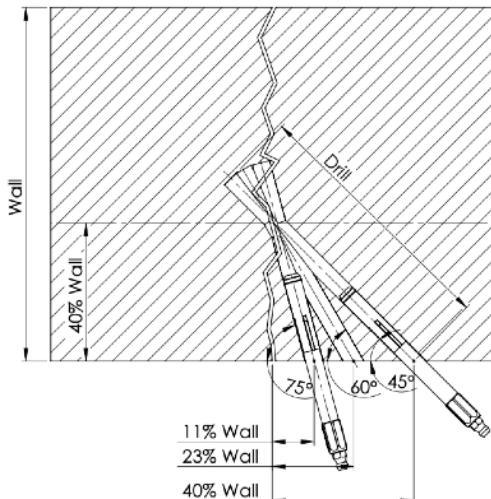


## Proper Injection Drilling

### To hit the light on the scratch



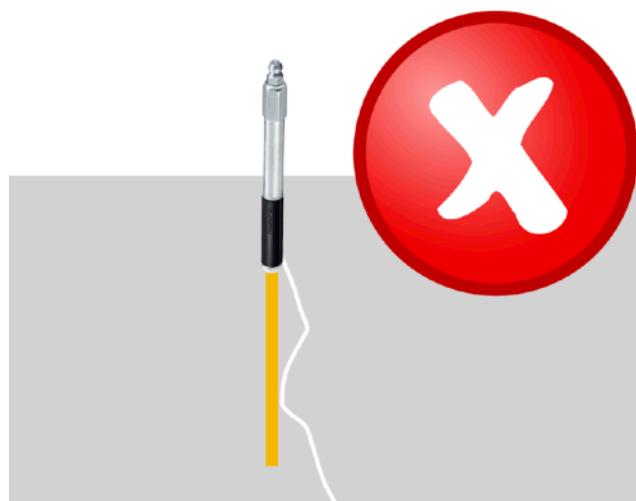
### Place, angle, drilling depth

This instruction is a brief description of proper drilling. The success of the entire injection process depends on drilling the holes correctly. We do not have the ability to see inside the wall, we only see how the crack runs on the outside, but we do not know its course inside. Therefore, by drilling alternately (on one and the other side of the crack), we have the best chance of hitting the light of the crack.

### !!!HOW NOT TO DRILL!!!

#### DO NOT DRILL INTO THE CRACK

- ❖ The packer cannot be properly anchored.
- ❖ The packer will further delaminate the crack when twisted.
- ❖ The packer's rubber bladder will seal off the crack, making it impossible for the resin to flow into the crack.



#### TOO CLOSE vs ANGLE

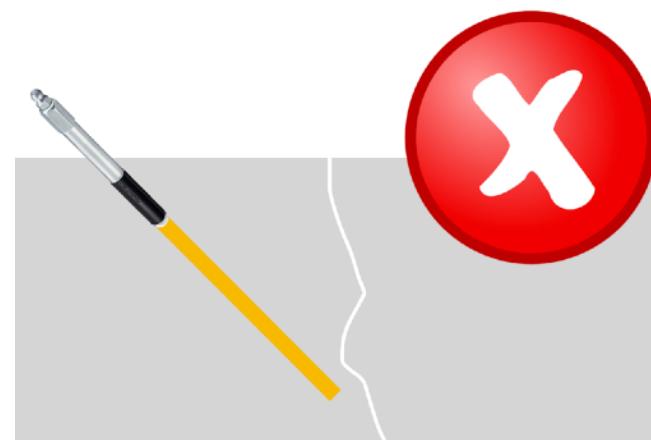
- ❖ The expanding rubber seals off the crack, preventing resin from flowing through.





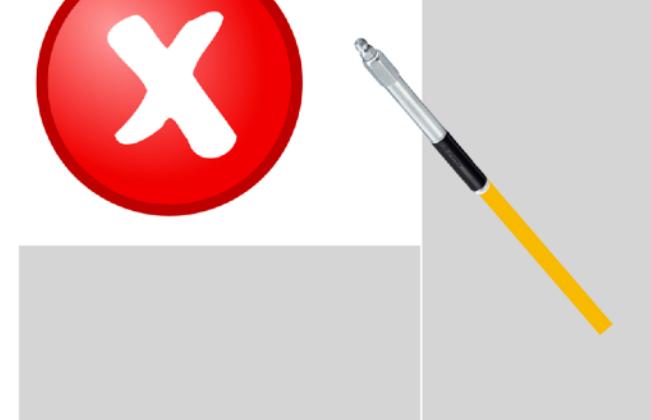
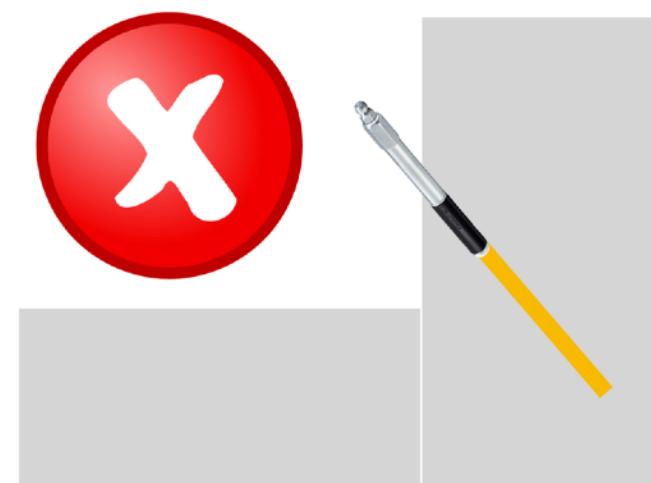
## IMPROPER ANGLE vs DISTANCE FROM CRACK

- ❖ If the crack is intersected, the resin will flow unevenly.
- ❖ There is a high probability of missing the crack (depending on its path inside the structure).



## THE DISTANCE FROM THE CRACK IS TOO LARGE vs ANGLE

- ❖ There is a low probability of intersecting the crack.

