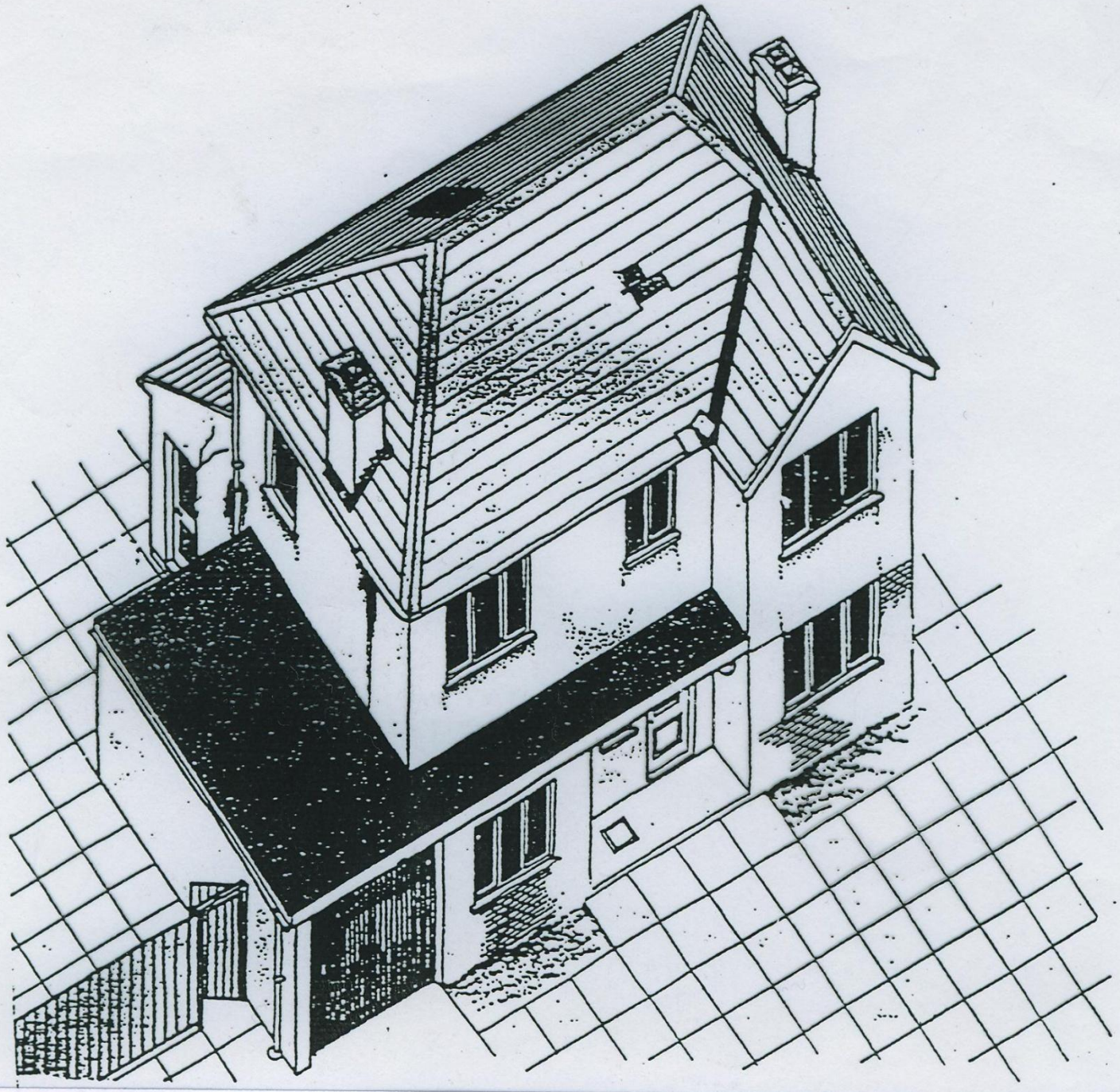
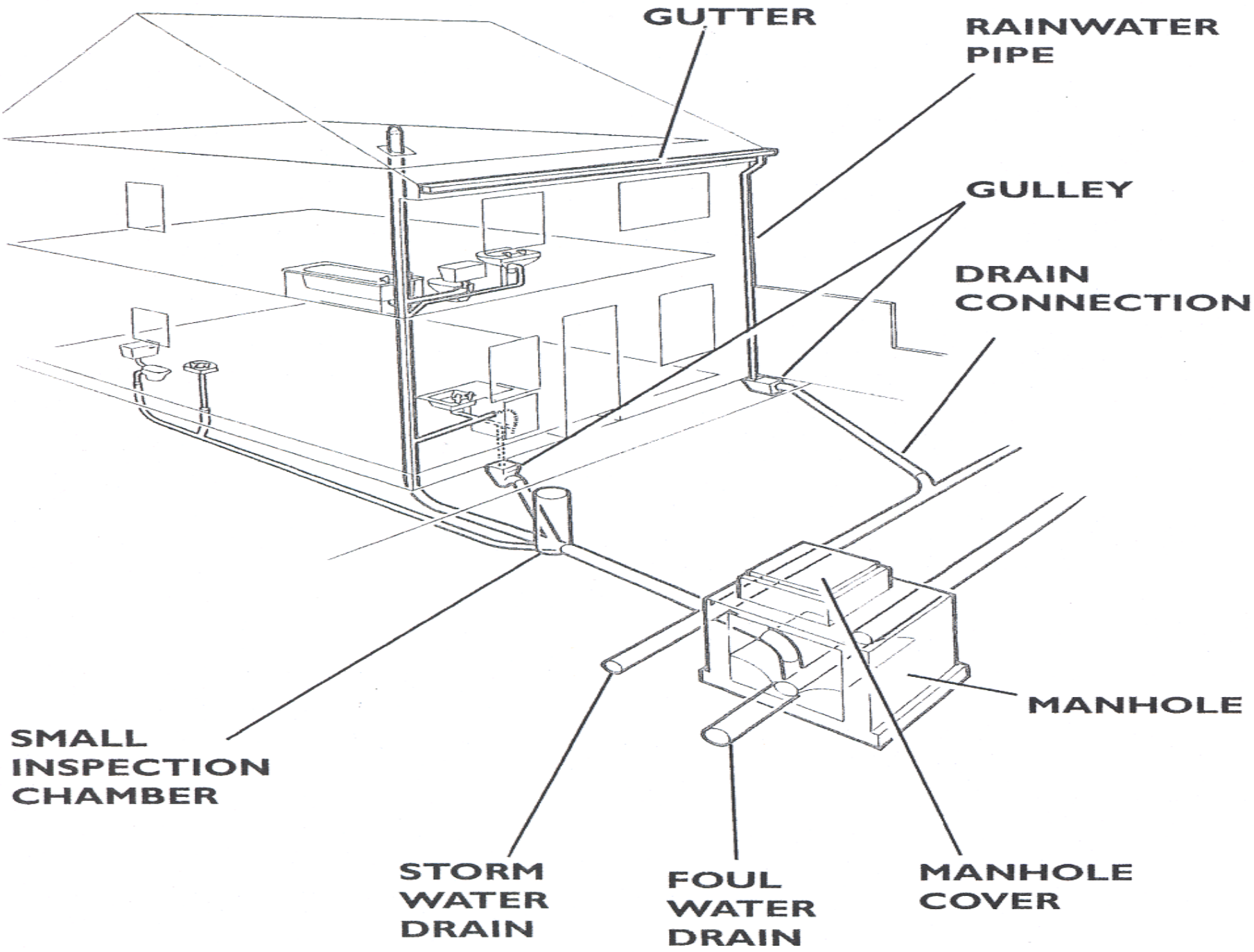
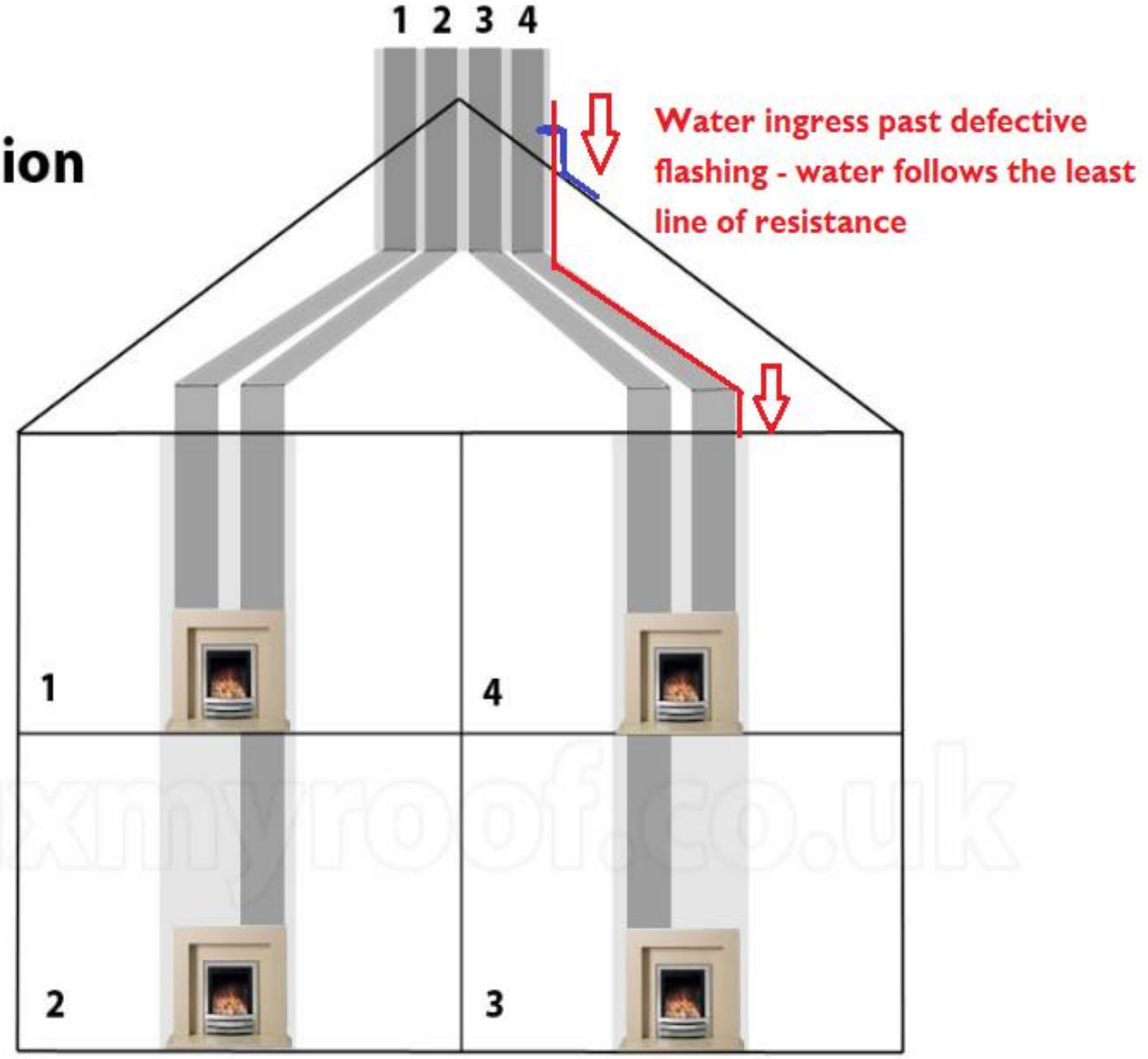



