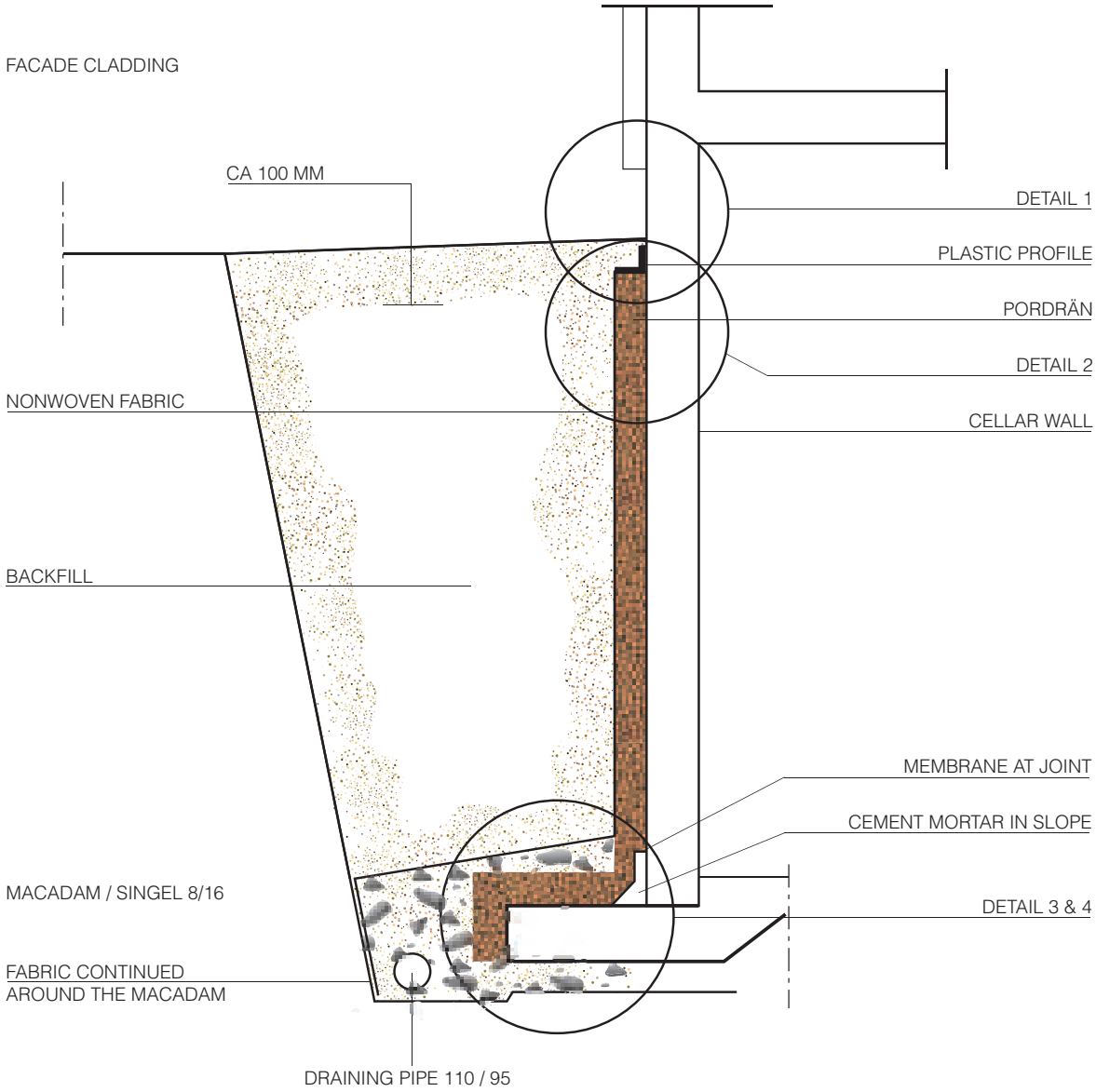
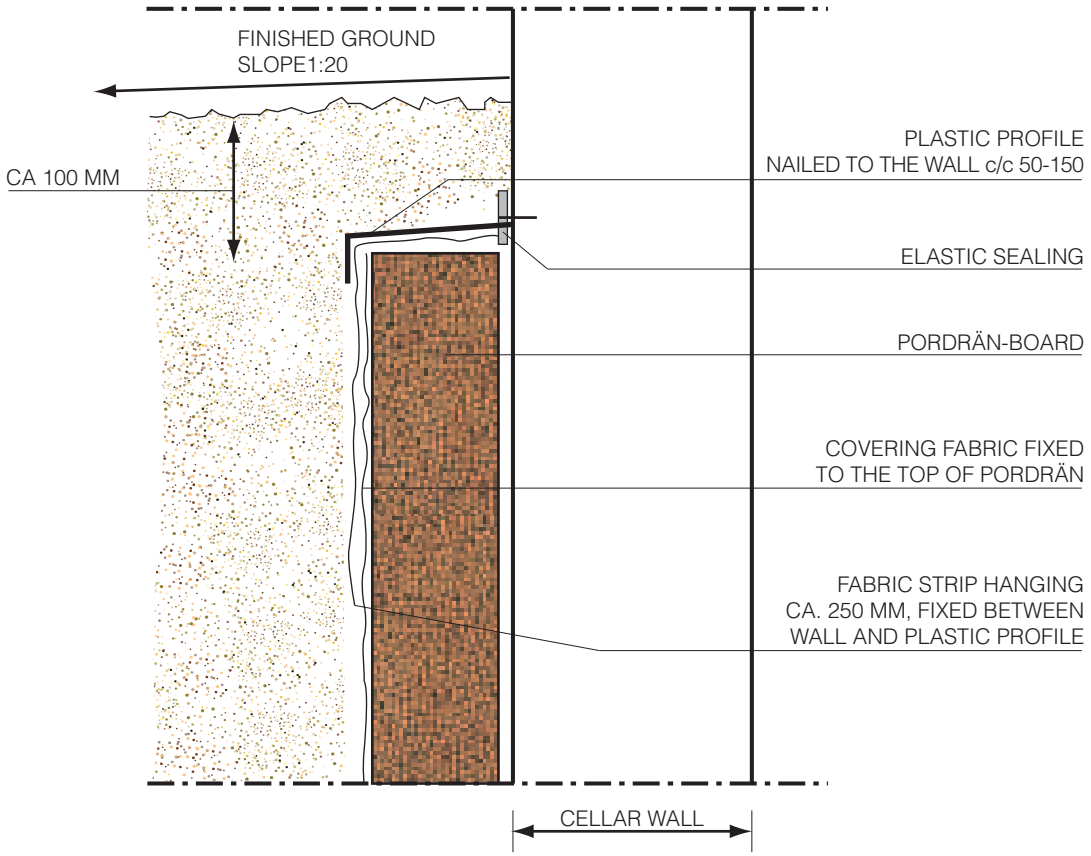
PORDRÄN®
Värmeisolerande och dränerande skivor