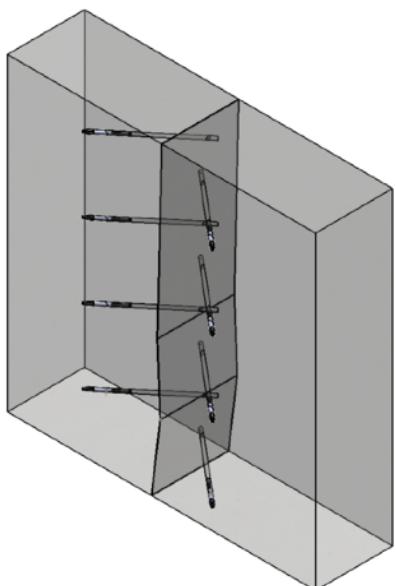
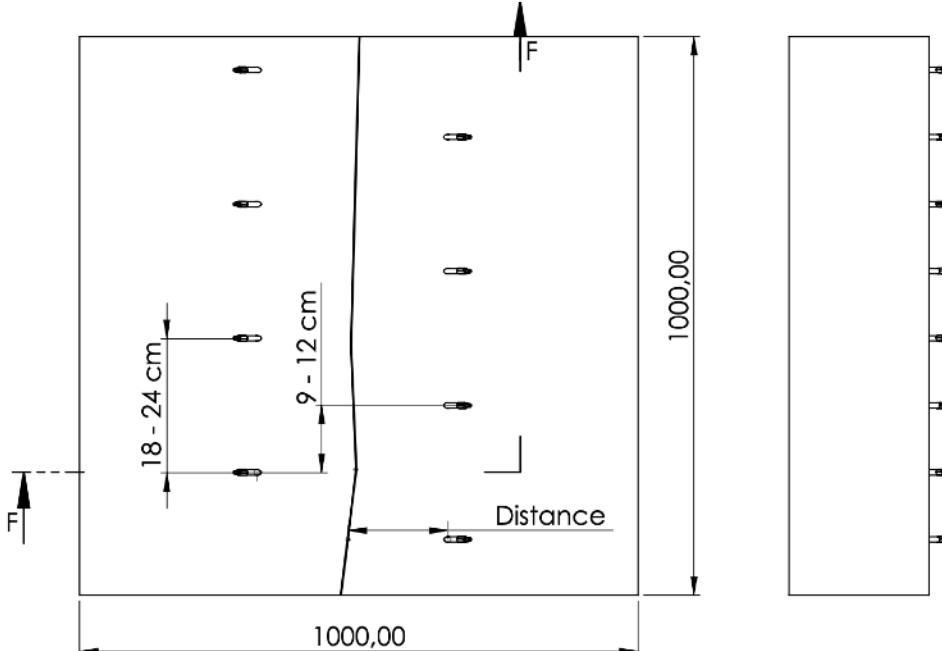
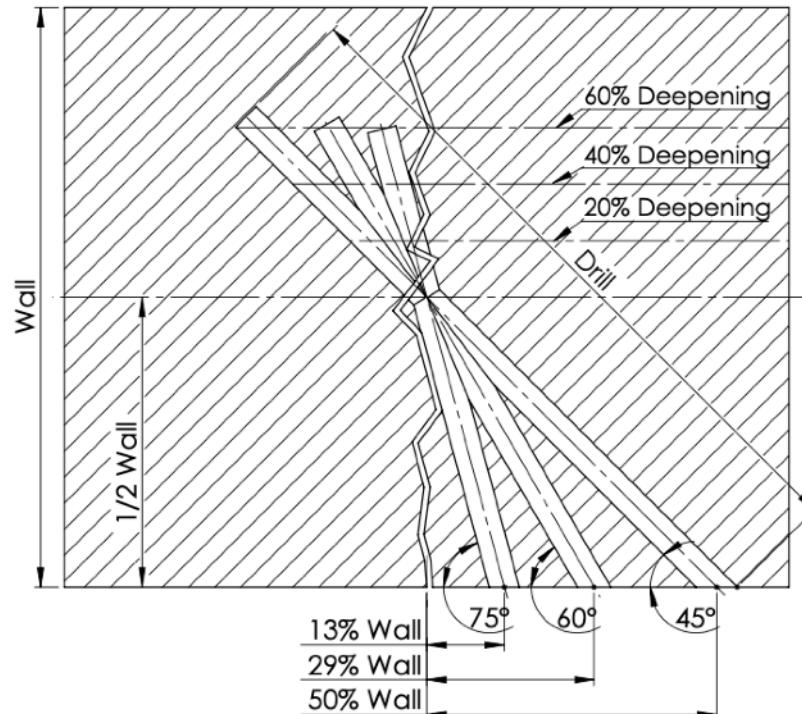


## INCORRECT EVALUATION OF THE COURSE OF THE JOINT

- ❖ Despite the correct angle, length, and distance of the drilled hole, the working contact runs through from the other side of the element.

## HOW TO DRILL FOR INJECTION

- ❖ At an appropriate distance from the crack
- ❖ At the appropriate angle (resultant of the element thickness and distance from the crack)
  - **the 45° angle is not always appropriate, it is appropriate only if the distance from the crack is equal to 50% of the wall thickness, the angle must be adjusted to the distance from the crack.**
- ❖ To an appropriate depth (about 2/3 of the wall thickness).
- ❖ From both sides of the crack - this type of drilling alternately increases the chance of hitting the crack plane.
- ❖ Use 8-10 drill holes per 1 meter of crack length.

