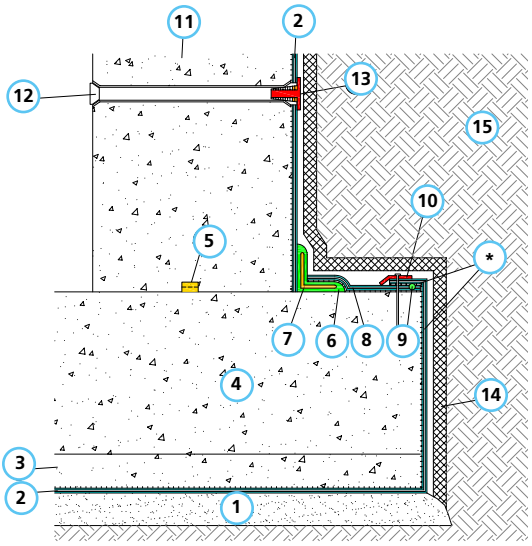


I1/I2/I3

A - PRE APPLICATION WITH FOUNDATION TOE

1. Lean concrete
2. AMPHIBIA 3000 GRIP
3. Concrete protective screed (optional)
4. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
5. WT CONSTRUCTION
6. AMPHIBIA 3000 GRIP
7. BI MASTIC or AKTI-VO 201
8. AMPHIBIA PRESSURE CORNER 90°
9. AMPHIBIA PRESSURE CORNER 270°
10. RC wall suitable to withstand hydraulic pressures and exempt from defects
11. PVC distance tube to seal
12. AMPHIBIA STOPPER with AKTI-VO 201 to seal the distance tube
13. Rigid insulation panels or non-woven textile min 250 g/m²
14. Well compacted soil without voids

[EN_UT SS 104 WTC - AMP PRE-CAST]



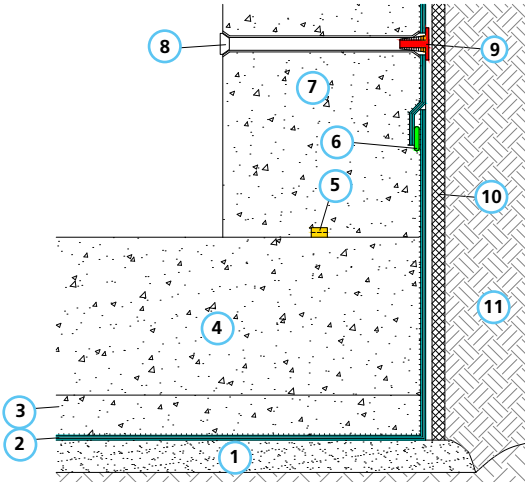
B - CONSTRUCTION JOINT WITH AMPHIBIA PRE-APPLIED AGAINST FORMWORKS

1. Lean concrete
2. AMPHIBIA 3000 GRIP
3. Concrete protective screed (optional)
4. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
5. WT CONSTRUCTION
6. BI MASTIC or BI BOND
7. BI FLEX
8. AMPHIBIA 3000 GRIP
6. BI MASTIC o AKTI-VO 201
10. AMPHIBIA PRESSURE LINE
11. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
12. PVC spacer tube seal
13. AMPHIBIA STOPPER with AKTI-VO 201 to seal the spacer tube
14. Rigid insulation panels or non-woven textile min 250 g/m²
15. Well compacted soil without voids

(*) Use BI MASTIC to fix all vertical overlaps of the sheets installed along the fromworks

[EN_UT SS 072 - BFX - AMP - WTC PRE-CAST]

VERTICAL APPLICATION PRE AND POST APPLIED



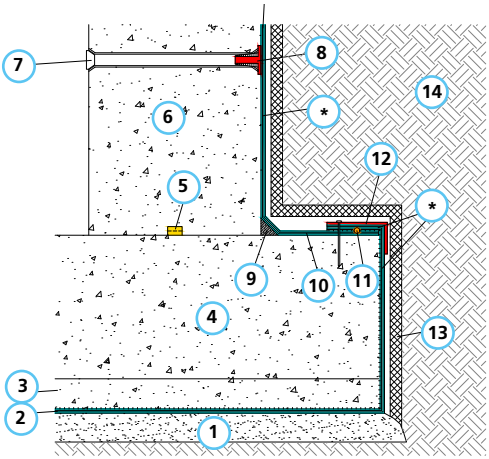
C - PRE APPLICATION WITHOUT FOUNDATION TOE

1. Lean concrete
2. AMPHIBIA 3000 GRIP
3. Protective concrete screed
4. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
5. WT CONSTRUCTION
6. Overlaps fixed with BI MASTIC
7. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
8. PVC distance tube to seal
9. AMPHIBIA STOPPER with AKTI-VO 201 to seal the distance tubes
10. Rigid insulation panels or non-woven textile min 250 g/m^2
11. Well compacted soil without voids

(*) Use BI MASTIC to fix all vertical overlaps of the sheets installed along the fromworks

[EN_UT SS 063 B - AMP PRE-GETTO]