Moisture barrier, Drainage and Thermal insulation of cellar wall



- PORDRÄN is designed to be used as moisture barrier, drainage and thermal insulation between cellar wall and the adjacent soil.
- PORDRÄN can be used in new constructions, extensions and reparations.
- PORDRÄN is fitted directly to the wall without any membrane.
- Backfill with the excavated soil.

Detail 1



Material:	*Pordrän*	*Adhesive mastic / Holders*	*Waterproofing membrane*	
	Fabric	*Plastic profile*	*Elastic sealing*	*Nailplug*

Preparation
In case of additional insulation, the exterior waterproofing membrane has to be removed if possible. Usally is satisfactory to perforate the existent waterproofing membrane to permit ventilaton of the moisture through the wall. The drying process is faster and more complete if less asphalt remains on the wall. Damaged corners and edges have to be repaired with cement mortar. For new building see: Pordrän type drawing K1.

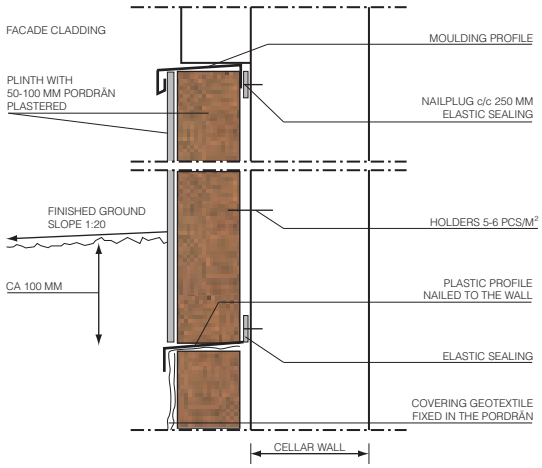
Fitting the pordrän
Pordrän is to be fixed against the cellar wall with spot-gluing. As an alternative the board can be mechanically fixed with holders (recommended in winter). The length of the holders is determined by the thickness of the board. Five fixing points per board in case of guing and one fixing.

Fabric (nonwoven)
Pordrän has to be protected against the refilled soil with a layer of nonwoven fabric class 2. The fabric is to be applied from the bottom outside of draining layer of macadam and is to be joined along the boards. The fabric is to be spliced with ca. 100 mm overlapping and ended at the upper boars top edge. A strip of fabric is fitted to the wall together with and under the plastic profileso that it covers ca 250 mm of the Pordrän-board and it´s fabric protection. This is to prevent that the fabric slips apart at the backfilling.

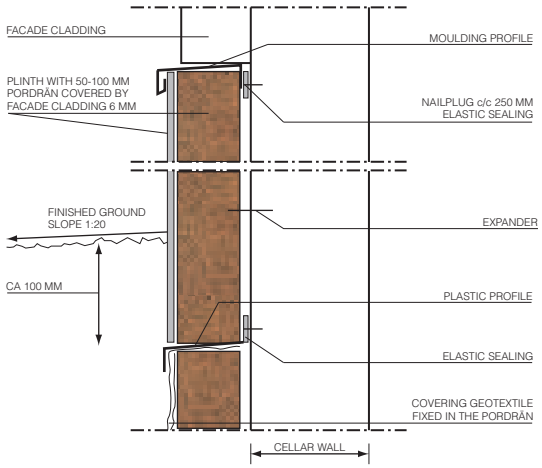
Plastic profile
The plastic profile is fitted on top of the upper pordrän-board ca. 100 mm below the ground level. The profile is serving as mechanical protection for the Pordrän-board, as fitting device for the fabric and to prevent that water pours in between the cellar wall and the pordrän-board. Fasten the plastic profile with nails c/c 50-150 mm and seal it to the wall with elastic sealing material. Remove the plaster (if there is) in order to fit and seal the profile against the ”clean” wall.

Detail 2

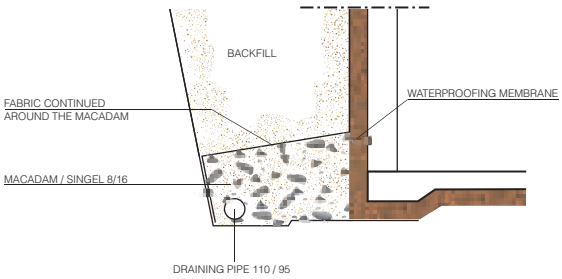
Plaster on the Pordrän
Spot-glue the Pordrän-board with adhesive mastic according to detail 1.
Pordrän on plinth above the ground is to be fixed mechanically with 5-6 holders/m^2 which are well fixed in the wall. The length of the holders is determined by the thickness of the board. The Pordrän-board is to be placed on the platic profile and the top of it is to be covered with moulding profile fastened in the wall. Before plastering a mesh is set up. Fix the mesh with 2 holders and 10 clips/m^2. If the plinth´s height height above ground is higher then 780 mm a load bearing profile is used which is fixed to the wall with expanders.