GUTTER
RAINWATER PIPE
GULLEY
DRAIN CONNECTION
MANHOLE
SMALL INSPECTION CHAMBER
STORM WATER DRAIN
FOUL WATER DRAIN
MANHOLE COVER

Chimney construction



fixmyroof.co.uk

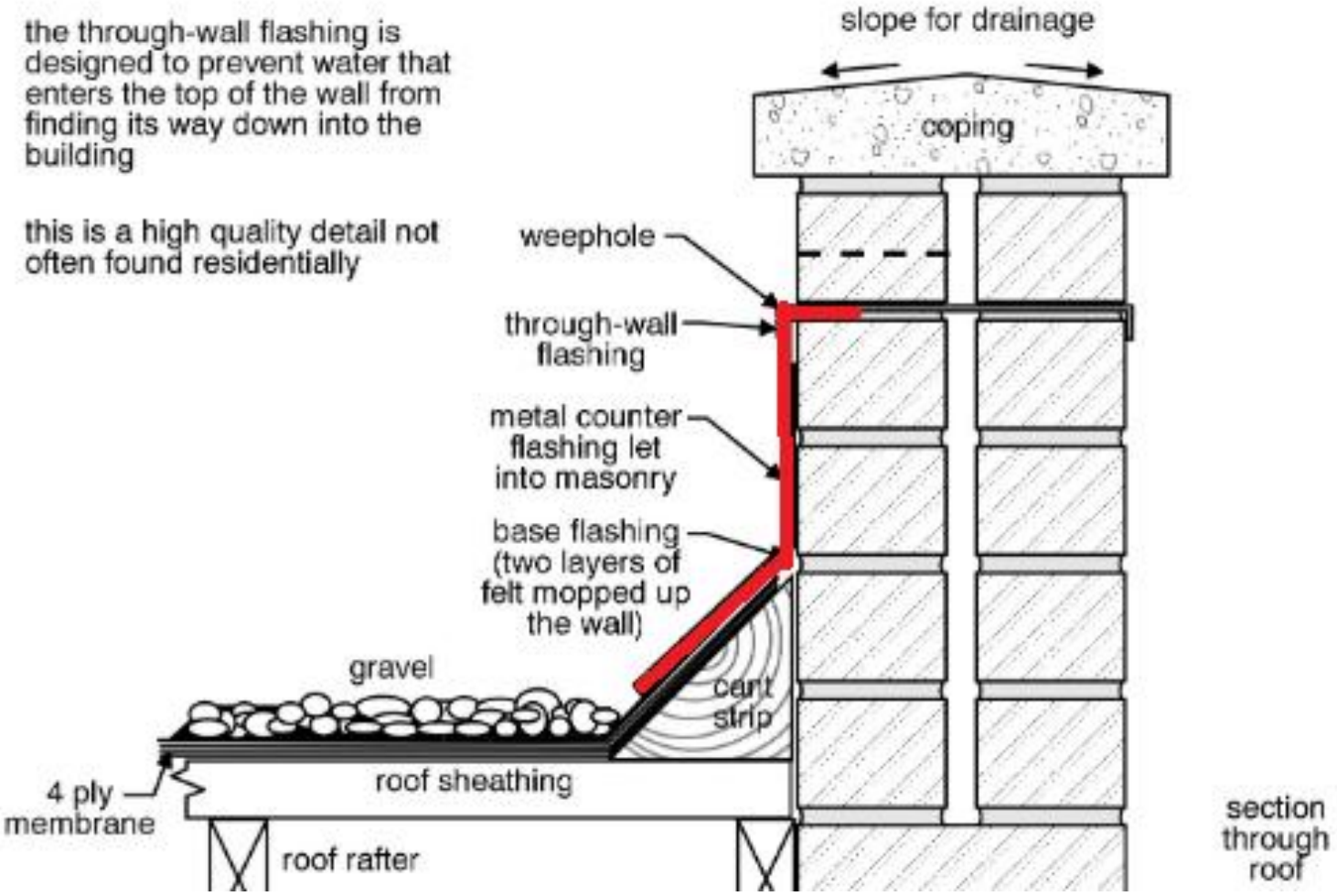






the through-wall flashing is designed to prevent water that enters the top of the wall from finding its way down into the building