> Vertical application on formworks

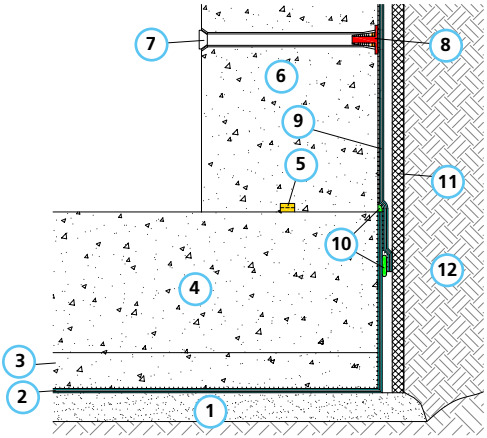


A - POST-APPLICATION WITH FOUNDATION TOE

1. Lean concrete
2. AMPHIBIA 3000 GRIP
3. Protective concrete screed (optional)
4. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
5. WT CONSTRUCTION
6. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
7. PVC spacer tube to seal
8. AMPHIBIA STOPPER with AKTI-VO 201 to seal the distance tubes
9. Fillet with SPIDY 15
10. AMPHIBIA 3000 GRIP
11. BI MASTIC or AKTI-VO 201
12. AMPHIBIA PRESSURE CORNER 90°
13. Pannello isolante o TNT da 250 g/m²
14. Rigid insulation panels or non-woven textile min 250 g/m²

(*) Use BI MASTIC to fix all vertical overlaps of the sheets installed along the fromworks

[EN_UT SS 103 - WTC - AMP POST GETTO]



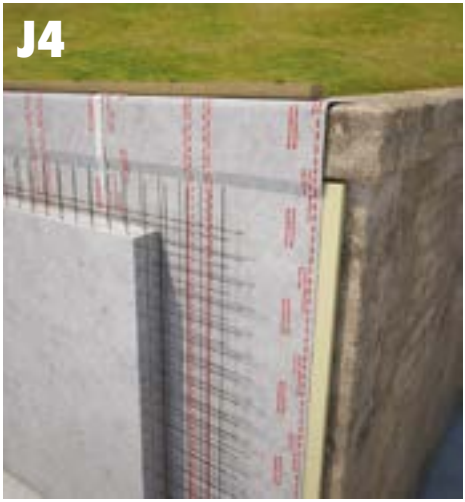
B - POST-APPLICATION WITHOUT FOUNDATION TOE

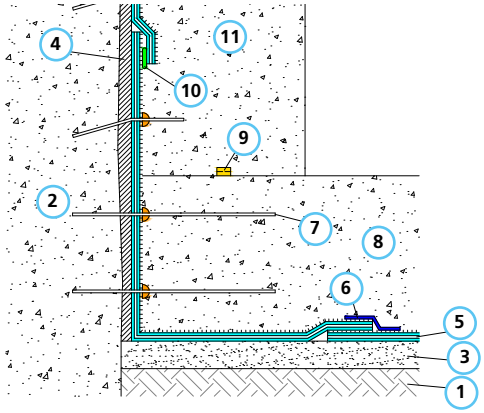
1. Lean concrete
2. AMPHIBIA 3000 GRIP
3. Protective concrete screed (optional)
4. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
5. WT CONSTRUCTION
6. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
7. PVC spacer tube to seal
8. AMPHIBIA STOPPER with AKTI-VO 201 to seal the distance tubes
9. AMPHIBIA 3000 GRIP post-applied
10. Overlaps fixed with BI MASTIC
11. Rigid insulation panels or non-woven textile min 250 g/m²
12. Well compacted soil without voids

(*) Use BI MASTIC to fix all vertical overlaps of the sheets installed along the fromworks

[EN_UT SS 117 - AMP - WTC POST-GETTO]

