

# aquatherm pipe installation procedures

## check list for installers and certifiers

### Concrete, plaster and solid walls

Fusiole PP-R-80 manufactured by aquatherm GmbH offers us special features for concealed installations. aquatherm PP-R pipes and fittings are manufactured from Fusiole PP-R can be installed directly into concrete floors, walls, plaster and solid block work. The comprehensive strain and stress arising from a temperature dependant linear expansion is not critical as they are absorbed through the material. It is however, important to consider the following procedures and guidelines.

#### In Slabs and Footings

- Ensure that all pipe work is installed to the requirements of the New Zealand Building Code and/or Local Authorities.
- It is not necessary to sleeve pipe work when installed directly in the slab or block work apart from in expansion joints and penetrations, which are covered in the text.
- Hot water pipes embedded in concrete or buried underground shall be thermally insulated in accordance with the New Zealand Building Code requirements.
- Where possible, we recommend the installation of pipe work underneath the steel mesh. This keeps the pipe work deep in the concrete slab, reducing risk of dynabolts and saw cut penetrations. Secure pipe work with cable ties of plastic or steel to reinforcing chairs and mesh where applicable, is acceptable practice.
- When installing without mesh on to polythene or polystyrene, consideration must be given to securing the pipe work from floating or lifting.
- All pipe work passing through expansion joints in concrete slabs or walls, or block walls, must be sleeved with an impermeable flexible plastic material of no less than 6mm thickness and 10mm gap around the pipe that you are sleeving and must extend a minimum of 300mm each side of the expansion joint.

#### Under Concrete Slabs and Floors

- Ensure that all pipe work is installed to the requirements of the New Zealand Building Code and/or Local Authorities.
- Fusiotherm® pipes shall be laid in a narrow trench of sand or fine-grain soil and compacted in a manner that will not damage the pipe. We recommend a minimum distance of 75mm between the pipe and the underside of the floor.
- Hot water pipes embedded in concrete or buried underground shall be thermally insulated as per the New Zealand Building Code requirements.
- Any piping that penetrates the slab shall be at right angles to the surface of the slab and shall be lagged with an impermeable, flexible plastic material of not less than 6mm thickness for the full depth of the slab penetration as per clause 2.13.3 AS/NZS 3500.5:2000.
- In addition, aquatherm GmbH confirms that the lifetime of the system is 50 years and longer for the above installations.

#### Underfloor Heating Considerations

If underfloor heating is to be installed in the concrete slab, it is recommended that you insulate all hot and cold pipes within the slab. Liaise with your local building authority or certifier for local authority procedures. Contact our Technical Department for any installation procedure enquiries