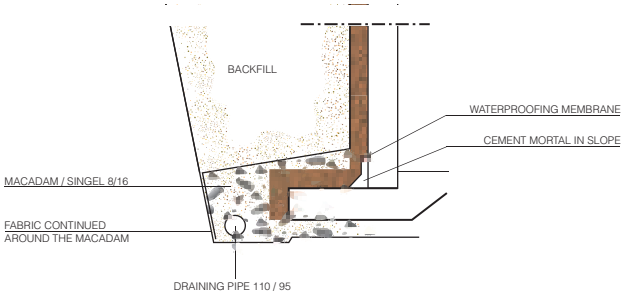
Facade cladding on Pordrän
Spot-glue the pordrän-board with adhesive mastic according to detail 1.
The Pordrän-board is to be placed on the plastic profile. Fix the Facade cladding mechanically with expanders trough the Pordrän into the wall. The length of the holders is determined by the thickness of the Facade cladding and the thickness of the Pordrän-board. End the Wall plinth with a moulding profile at the top. Paint the board according to the manufacturer´s instructions.



Detail 3



Detail 4



Joint between cellar wall and overhanging part of the ground plinth is to be finished with cement mortar with slope 1:1 or 1:2. The joint is to be clompeted with waterproofing membrane. The membrane is to be applied from 100 mm up on the wall and till 50 mm down on the plint. This membrane gives an extra safety against entering water in case of e.g. stop in the drainage system, so this work moment owe to be done with extra accuracy and concern. All waterproofing reduce the drying process therefore is important that the membrane ends according to the description above.

In case of detail 4 the membrane applies on the joint between wall and plinth only.
The waterproofing membrane is to be continued 100 mm above and below the joint. See even detail 3.
The pordrän-boards are to be applied according to detail 1 and detail 2.

Pordrän – The original

General
Pordrän, developed and used since yhe 60´s, is a composite meterial made of EPS, expanded polystyrene and binder. The material has its given fields of use in building below ground whn a combination of good water drainage and good thermal insulations is to be achieved. The material is well-tried and its properties are documented by the Swedish National Testing and Research Institute. Its functioning is a result of the execution, a series of work moments, which have to be done in professional and careful way. Follow your instructions!

Thermal insulation
Wet insulation materials have very low thermal insolution properties. Pordrän has high thermal insulation values and these are permanent. Thermal insulation, right applied on the outside of cella wall, is a prerequisitefor a dry, warm and energy saving building.

Moisture barrier
This has two aspects. The first refers to the waterproofing of the Pordrän material itself. This is achieved by the binder which covers the cells. Moisture can not intrude in the Pordrän cells and the thermal insulation properties are maintained. The second refers to the waterproofing of the building which is achieved because the Pordrän-board:

1. Is powerfully water draining. Condense and ground water pours vertically to the draining pipe and not towards the wall.
2. Has minimal capillary ascending height. Wet soil is not influencing its function.
3. Is highly thermoinsulating. The protected wall remains warm. The condense point is tranferred out into the Pordrän-board.

Draining
To profit of the Pordrän-board´s high draining capacity and to secure a dry cellar wall the building has to be drained with draining pipe 110/95. Ducting for rainwater and downpipes may <u>not</u> be connected to the draining system. In case of new construction of cellars the draining system´s highest point is to be placed 100 mm below the lowest point of the building and is to be executed with a minimum slope of 1:200. For cellar with additional insulation when there is risk for setting, the draining pipe is is placed horizontally and in level with the underside of the ground plinth. Draining pipe, rainwater ducting and downpipes are to be connected to an approved surface inlet. The draining pipes are to be surrounded with macadam e.g. 8/16 mm. The filling shall cover the pipes minimum 100 mm and well jointed to the pordrän-board. flushing wells are to be installed.

Backfill
Backfill with the excavated soil is to be done with care to prevent damage on the fabric and the Pordrän-board. Sharp edged backfill material e.g. stones bigger then 100 mm shall not be placed adjacent to the insulation without protecting the Pordrän-board with clipboard. Backfill above the plastic profile can be executed with earth or gravel which is completed after setting and later can be paved with cobbles, blocks etc.

Deformation
Depending on the loading (e.g. backfill height against the wall) the Pordrän-board with proper thickness and compression strength is selected to avoid problem caused by deformation of the board. Correspondence between loading and deformation is shown seperatly. Ask for further information.

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