J VERTICAL APPLICATION ON DIAPHRAGM WALLS





J1/J2/J3/J4

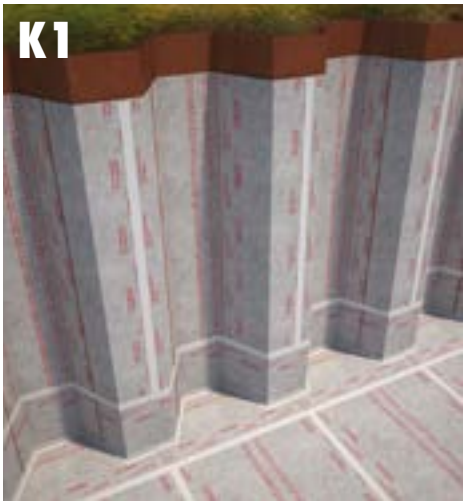
VERTICAL APPLICATION ON DIAPHRAGM WALLS

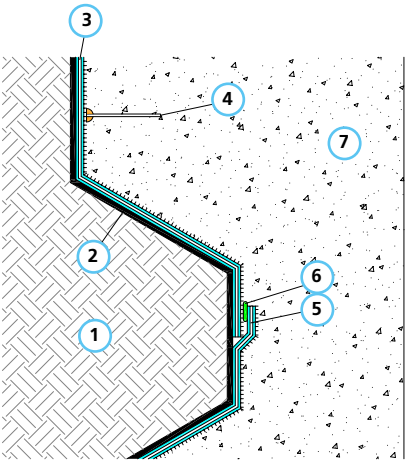
1. Soil
2. Diaphragm wall
3. Lean concrete
4. Suitable smoothing or non-degradable rigid panel
5. AMPHIBIA 3000 GRIP
6. AMPHIBIA SAFETY TAPE o BI MASTIC
7. Connectors sealed with AKTI-VO 201
8. RC raft foundation suitable to withstand hydraulic pressures and exempt from defects
9. WT CONSTRUCTION
10. BI MASTIC
11. RC wall suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SD 024]

> Application of AMPHIBIA system on regularized diaphragm walls

K VERTICAL APPLICATION ON METAL SHEET PILING



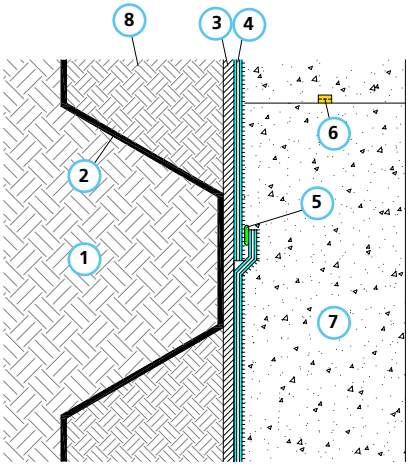


K1/K2/K3

DISPOSABLE METAL SHEET PILES

1. Soil
2. Metal sheet piles
3. AMPHIBIA 3000 GRIP
4. Connectors sealed with AKTI-VO 201 (optional, in accordance with the Designer's choice)
5. Overlap sealed with nail gun
6. BI MASTIC
7. RC structure suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SD 034]

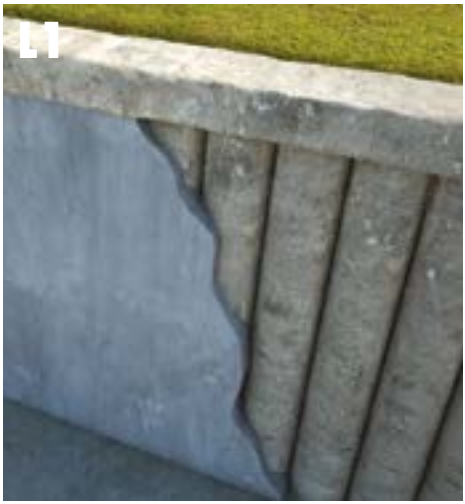


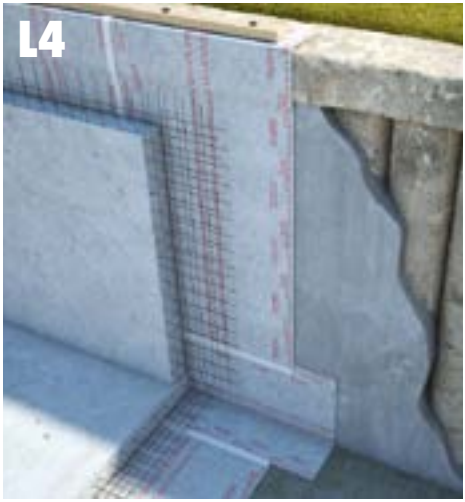
RECOVERABLE METAL SHEET PILES

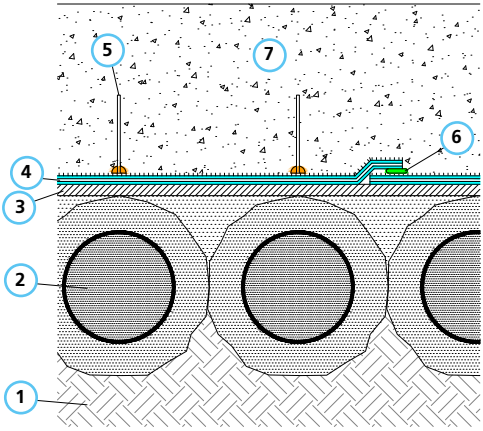
1. Soil
2. Recoverable metal sheet piles
3. Non-degradable rigid panel
4. AMPHIBIA 3000 GRIP
5. Overlap fixed with BI MASTIC
6. WT CONSTRUCTION
7. RC structure suitable to withstand hydraulic pressures and exempt from defects
8. Well compacted soil without voids

[EN_UT SD 034 A]

