

Pipe insulation with combi boilers

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Question

Is there a need to insulate the central heating pipework between a combi boiler and a remote by-pass valve?

Considerations

- Approved Document L1A clause 2.42 'Heat losses and gains from circulation pipes' says, 'reasonable provision should be made to limit heat losses from pipes as set out in the 'Domestic Building Services Compliance Guide''.
- Table 5 of the Domestic Building Services Compliance Guide refers to a TIMSA guide on compliance with Part L of the Building Regulations.
- The TIMSA guide illustrates where insulation should be applied to primary and secondary heating and hot water circuits. One diagram suggests the need for insulation to the central heating pipework between a combi boiler and a remote by-pass valve.

Answer

A by-pass valve, fitted between the flow and return pipework on the central heating circuit, maintains a flow rate through the boiler to dissipate surplus heat in the heat exchanger when the zone valves or thermostatic radiator valves turn off.

When a demand for hot water stops, depending on the design of the combi boiler, the surplus heat in the heat exchanger is pumped and dissipated either through pipework within the boiler or through the by-pass valve outside the boiler.

Both with heating and hot water demands once the surplus heat has dissipated the circulation pump switches off and the flow stops.

Provided the surplus heat from the pipework between the boiler and the by-pass valve is dissipated within the heated area of the dwelling the pipework can be left uninsulated.