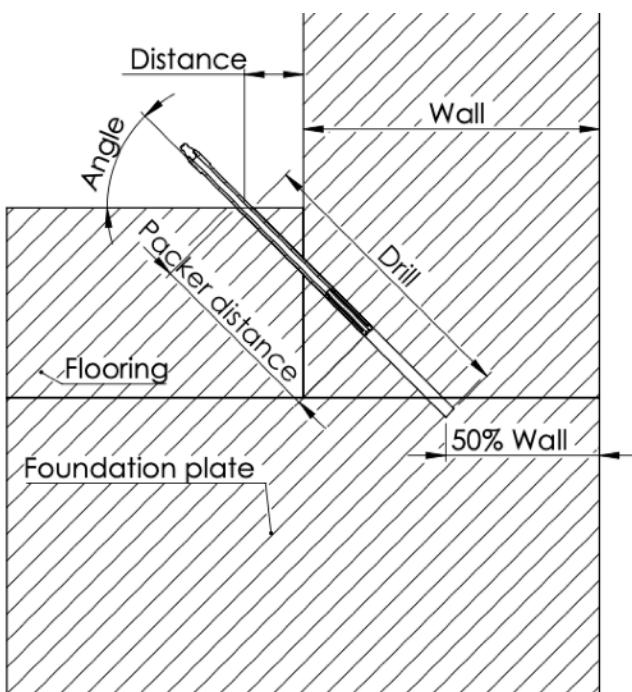


CROSS SECTION F-F  
SCALE 1 : 10

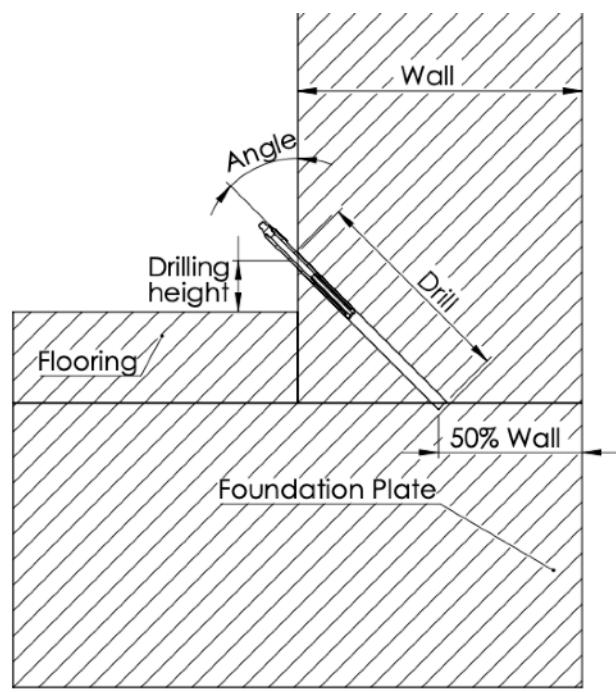
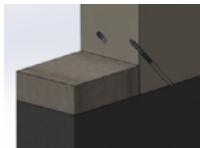
## HOW TO DRILL FOR INJECTION

Standard injection packers usually have a total length that is sufficient for most injection work. Longer injection packers (cores of injection packers) are needed when we need to anchor the packer deeper than the standard depth, for example:

- ❖ When we need to inject the joint between the foundation wall and the slab through the floor
- ❖ When there is an air gap between the walls
- ❖ When there are double building elements that require injection only in the lower (farther) element due to its construction.
- ❖ **Injection packer extensions** - Thanks to the innovative "Packer Connector" system, you don't have to buy a packer with a specific length anymore. Now, you can extend a standard 110 mm packer with 15 cm sections. The use of a PI-SCREW nipple with a special pre-application coating ensures that the seal is maintained even at high pressure.



SECTION A-A  
SCALE 1 : 5

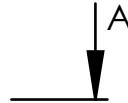
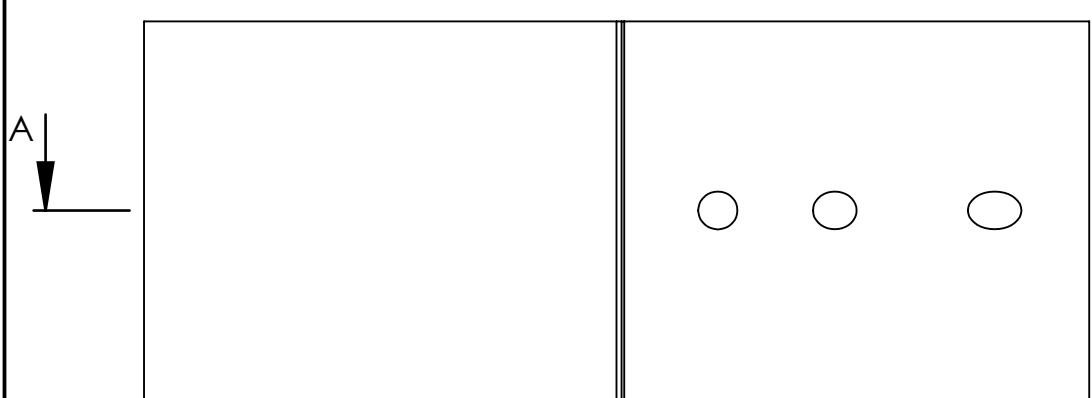
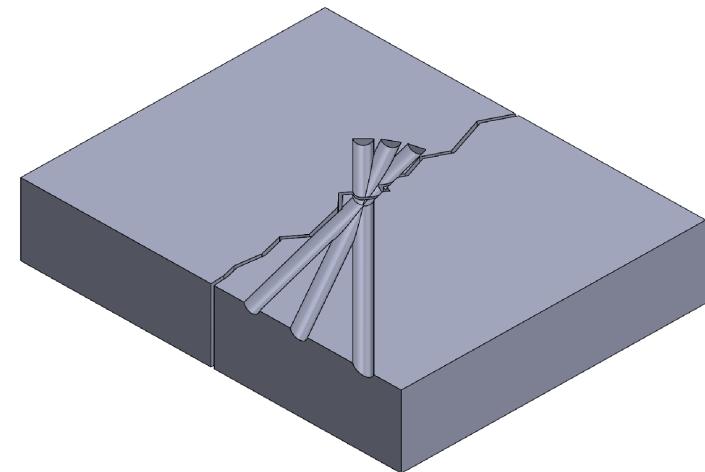
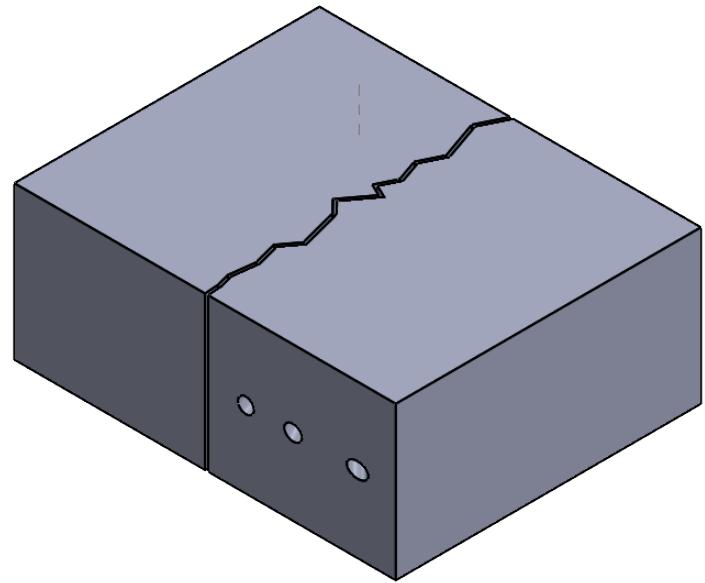
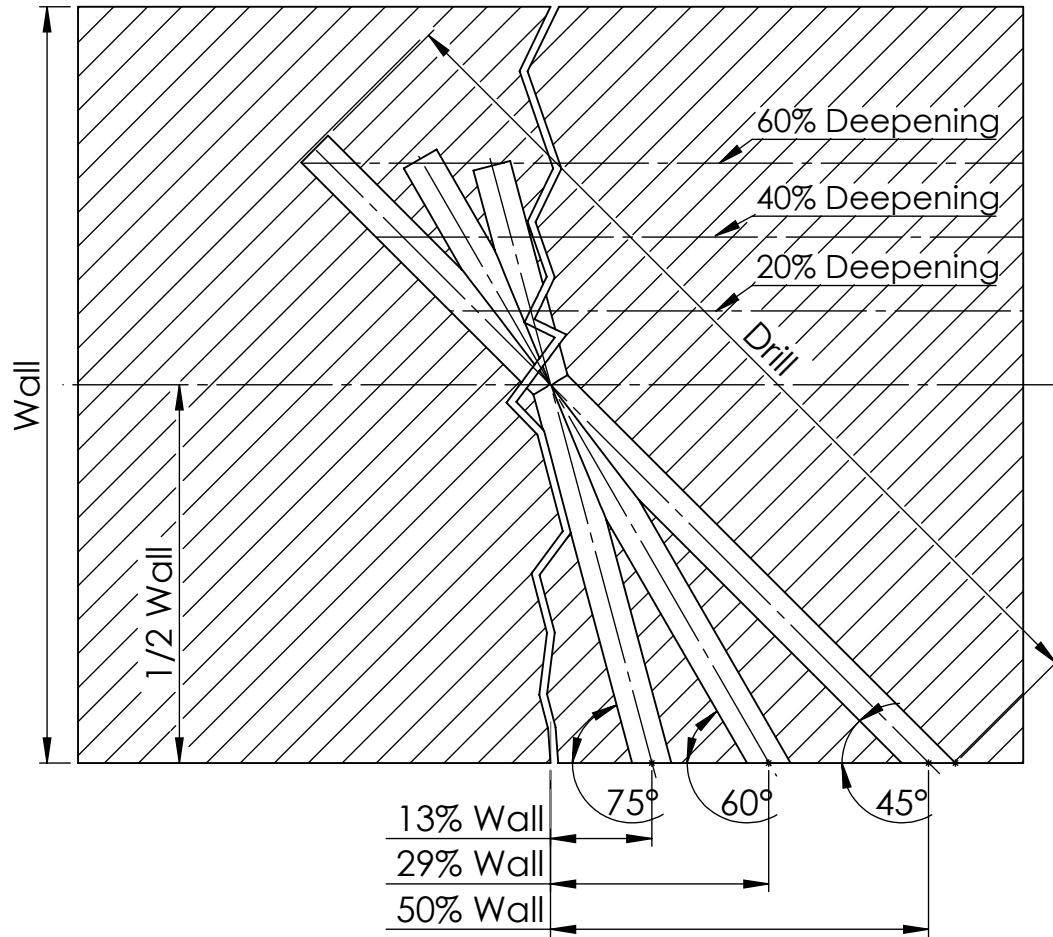