L VERTICAL APPLICATION ON PILE WALLS





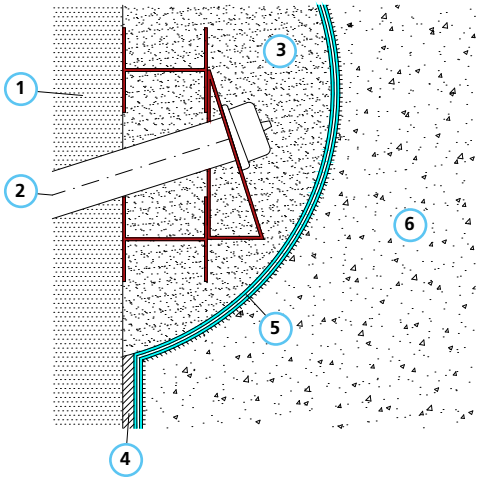


L1/L2/L3/L4

MICROPILES

1. Soil
2. Micropiles
3. Smoothing or non-degradable rigid panel
4. AMPHIBIA 3000 GRIP
5. Connectors sealed with AKTI-VO 201
6. BI MASTIC
7. RC structure suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SD 032 - AMP]



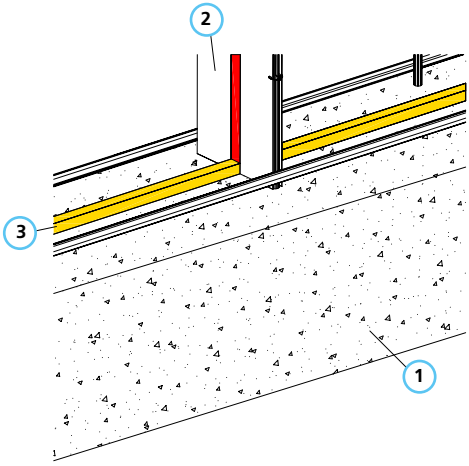
ANCHORED PILING

1. Piling
2. Tieback anchor
3. Smoothing
4. Smoothing or non-degradable rigid panel
5. AMPHIBIA 3000 GRIP
6. RC structure suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SD 029 - AMP]

M1 JOINTS IN RETAINING WALLS

Construction joints and structural crack inducer



M1.2

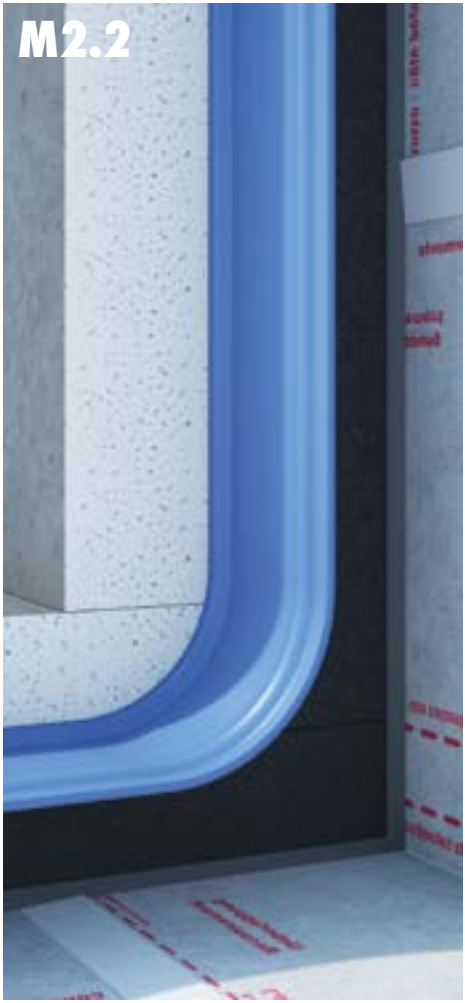
BREAK

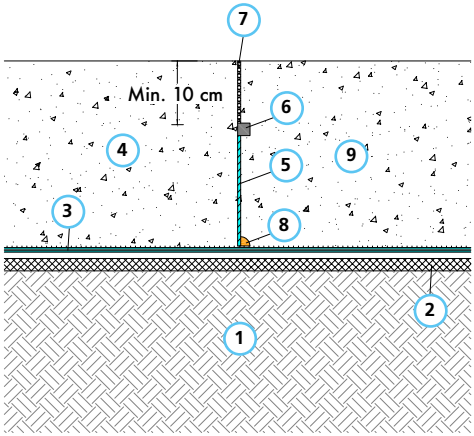
1. RC structure suitable to withstand hydraulic pressures and exempt from defects
2. BREAK
3. WT CONSTRUCTION

[EN_UT SS 002]

