

# Condensation

2b

TECHNICAL HELP

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## Glazing Solutions



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### External Condensation on Low Emissivity Insulating Glass Units

Under particular weather conditions, dew (or frost) forms on any unheated surface (the ground, roofs, walls, cars etc.) exposed to a clear night sky. Generally, in the past, this effect has not happened on the glass in heated buildings, since the heat that escapes through the glass warms the glass up slightly as it passes through. Even conventional double glazing allows sufficient heat to escape to prevent dew remaining on the external face of the glass for long.

However, insulating units incorporating low e products such as Pilkington **K Glass™** are sufficiently resistant to the passage of heat (i.e. it has such good thermal insulation) that in certain positions and in some weather conditions, it is more likely for the dew to form on the external face of the glass. This is one visible manifestation of having superior insulating glass. An analogy can be made with frost on roofs - those with good loft insulation can remain frosted for a long time, while those without quickly defrost. Once the heat from the sun warms the glass or the glass is subject to air movement i.e. wind, the external condensation will start to evaporate.

In order for condensation/dew/frost to form, the glass needs to be exposed to large areas of the night sky. Intervening trees, bushes or other buildings, which block off part of the sky, reduce the effect. Other 'microclimate' effects can also alleviate it. It is possible to get a situation where some windows have external condensation while others nearby do not.

In countries, such as Sweden, where most glazing is at least as good as Pilkington **K Glass™** units, early morning external condensation is a well known and accepted fact of improved comfort and thermal insulation.

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