SECTION A-A  
SCALE 1 : 5



Attached below are the prospectuses for the intersection of the crack in 50%, 40%, 30% of the wall thickness.

Thank you to the Hamppack® brand for providing marketing materials and assistance in creating this description. The products presented in the description are available on the platform: [www.pakery.pl](http://www.pakery.pl)



**HAMMPACK**

Name:  
Correct drilling

Material:

Concrete

Weight:

Date:

16.01.2023

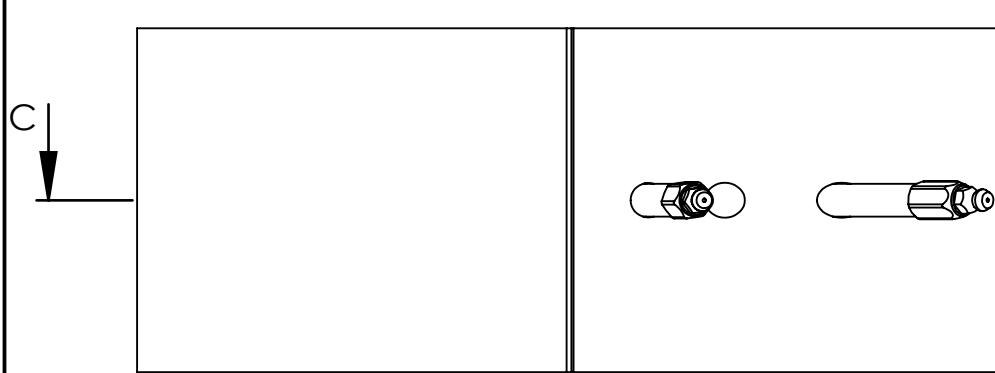
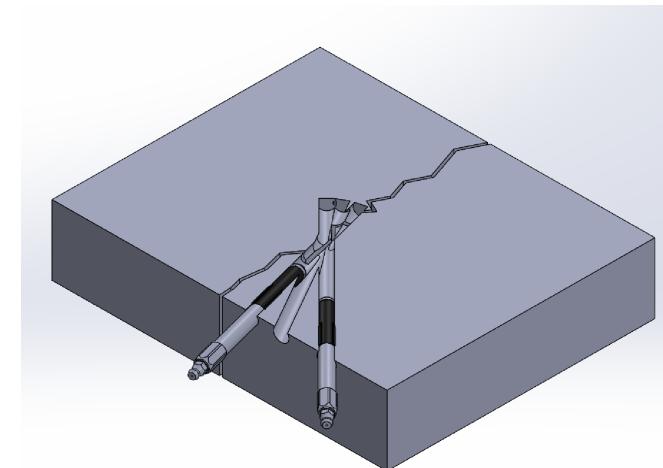
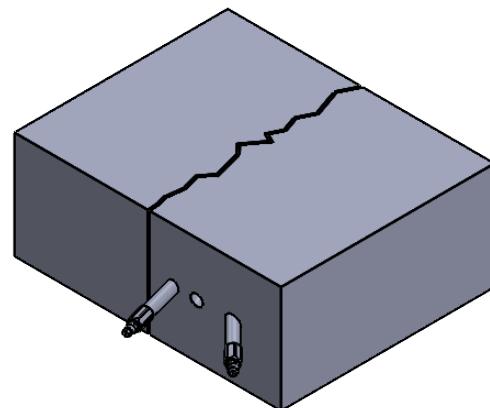
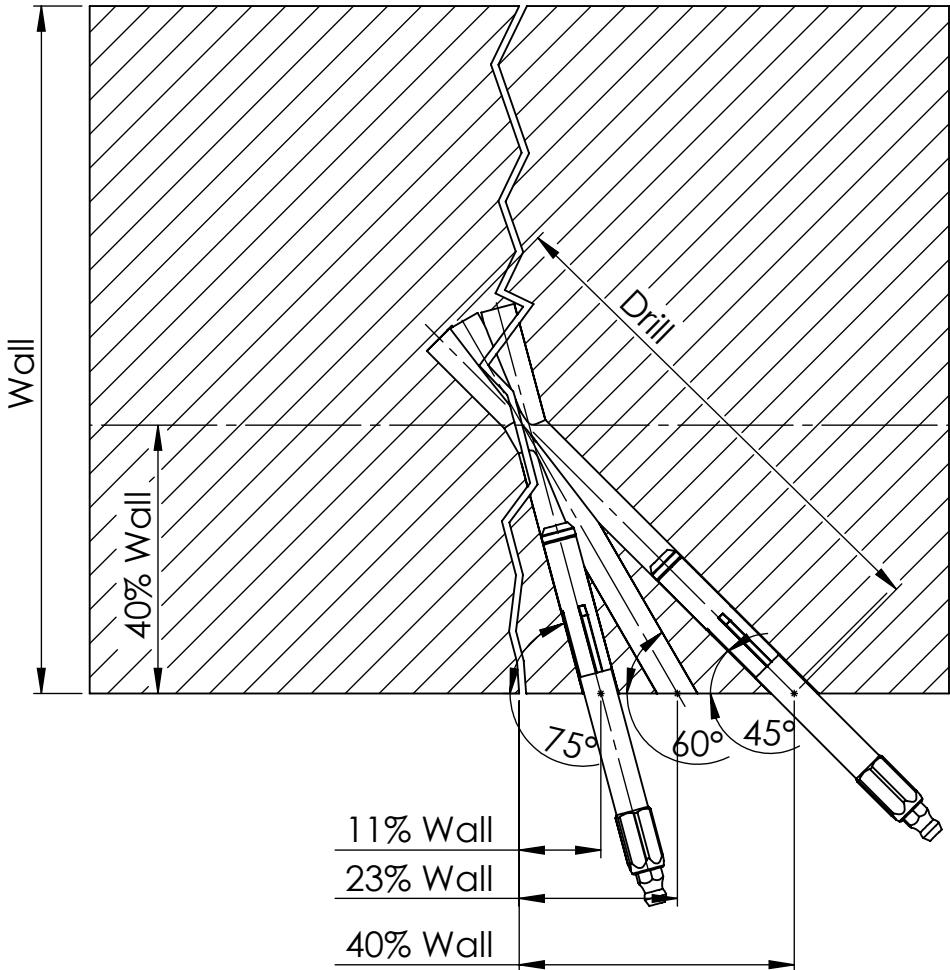
Drawing no:

Nr:

A4

Arkusz 1 z 1

Skala: 1:2



**HAMMPACK**

Name:   
Correct drilling 40%

Material:

Weight:

Date:

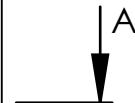
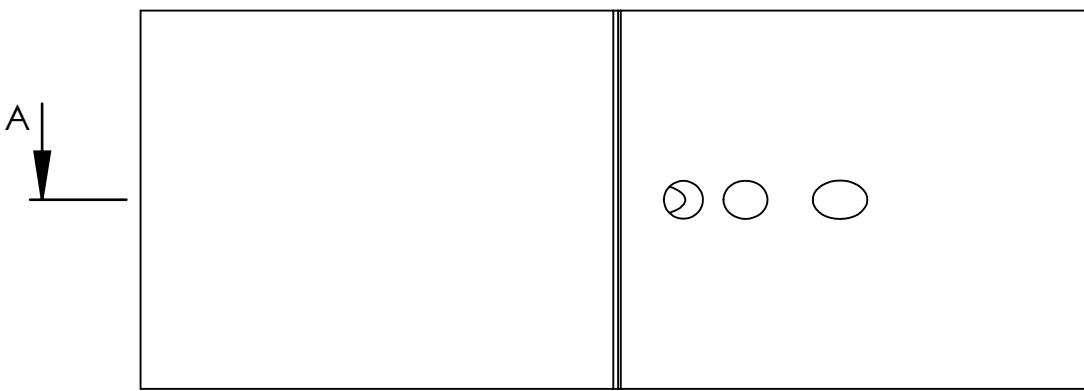
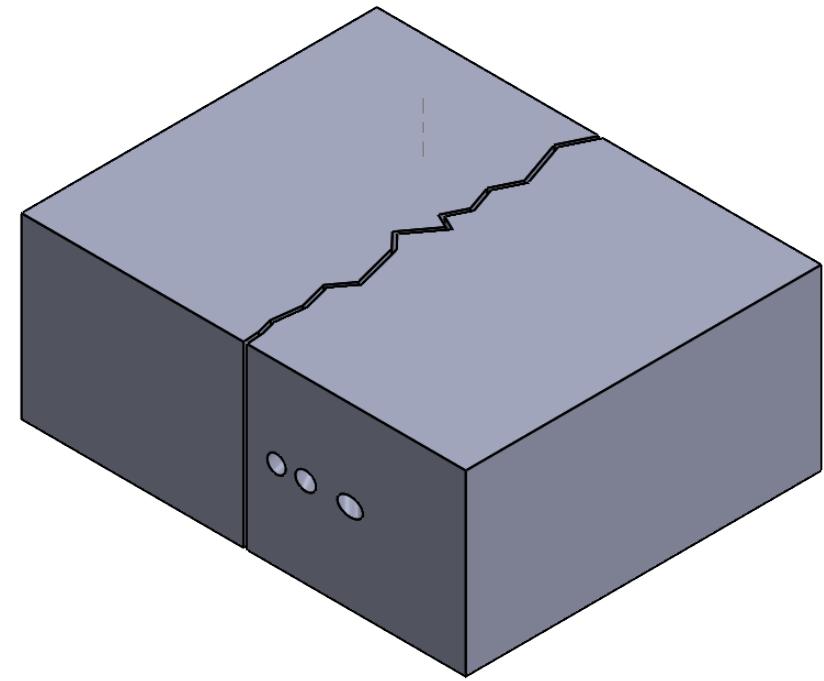
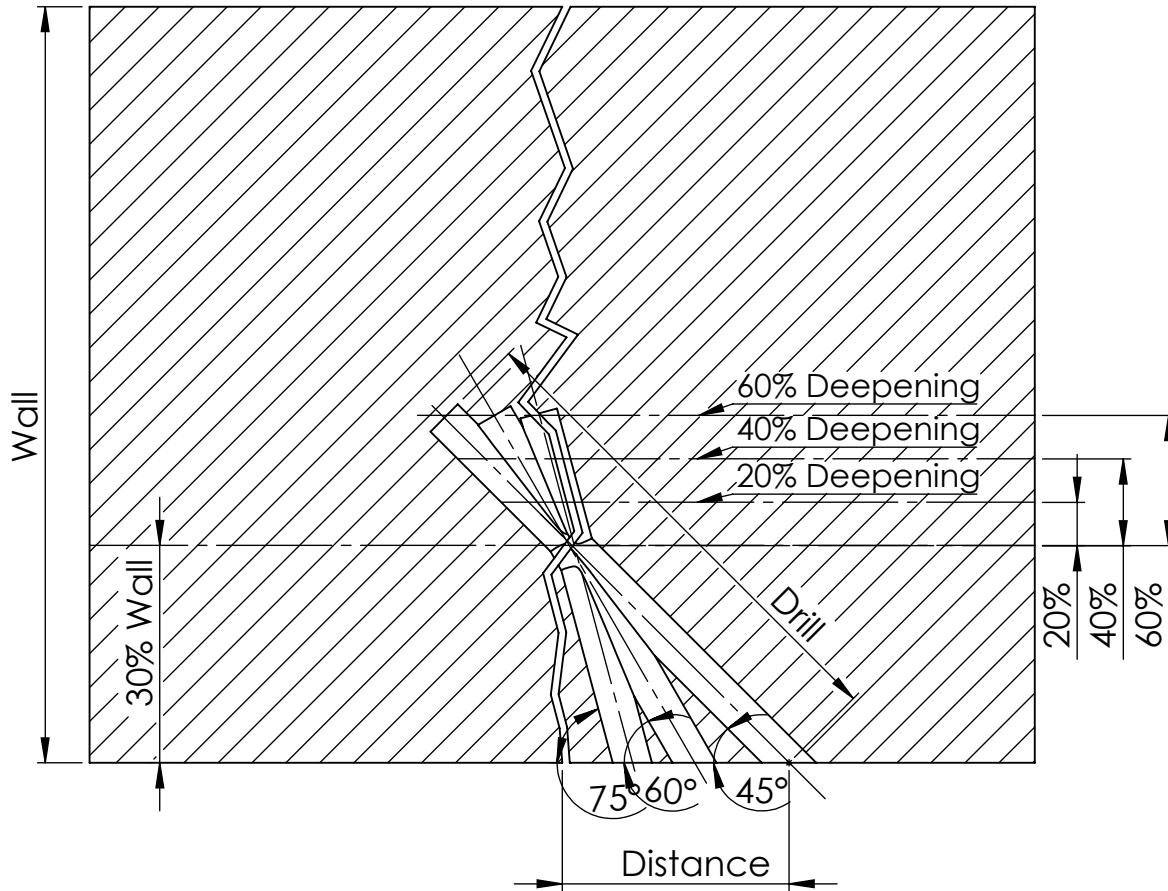
Drawing no:

Nr:

A4

Akusz 1 z 1

Scale: 1:2.2



**HAMMPACK**

Nazwa rysunku:  
**30% Drilling**

Materiał:

Masa w gramach:

Data:

16.01.2023

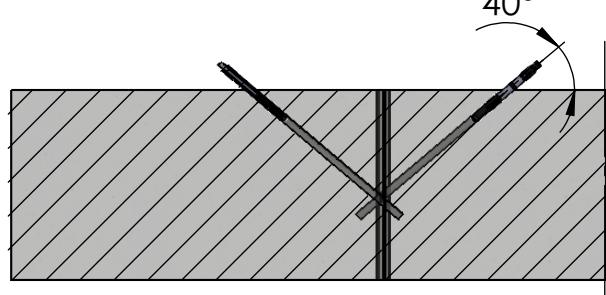
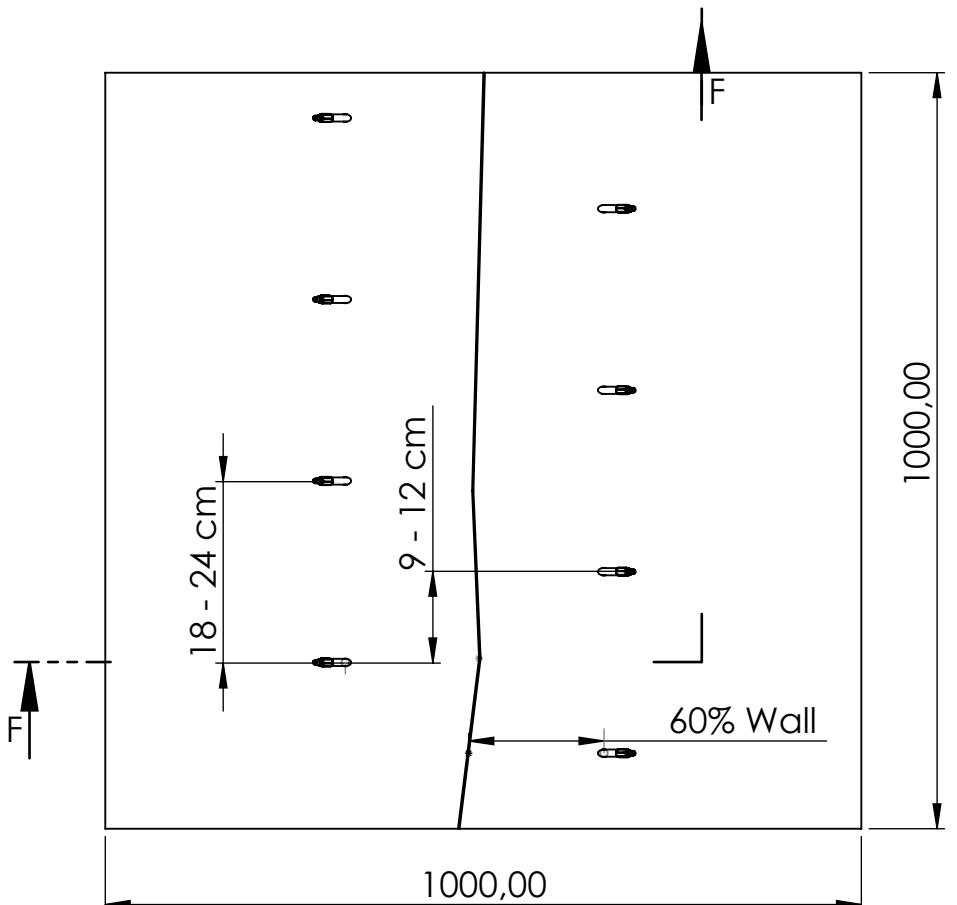
Nr rysunku:

Nr rysunku  
wyższego:

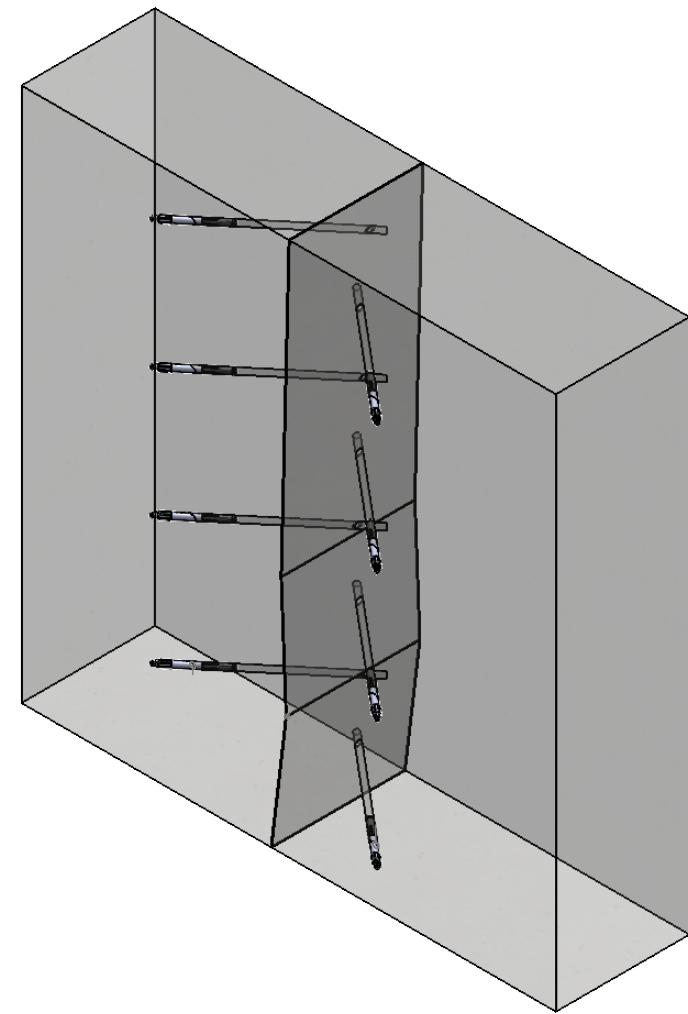
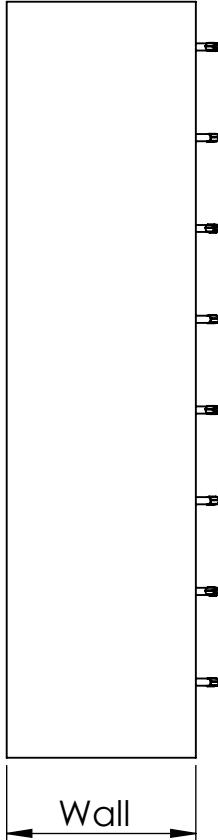
A4