> Application of self-sealing structural crack inducer BREAK

M2 JOINTS IN RETAINING WALLS
Expansion joints





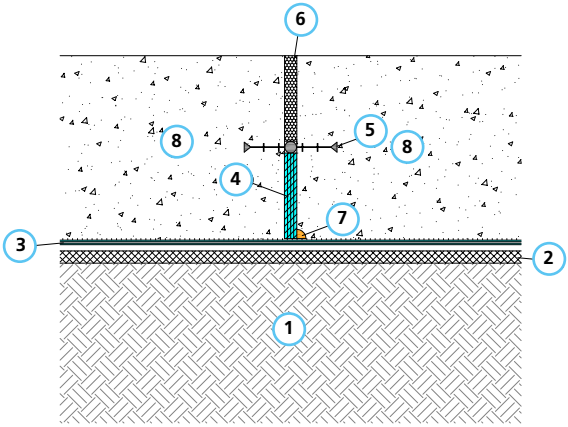
HORIZONTAL SECTION - VIEW FROM ABOVE

M2.1

RC WALLS, VERTICAL DILATATION JOINT

1. Well compacted soil without voids
2. Rigid insulation panel or non-woven textile (min. 250 g/m²)
3. AMPHIBIA 3000 GRIP
4. First part of RC wall suitable to withstand hydraulic pressures and exempt from defects
5. WT PANEL
6. WT EXPANSION
7. Separating element
8. AKTI-VO 201
9. Second part of RC wall suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SS 091 A - AMP - WTP - WTE]



HORIZONTAL SECTION - VIEW FROM ABOVE

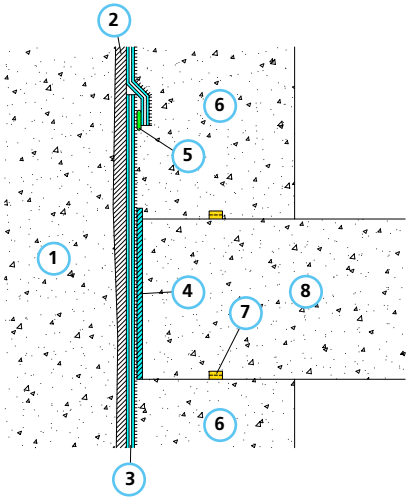
M2.2

VERTICAL EXPANSION JOINT WITH PVC WATERSTOP

1. Well compacted soil without voids
2. Rigid insulation panel or non-woven textile (min 250 g/m²)
3. AMPHIBIA 3000 GRIP
4. WT PANEL (multiples)
5. PVC waterstop
6. Separating element
7. AKTI-VO 201
8. RC structure suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SS 091 B - AMP - WTP]

N SLAB SEALING IN BLINDSIDE INSTALLATIONS



N1/N2

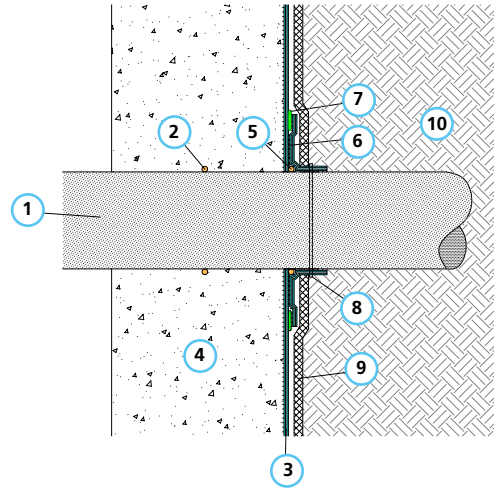
INTERMEDIATE SLAB AGAINST DIAPHRAGM WALL

1. Diaphragm walls
2. Smoothing or non-degradable rigid panel
3. AMPHIBIA 3000 GRIP
4. WT PANEL or double WT PANEL glued/ fixed (on Amphibia) and with their adjacent edges sealed with BI MASTIC/AKTI-VO 201
5. BI MASTIC
6. RC wall suitable to withstand hydraulic pressures and exempt from defects
7. WT CONSTRUCTION
8. Intermediate slab

[EN_UT SD 010 A]

> Application of hydro-expanding rubber WT PANEL for concrete slab sealing

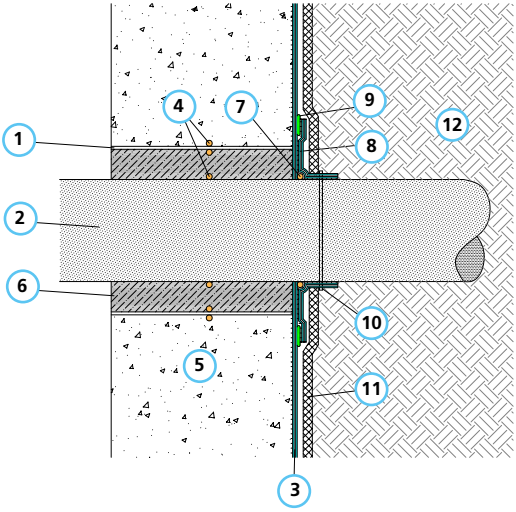
01 SEALING OF PENETRATIONS
Open basement excavation



01.1/01.2
SEALING OF PENETRATIONS

1. Penetration (pre-applied installation)
2. AKTI-VO 201 already crystallized before pouring concrete
3. AMPHBIA 3000 GRIP
4. RC structure suitable to withstand hydraulic pressures and exempt from defects
5. AKTI-VO 201 after casting concrete
6. AMPHIBIA 3000 patch all around the penetration
7. AMPHIBIA SAFETY TAPE and/or BI MASTIC
8. Hose clamp
9. Rigid insulation panels or non-woven textile (min. 250 g/m^2)
10. Well compacted soil without voids

