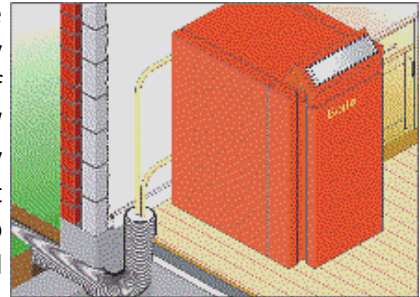


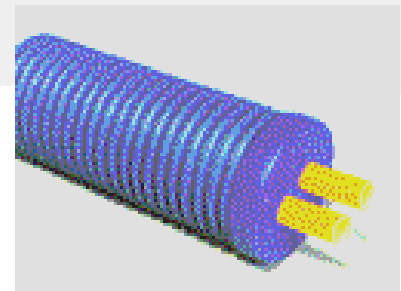
### Insulation Of Underground Heating Pipes V1

It is always a good idea to remove as much mechanical plant as possible from a building, and put it into a separate building such as a nearby garage, shed or outbuilding. The sort of plant that can be moved out of the heated space would be solar panels, heat pumps, boilers, DHW tanks, controls, etc. This will give tradesmen a much better opportunity to site and install appliances without cramming equipment into difficult spaces in the main building, where future access will be poor. It also releases space within the building for more useful purposes and removes any issues that there can be with noise or water leaks from mechanical plant. In particular, where heat pumps are concerned, it usually allows easier and simpler connection to the ground array manifold, which can then be mounted directly on the outside wall of the plant room.



All pipes running in unheated spaces require thermal insulation. When a heat pump or a boiler is located externally, for example in a garage or other building remote from the dwelling then the pipe runs between boiler and dwelling must be very well insulated. Often these pipes must run underground, under a garden path, yard, patio or driveway. There is no theoretical limit on distance between the plant and the building, but over a certain distance larger water pumps may be required.

There are several pre-insulated pipe products on the market. Pre-insulated polyethylene, copper and steel carrier pipes are all available, as either insulated single, double or quadruple pipes. The carrier pipes are insulated with a polyurethane or polyethylene foam and then encased with a protective impact resistant, high density polyethylene casing that is often corrugated. This protects the inner pipe against external loads such as soil pressure and traffic load. At time of production of this factsheet two companies that we are aware of produce these products in the UK: Ipec [www.ippec.co.uk](http://www.ippec.co.uk) and Uponsor



### Facts at a glance:

**Heat Pump Position**—The heat pump ideally should be installed in a separate building such as a garage, shed or outbuilding.

**Pipe Insulation**—Any heated pipes which are run in external or unheated spaces should be very well insulated otherwise large heat losses can occur.

**Distance between heat pump and dwelling**—There is no theoretical limit on distance between the plant and the building, but over a certain distance larger water pumps may be required.

**Pre-insulated pipe**—Several pre-insulated pipes are available on the market and are suitable for this.