this is a high quality detail not often found residentially

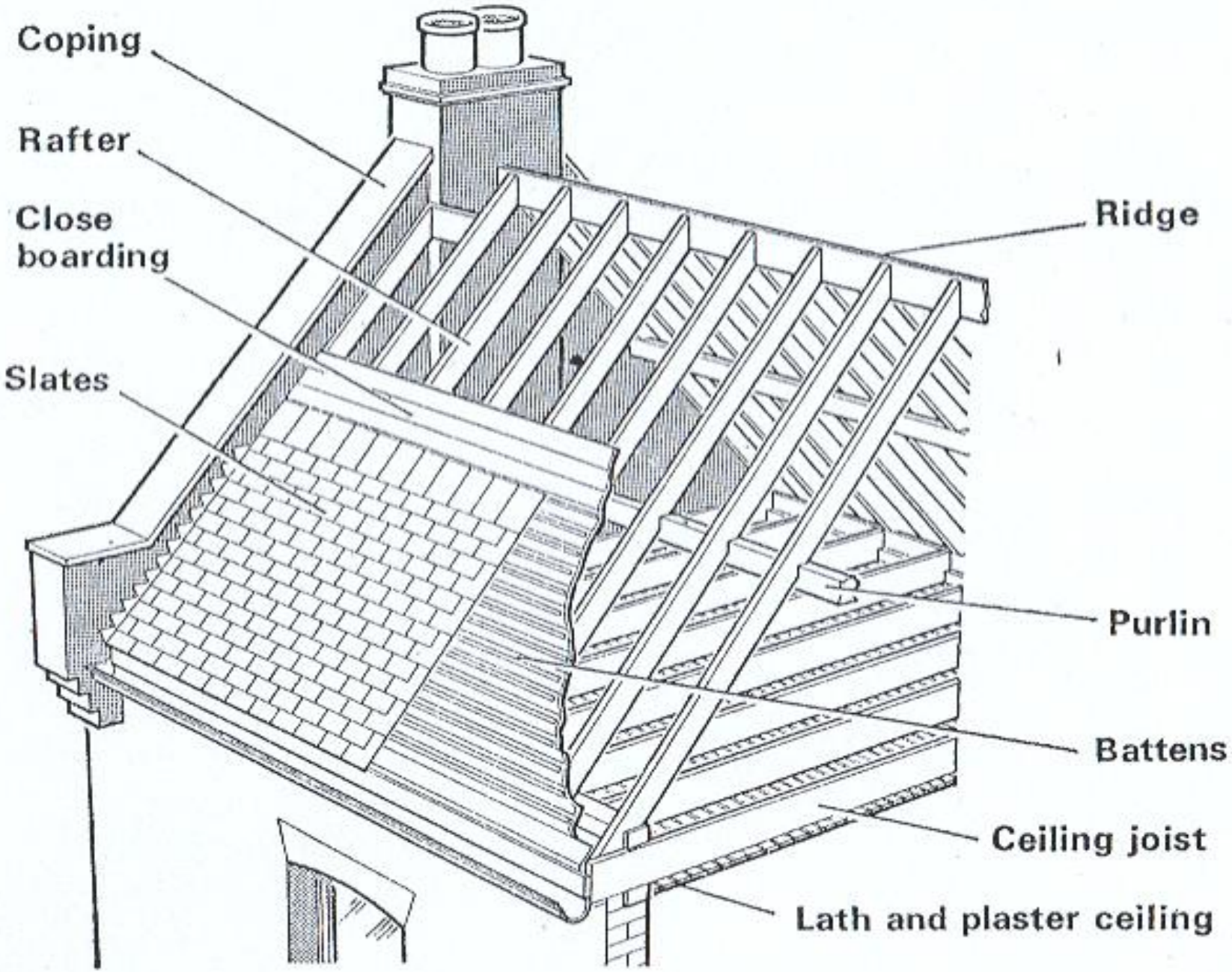


section through roof







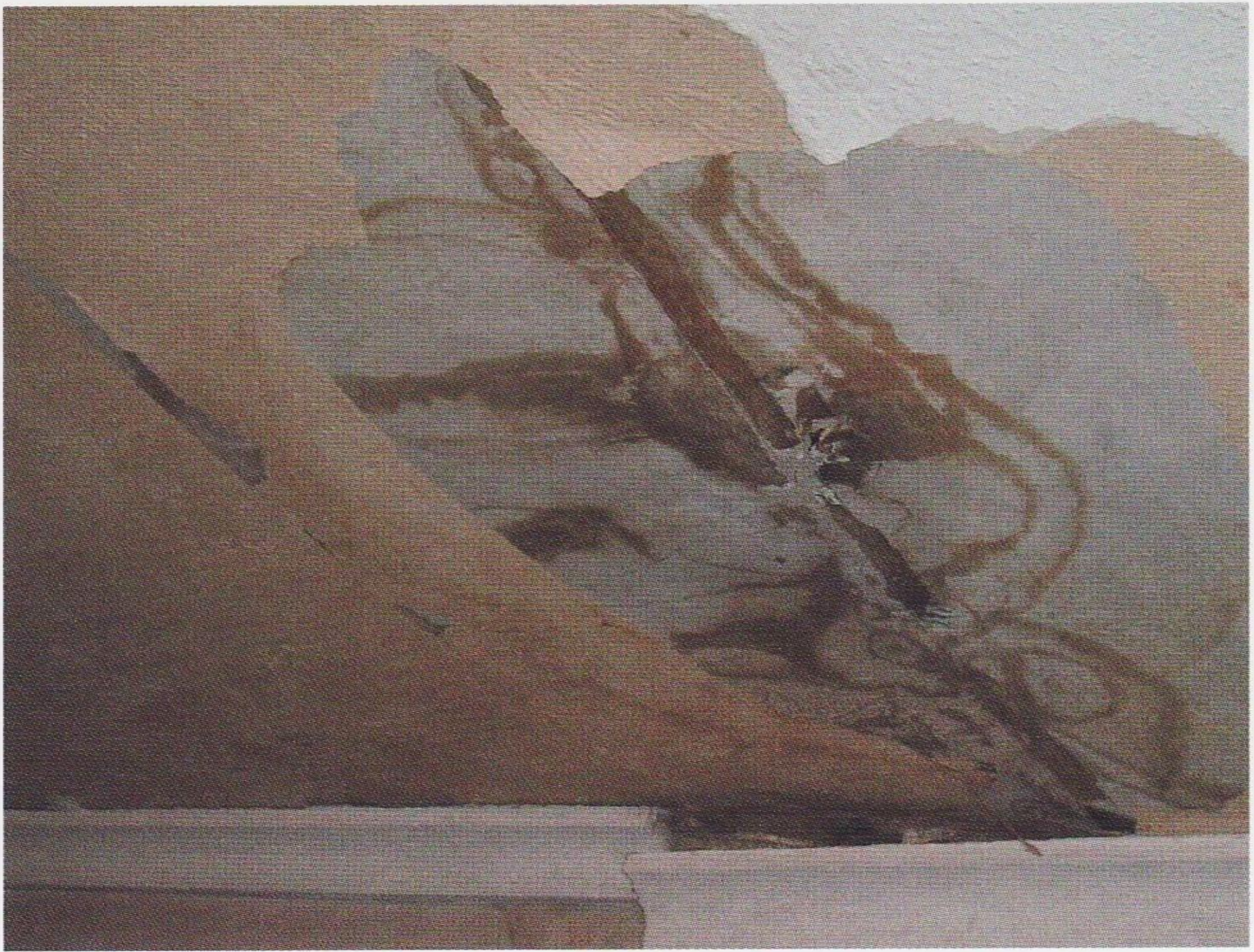

Coping
Rafter
Close boarding
Slates
Ridge
Purlin
Battens
Ceiling joist
Lath and plaster ceiling