[EN_UT SS 76 - AMP - AKT]

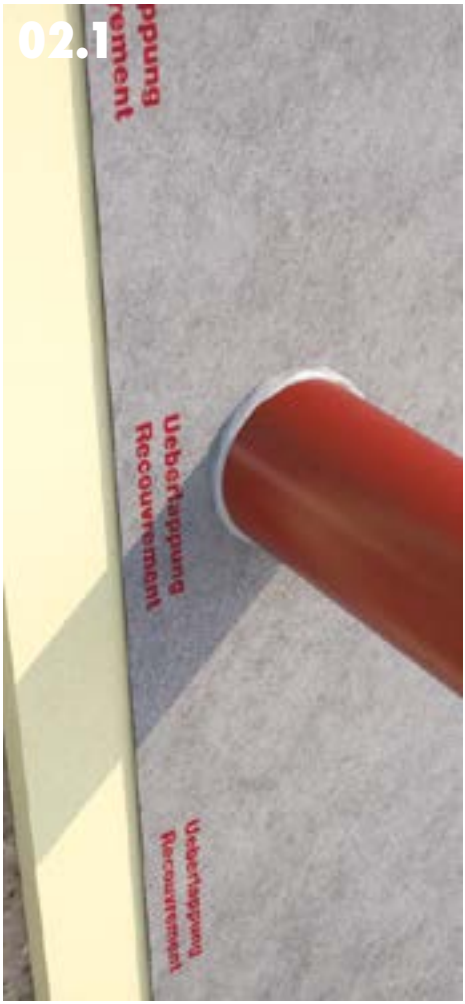


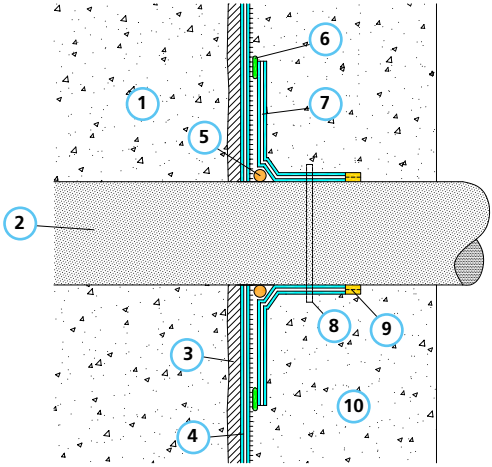
01.3/01.4
SEALING PENETRATIONS WITH PIPE SLEEVE

1. Pipe sleeve installed before pouring concrete
2. Penetration
3. AMPHIBIA 3000 GRIP
4. AKTI-VO 201 already crystallized before pouring concrete
5. RC structure suitable to withstand hydraulic pressures and exempt from defects
6. Filling with FLOWMIX 70
7. AKTI-VO 201 post-getto
8. 8. AMPHIBIA 3000 patch
9. AMPHIBIA SAFETY TAPE and/or BI MASTIC
10. Hose clamp
11. Rigid non-degradable insulation panel or non-woven textile (min 250 g/m^2)
12. Well compacted soil without voids

[EN_UT SS 105 - AMP - AKT - FLW70]

02 SEALING OF PENETRATIONS
Blindside





02.1/02.2

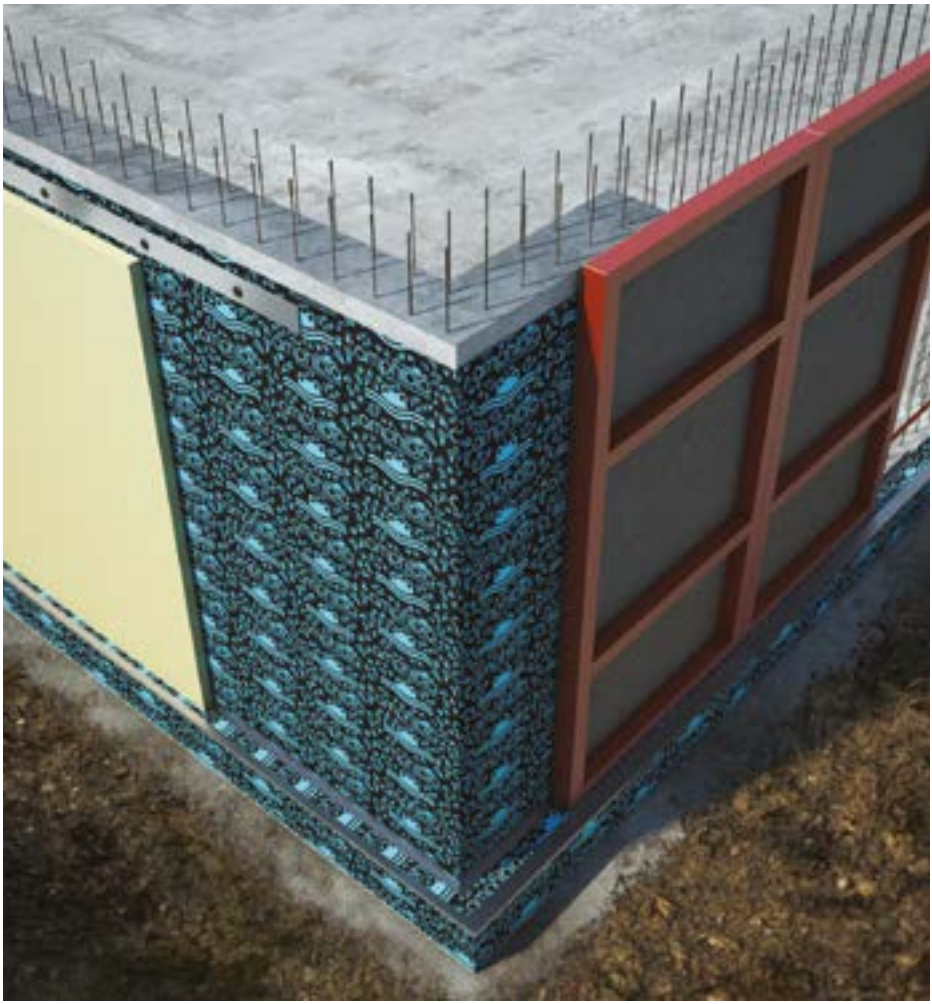
EXISTING STRUCTURES - SEALING OF PENETRATIONS