Arkusz 1 z 1

Skala: 1:2



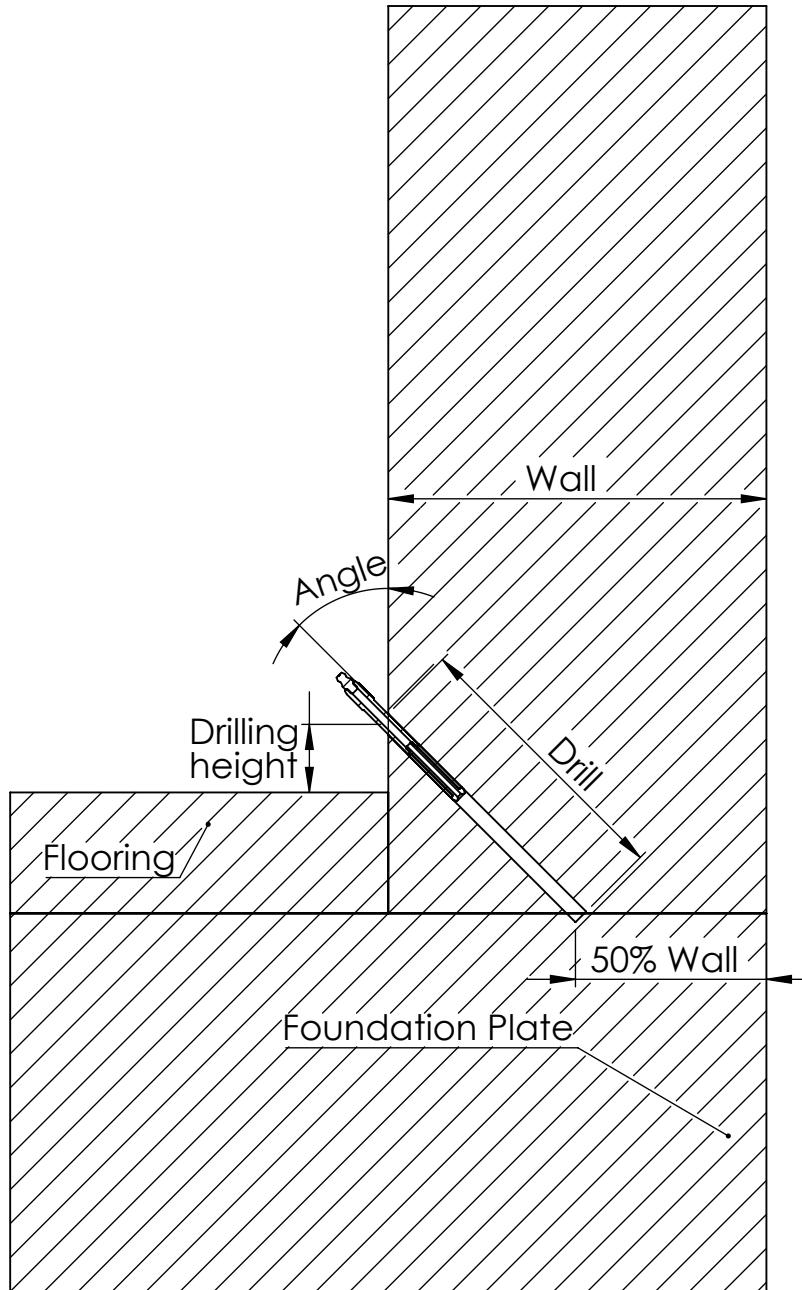
CROSS SECTION F-F  
SCALE 1 : 10



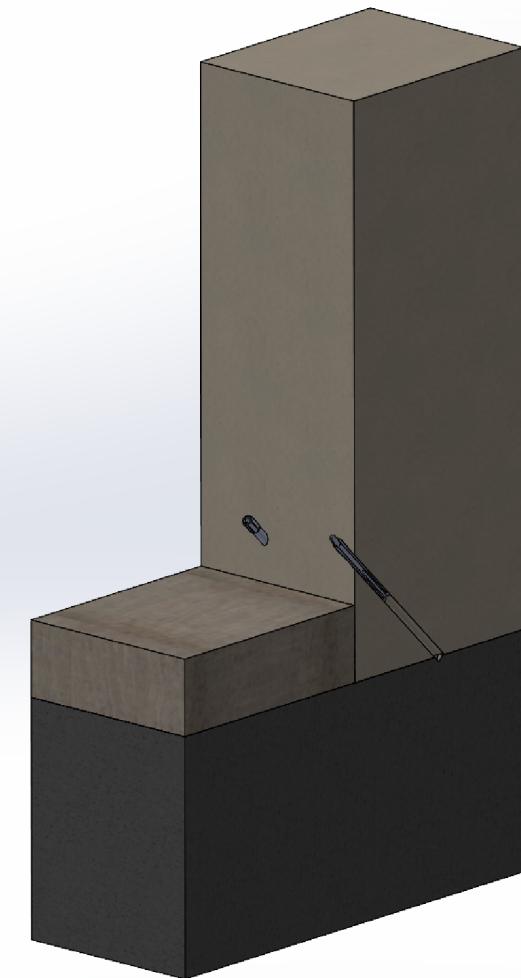
**HAMMPACK**

Name:  
Proper location of  
injection holes

Material:	Weight:	Date:	Drawing no:	Nr:	A4	Arkusz 1 z 1
Concrete		06.12.2022			A4	Skala: 1:10



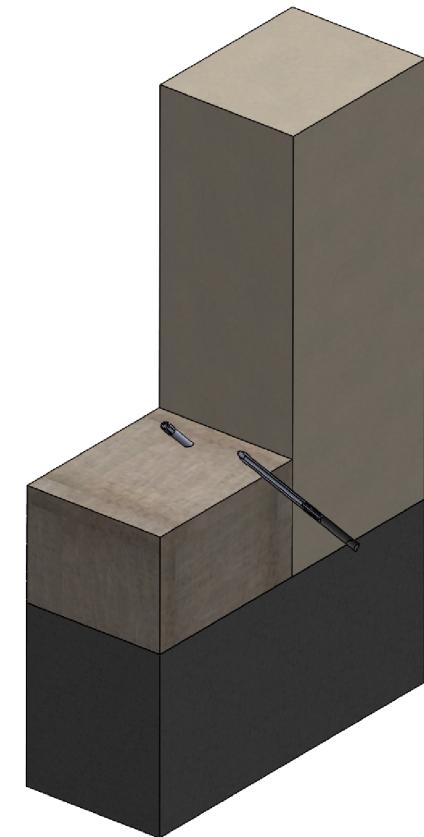
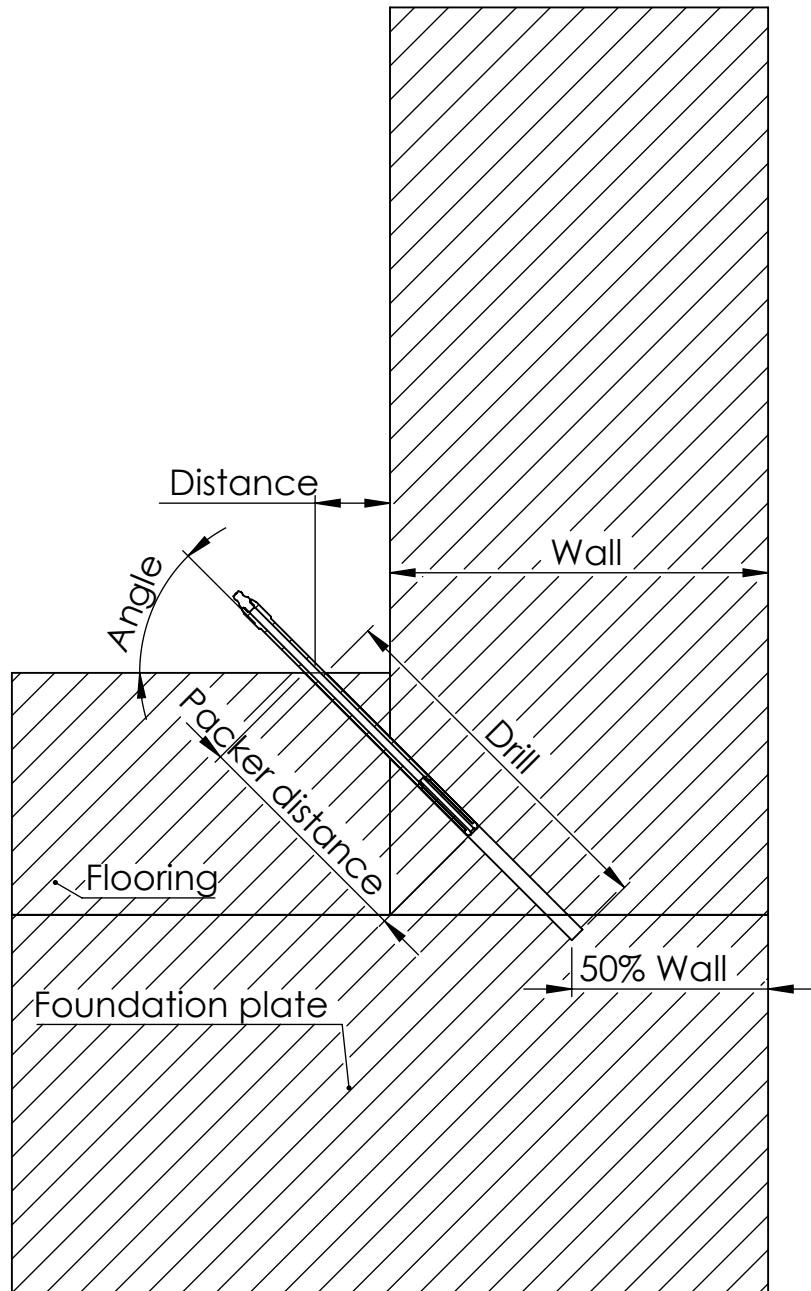
SECTION A-A  
SCALE 1 : 5



**HAMMPACK**

Name:  
Drill in the wall

Material:	Weight:	Date:	Drawing no:	Nr:	A4	Arkusz 1 z 1
		16.01.2023			Skala: 1:10	



**HAMMPACK**

Name:  
Drill in the floor

Material:	Weight:	Date:	Drawing no:	Nr:	A4	Arkusz 1 z 1
		16.01.2023			Skala: 1:10	