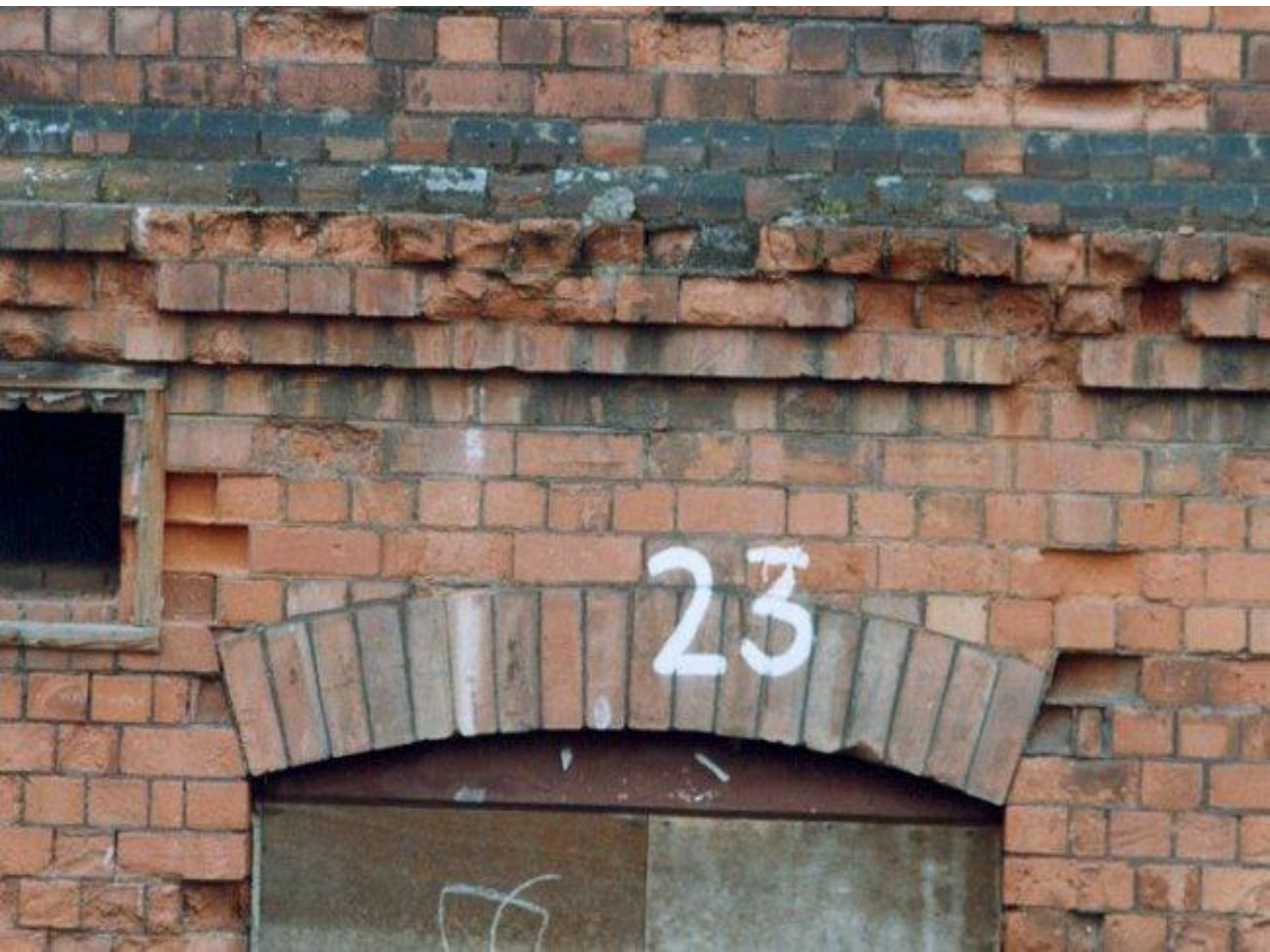


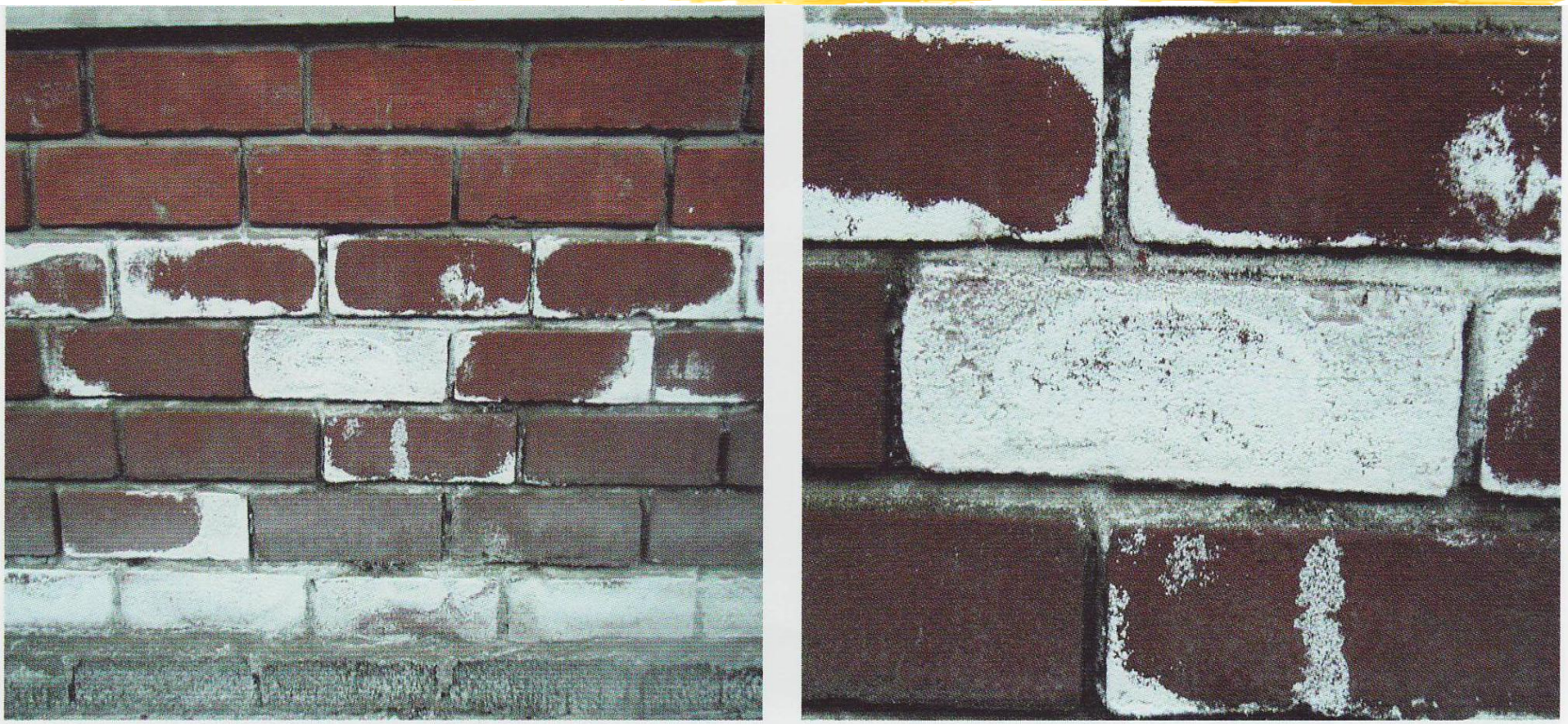








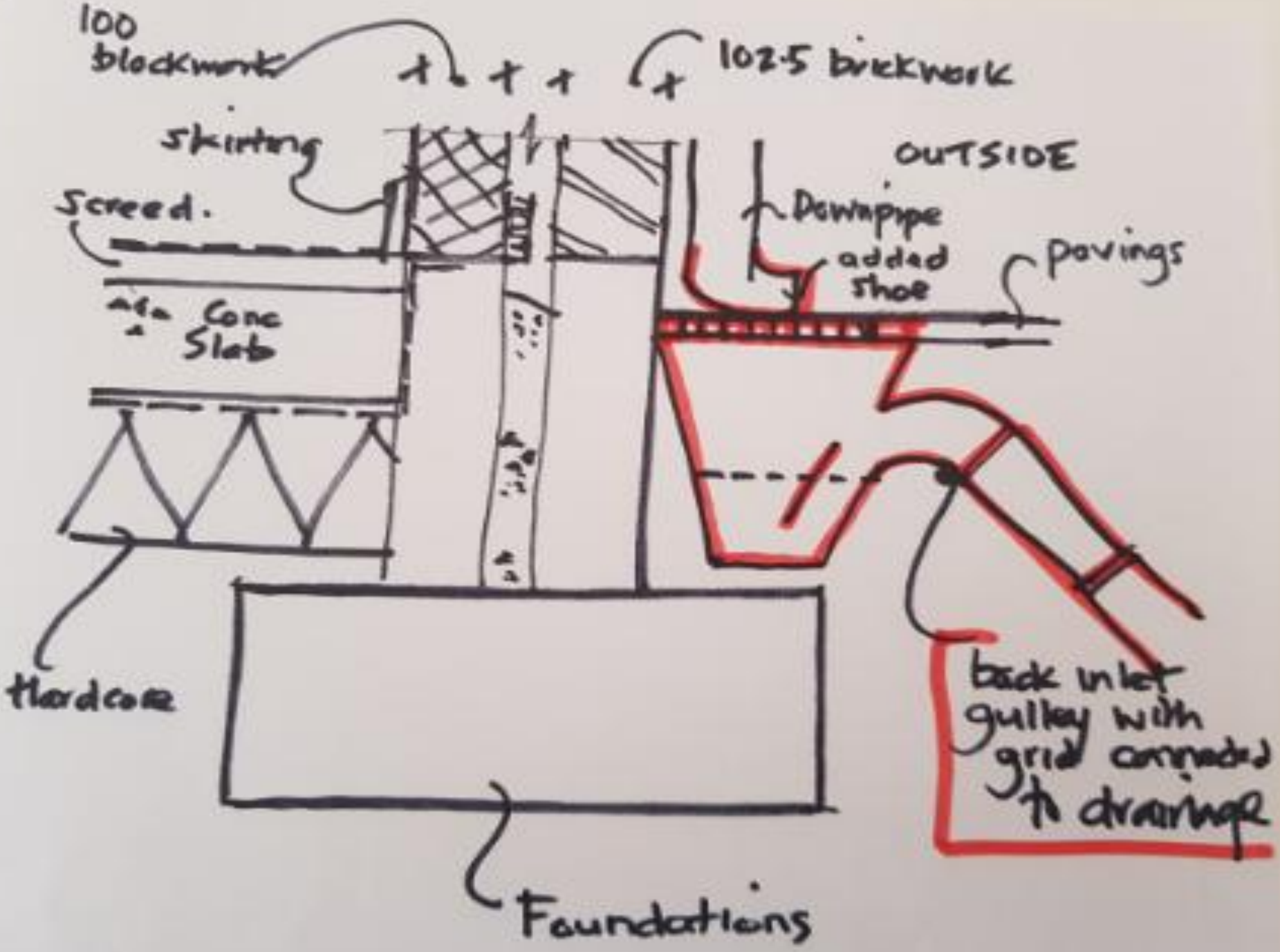

23

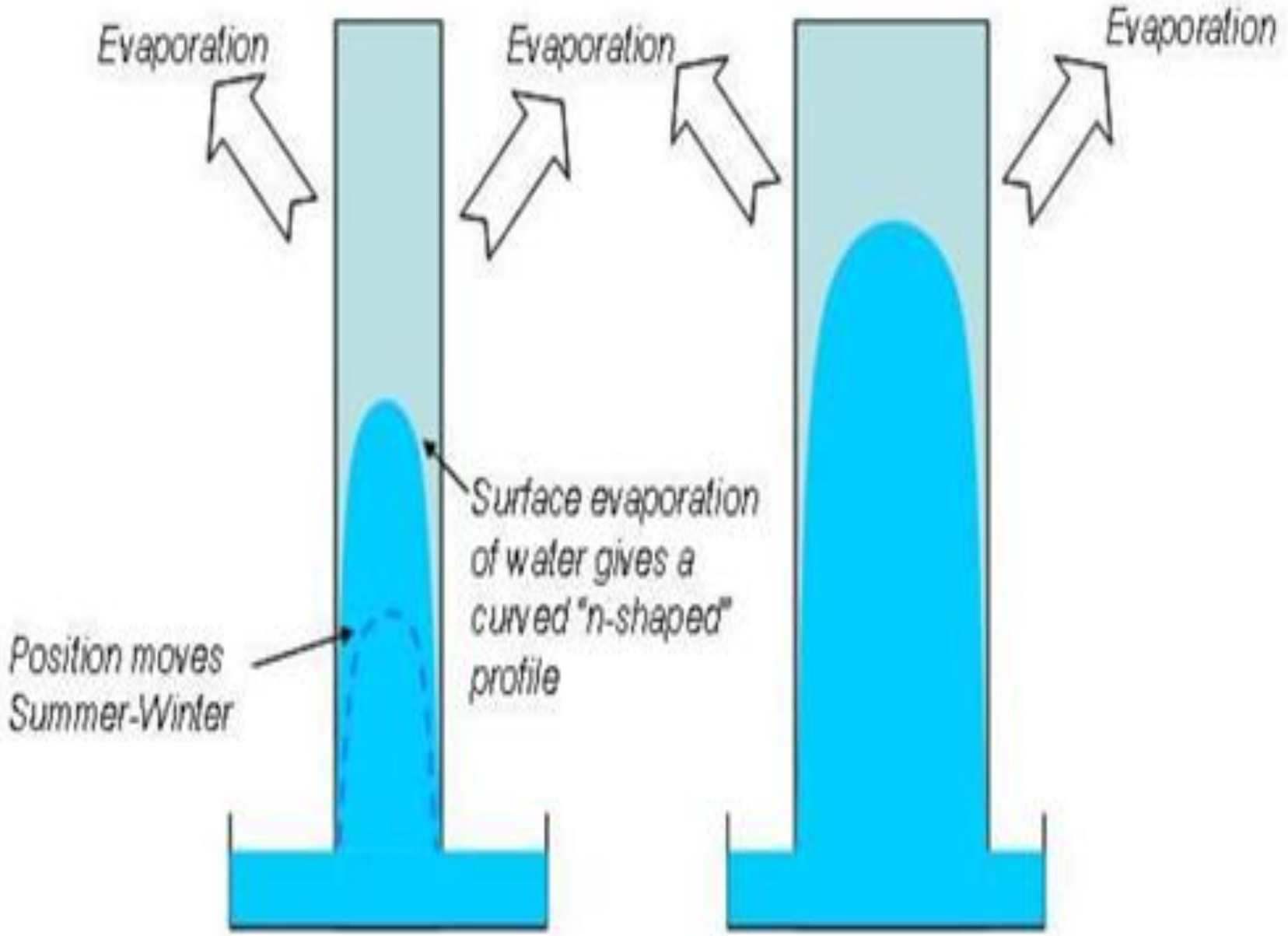


White surface on the face of new brickwork irritates rather than damages the bricks. It should go away as the salts are washed out of the bricks. This is an example of heavy efflorescence.