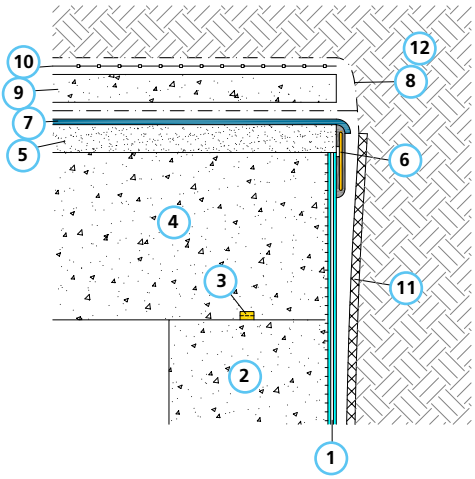
1. Slurry wall/Existing structure
2. Penetration (pre-applied installation)
3. Smoothing or rigid non-degradable panels
4. AMPHIBIA 3000 GRIP
5. AKTI-VO 201
6. BI MASTIC
7. AMPHIBIA 3000 patch
8. Hose clamp
9. WT CONSTRUCTION
10. RC structure suitable to withstand hydraulic pressures and exempt from defects

[EN_UT SD 040]

> Sealing penetration with hydro-expanding mastic and AMPHIBIA system

P CONNECTIONS AND SEALING DETAILS

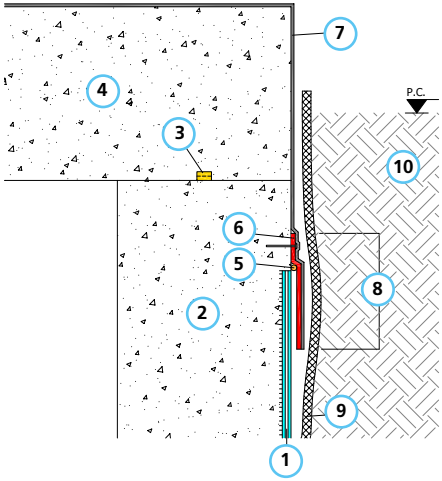




CONNECTION BETWEEN AMPHIBIA AND AQUASCUD

1. AMPHIBIA 3000 GRIP
2. RC wall suitable to withstand hydraulic pressures and exempt from defects
3. WT CONSTRUCTION
4. RC roof slab
5. Concrete sloped screed
6. BI FLEX SYSTEM
7. AQUASCUD SYSTEM 420
8. Separating protective element
9. Concrete protective screed
10. Suitable drainage system
11. Rigid non-degradable insulation panels or non-woven textile (min 250 g/m^2)
12. Well compacted soil without voids

[EN_UT FT 057]



CONNECTION BETWEEN AMPHIBIA 3000 GRIP AND BITUMINOUS WATERPROOFING MEMBRANES

1. AMPHIBIA 3000 GRIP
2. RC wall suitable to withstand hydraulic pressures and exempt from defects
3. WT CONSTRUCTION
4. RC roof slab
5. AKTI-VO 201
6. Zinc-coated metal flashing (min. 20 cm)
7. Bituminous waterproofing membrane
8. Part of bituminous waterproofing sheet membrane to be torched onto the metal flashing
9. Rigid non-degradable insulation panels or non-woven textile (min 250 g/m^2)
10. Well compacted soil without voids

