



## GENAP INSTALLATION INSTRUCTION

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### Hot-air welding of (geo)membranes

Instruction guide for welding of Polyolefine / PVC membranes by means of hot-air (hot-air blower/gun).

#### Required materials / Tools

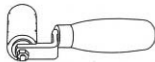
- Hot-air blower / gun (f.i. Leister)



- Wide slot nozzle 40 mm.



- Pressure roller



#### Welding conditions:

Welding of geomembranes is only possible under dry weather conditions (no rain)

For PVC geomembranes the process of welding is restricted to a membrane temperature of > 5°C. For Polyolefines no further restrictions are valid.

#### Working method:

- I. Adjust the temperature of the blower to the correct welding temperature; always use the wide slot nozzle for hot-air blower welding. For the correct welding temperature the following directives (indications) can be used.

<b>Geomembrane</b>	<b>thickness [mm]</b>	<b>Welding temperature [°C]</b>
Aquatex EX®	0.5	360
	1.0	390
Aquatex® PVC	0.5	380
	1.0	430
Aquatex® PE	0.5	350
	1.0	380



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**Remark:** given values are indications; the correct welding temperature must always be determined on location/site by means of welding tests; Welding temperature strongly depends on: humidity and (membrane) temperature.

In case no temperature indication is present on the hot air blower, welding tests at different temperatures should make clear the correct temperature for welding

2. Put the two membrane surfaces which should be mutually connected on each other; the welding surfaces should be dry and clean. Try to avoid folds in the membrane in the welding zone as much as possible.
3. Fix the two separate surfaces locally together: put the hot-air blower between the two membrane surfaces and press (with your fingers) both surfaces -under influence of the hot-air- locally together.
4. Weld the complete overlapping membrane surfaces together as follows:
  - Weld in small tracks; the track width is approximately equal to the width of the applied slot nozzle on top of the blower.
  - Weld steady; heat the membrane steady and press the surfaces steady together with the pressure roller. The pressure roller should be applied rolling short before the nozzle, where the membrane is heated and becomes plastic.
  - Try to avoid as much as possible to create folds in the welding zone.
5. The quality of the weld of the connection **MUST** always be tested by means of a peel test; in case peeling is present in the weld connection, this should be rated as poor quality. In general in this case the welding temperature is too low and/or the welding speed too high.

**Peeling** = the weld connection between the welded surfaces can be split without notable damage or plastic deformation to the separate membrane surfaces.

In general welding is learnt in practise by experience; especially experience will give you the ability/skills in order to achieve a good constant weld quality on term.