DPC – 150mm above ground level


100 blockwork
102.5 brickwork
skirting
OUTSIDE
Screed.
Downpipe
added shoe
pavings
Conc Slab
hardcore
back inlet gulley with grid connected to drainage
Foundations


Evaporation
Evaporation
Evaporation
Surface evaporation of water gives a curved "n-shaped" profile
Position moves Summer-Winter



Porosity values of common building materials

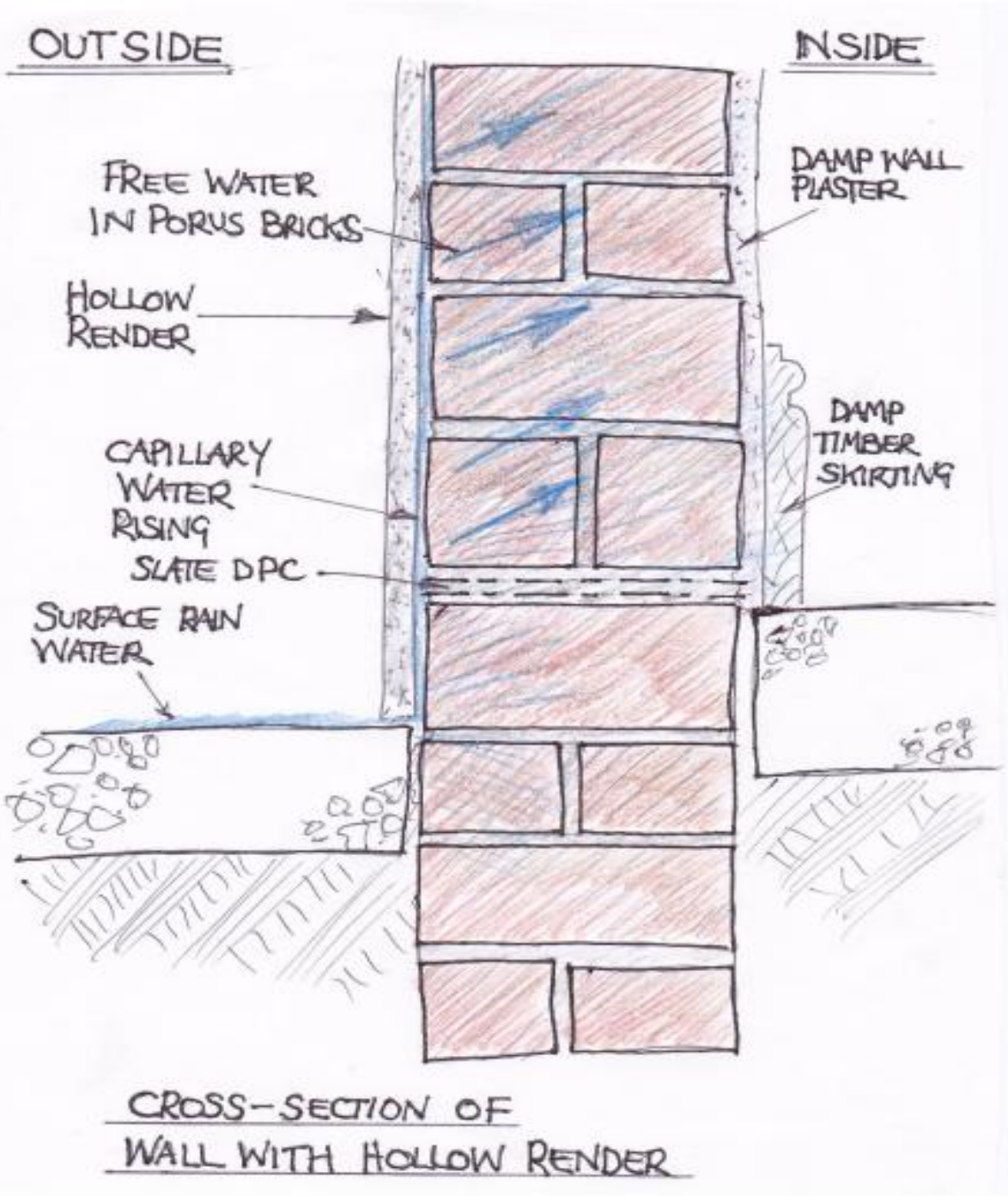
	Porosity (f)		Porosity (f)
Softwood	0.65	Extruded brick	0.07-0.28
Hardwood	0.50	Sandstone	0.05-0.20
Chipboard	0.40	Cement render	0.20
General purpose brick	0.35	Cement mortar (3:1 s:c)	0.17
Sand-lime brick	0.30	Granite	0.02
Lime render	0.30		