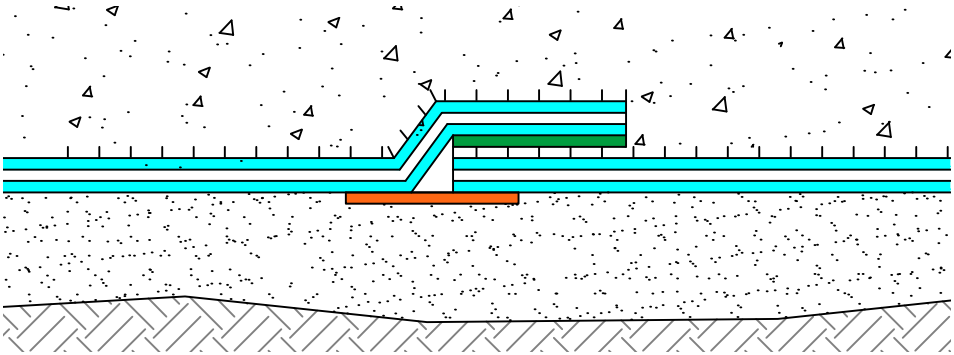
[EN_UT SS 109]

FOCUS
radon and methane gas

GAS RADON

The presence of gas (methane and radon) in the soil can be a relevant problem for underground structures. In particular, **radon is a radioactive gas naturally occurring in the ground**. There is a higher concentration of radon if the house is above or near granitic or volcanic land, especially if its foundations are resting directly on the ground.

What can be done about it? Once ascertained that the radon level in the house is higher than average – radon is also present in upper floors, but it decreases with height – you need to reduce its hazard. Soil depressurisation, forced ventilation in crawl spaces, foundation waterproofing, crack sealing as well as ventilation of rooms can be carried out to face the issue.



RADON & UNDERGROUND STRUCTURES: DESIGN NOTES

Radon is an inert gas, which means that it does not chemically react with the environment around it. Once generated, it can migrate through the soil and spread from construction materials. The concentration of radon in a house depends on many factors: the presence of uranium and radium in the soil and in construction materials, soil permeability, construction techniques and living habits. The pressure inside buildings is generally lower than outside. The lower pressure influences the normal convective motion of the soil, so that radon is 'drawn' inside the buildings themselves, penetrating through different areas: cracks in the foundation bed or vertical walls, construction joints in the horizontal and vertical connection points, bed interruptions or drains.

In this sense, both in new buildings and in underground structures to be refurbished, at the design stage it is best to provide for vents, construction joints, cracks and drains.

In this way the Amphibia system can be considered a protection against gas ingress in the structures reducing risks for health.

CASE HISTORY
Amphibia

Year: 2020
Location: Gorizia (Italy)

Year: 2020
Location: Belgrade (Serbia)

Year: 2020
Location: Sofia (Bulgaria)

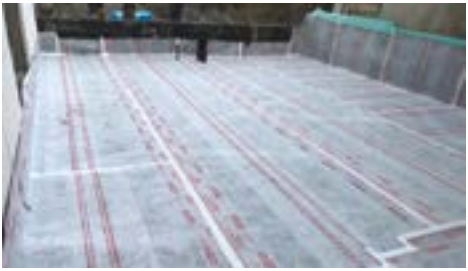
Year: 2019
Location: Milan (Italy)

Year: 2019
Location: Barcelona (Spain)

Year: 2019
Location: Ankara (Turkey)

Discover all Amphibia case histories >

Year: 2019
Location: Verona (Italy)



Year: 2019
Location: Slovenj Gradec (Slovenia)

Year: 2019
Location: Tel Aviv (Israel)

Year: 2018
Location: Zurich (Switzerland)

Year: 2019
Location: Rome (Italy)

Year: 2018
Location: Saint Tropez (France)

CASE HISTORY
Amphibia

Year: 2018
Location: Verona (Italy)

Year: 2017
Location: Milan (Italy)

Year: 2017
Location: Tunbridge Wells (United Kingdom)

Year: 2017
Location: Bergamo (Italy)

Year: 2017
Location: Lucca (Italy)

Year: 2017
Location: Jesolo (Italy)

Our services

> **Support at the design stage**

VOLTECO su misura
vestiamo il tuo progetto

> **Training: agents, distributors, installers, design engineers**

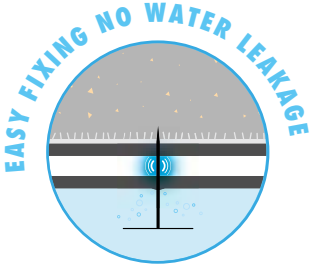
training VOLTECO

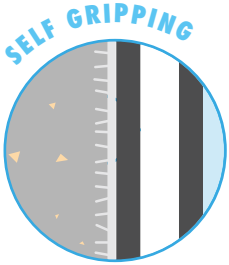
> **Network of qualified installers**

TEAM H2OUT
NETWORK SPECIALISTICO BY VOLTECO

> **Case history: www.volteco.com**

VOLTECO durability check up





Benefits of **Amphibia** #Staydry

RA - RB | D | 02 | 00 | - | 10/2023 | EN |

COMPANY CERTIFIED MANAGEMENT SYSTEM QUALITY
ISO 9001 - ENVIRONMENT ISO 14001 - SAFETY ISO 45001

It's a waterproof life.

VOLTECO
WATERPROOF TECHNOLOGY

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