3.2 Poor workmanship








OUTSIDE
INSIDE
FREE WATER IN PORUS BRICKS
DAMP WALL PLASTER
HOLLOW RENDER
DAMP TIMBER SKIRTING
CAPILLARY WATER RISING
SLATE DPC
SURFACE RAIN WATER
CROSS-SECTION OF WALL WITH HOLLOW RENDER







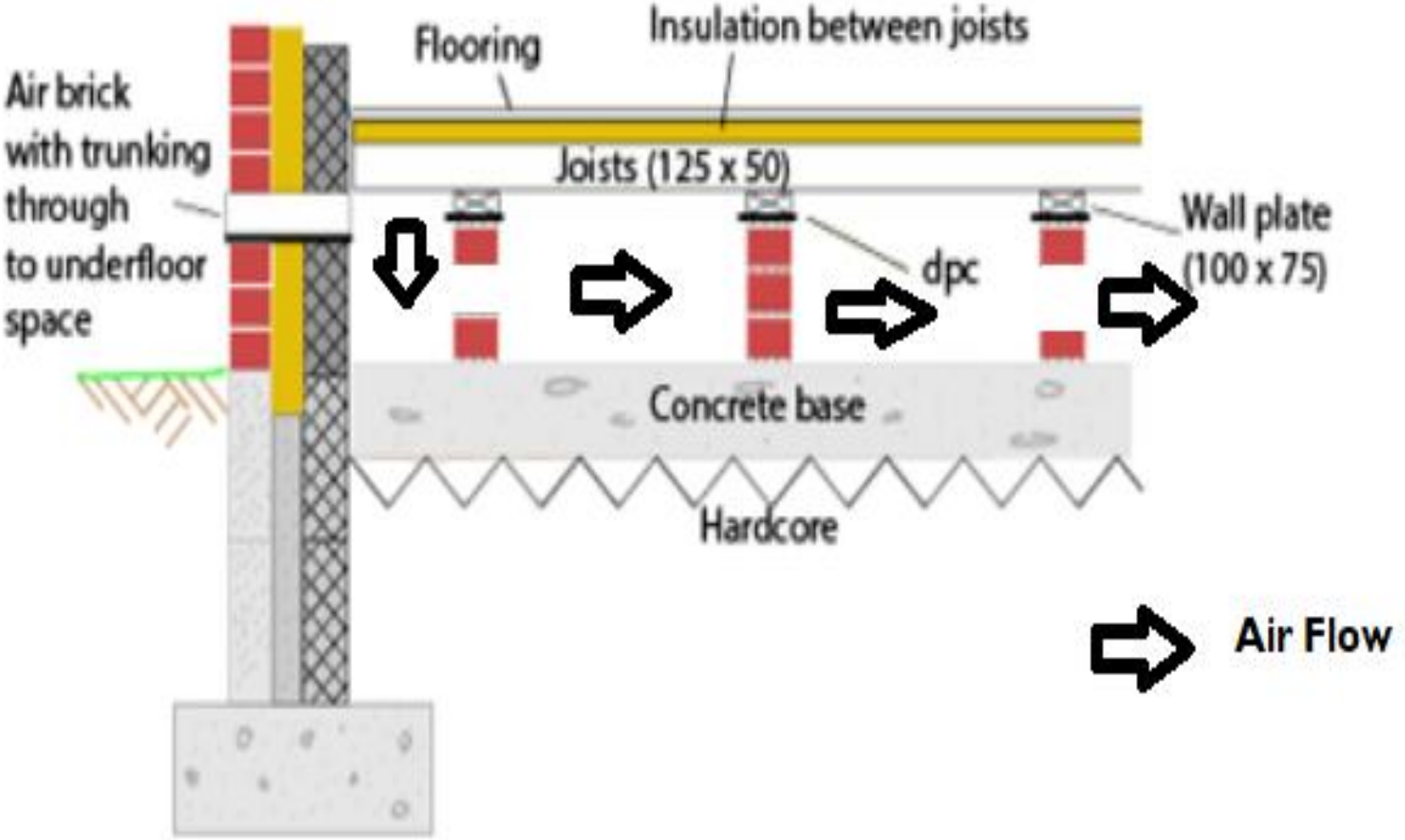








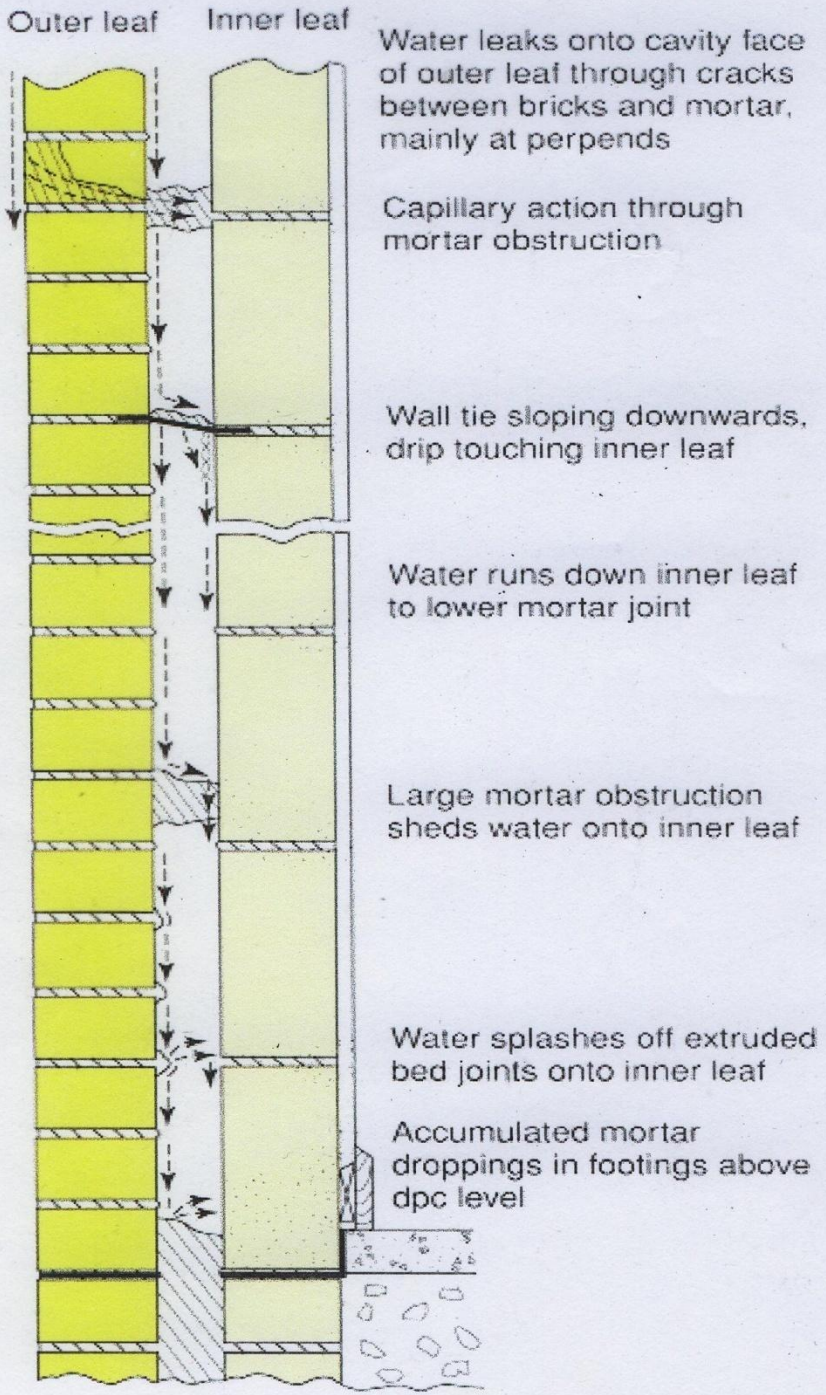
Timber Suspended Floor





Condensation




Outer leaf
Inner leaf
Water leaks onto cavity face of outer leaf through cracks between bricks and mortar, mainly at perpends
Capillary action through mortar obstruction
Wall tie sloping downwards, drip touching inner leaf
Water runs down inner leaf to lower mortar joint
Large mortar obstruction sheds water onto inner leaf
Water splashes off extruded bed joints onto inner leaf
Accumulated mortar droppings in footings above dpc level



Heat loss percentage throughout the home



As you'll see in the table below, you could save up to £275 a year by insulating cavity walls.

Cavity wall insulation				
Type of property	**Installation cost**	**Savings per year**	**CO2 savings per year (kg)**	**Payback time**
Detached house (four bedrooms)	£720	£275	1,100	2-3 years
Semi-detached house (three bedrooms)	£475	£160	650	3 years
Mid-terrace house (three bedrooms)	£370	£105	430	3-4 years
Detached bungalow (two bedrooms)	£430	£110	450	4 years
Mid-floor flat (two bedrooms)	£330	£90	360	3-4 years

Table notes: figures based on a typical gas-heated home. All data obtained from the Energy Saving Trust (EST).



Cavity Wall Insulation Systems

Injection Cavity Wall Insulation is a simple process by which insulation is injected into this cavity through a carefully designed pattern of holes. The insulation system is designed so that any water that does enter the cavity can drain away, whilst the insulation reduces the heat loss through the wall.

There are a number of different products, or systems, each of which must pass stringent technical requirements laid down by the British Board of Agrement or alternative independent approvals body. All systems are "fit and forget" and require no servicing, maintenance or adjustment.

There are three main systems in common use, and all are suitable for the purpose and (except for UF Foam) can be used in all areas of the UK. CIGA has registered installers, and offers Guarantees for, all 3 products:

Mineral Wool

Mineral Wool insulation is a cotton wool like material produced from either rock wool or glass wool, and is used in the majority of installations.



Polystyrene Bead

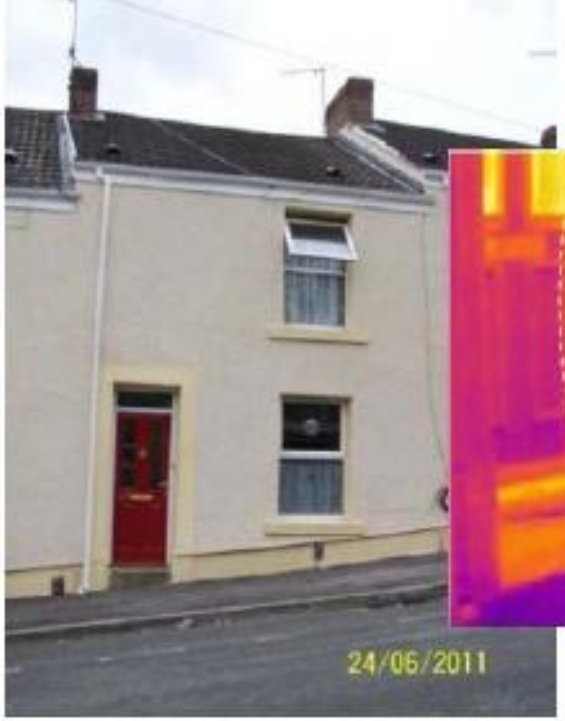
Bead is made up of small expanded polystyrene beads normally injected with a binder.

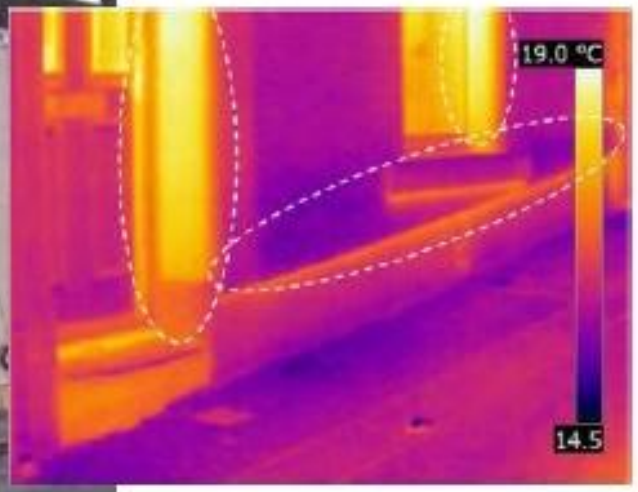


UF Foam

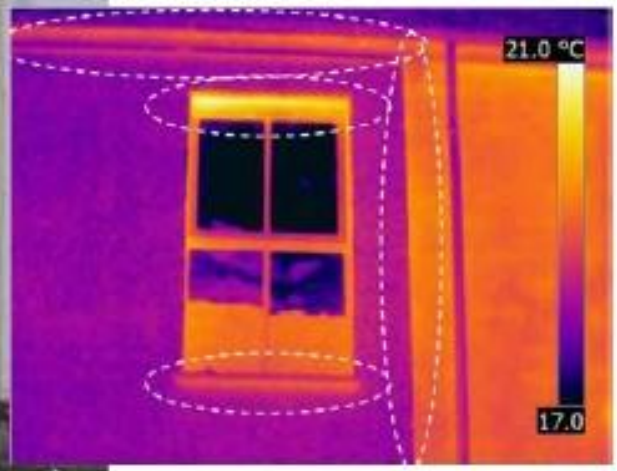
Urea Formaldehyde cavity wall insulation was introduced into the UK in the late 1960's and involves the injection of a water based chemicals system that produces an insulating foam in the cavity.




24/06/2011


19.0 °C
14.5


24/06/2011


21.0 °C
17.0







