Condensation Control

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Condensation is a continual damp problem for millions of home-owners, landlords and tenants every year who find living with condensation and mould a nuisance as well as unhealthy.

So what is condensation and how does it occur?

Condensation occurs when warm air carrying water in its vapour form is cooled considerably. Cool air is unable to hold as much water vapour as warm air and, as a result, when warm air is cooled, the air becomes saturated with water and condensation occurs, releasing the water vapour as a liquid. You're most likely to see this occurring as beads of moisture on walls, windows and other non porous surfaces around the home.

Condensation is more likely to occur in the winter months, as the outside air temperature falls, cooling the external walls and windows of our buildings. Occupants are generally less likely to ventilate their homes in winter, which subsequently traps warm moist air in the building increasing the risk of condensation.

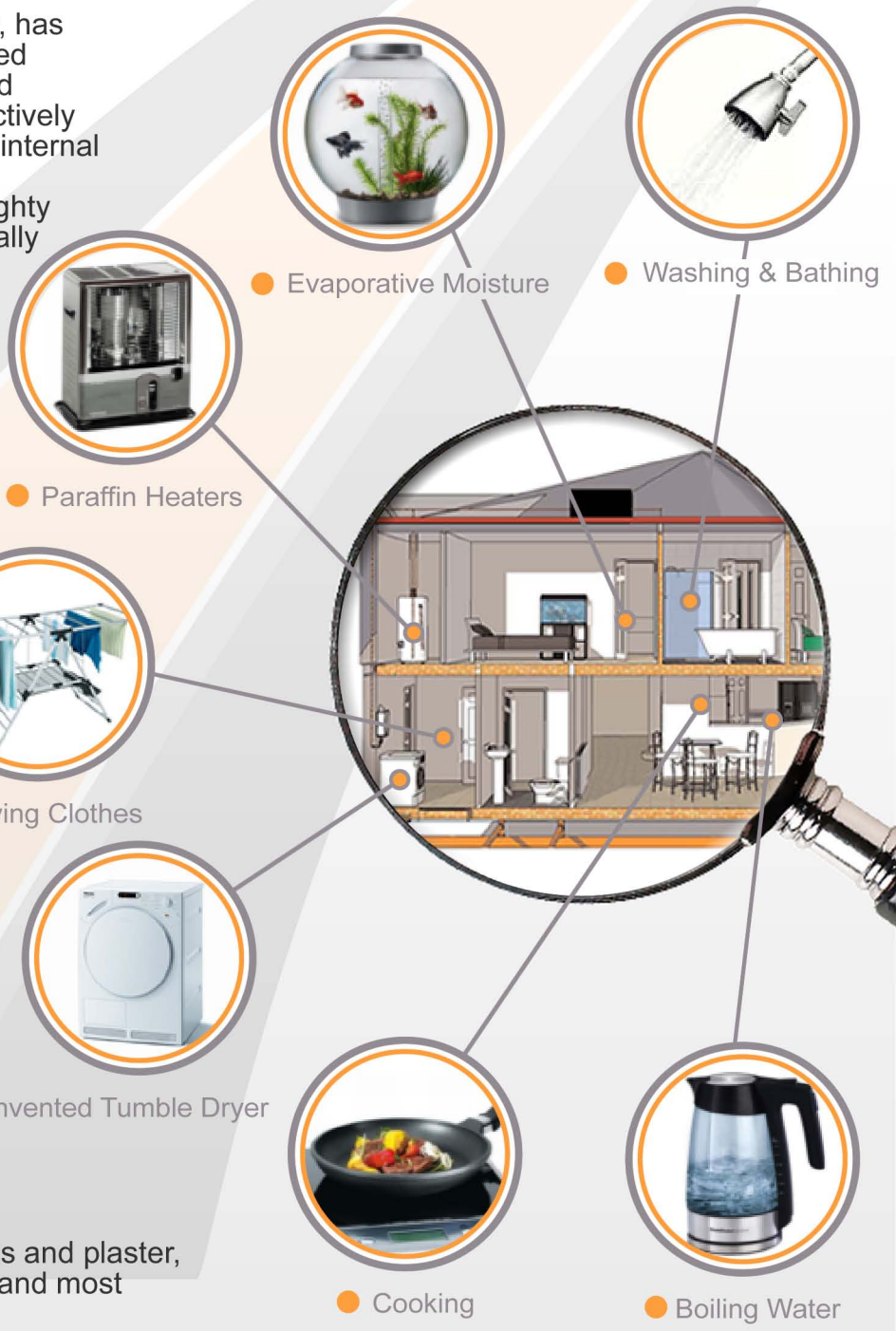
Over recent years our continual striving to conserve energy and be more heat efficient, has seen an increase in condensation and related problems. The introduction of double glazed windows, doors and draught excluders effectively seal our buildings preventing the escape of internal humid air. As apposed to an era when our properties had only single glazing and draughty doors, where air exchange happened naturally through gaps, openings and keyholes.

The majority of water vapour in our homes is actually created by the lifestyle of the occupants. Daily activities such as boiling water, cooking, washing, drying clothes, gas heating and even breathing all produce water vapour. It is estimated that a family of four will produce approximately 14 Litres of water vapour per day, that's 3.5 Litres per person per day, this figure excludes gas paraffin heaters which could contribute to an additional 5 Litres per day.

This vapour released into the atmosphere is held within the air and travels between rooms and around the property. Where the humid air comes into contact with cool air or surfaces, generally adjacent external walls and windows as mentioned above, condensation occurs, the effect increased in areas of poor air movement i.e. in corners of rooms or behind large items of furniture placed against walls.

Condensation can lead to spoiling and discolouring of internal furnishings and fabrics, deterioration of walls and plaster, beetle infestation, rot and decay to timbers and most common the germination of moulds.

Causes of condensation



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Condensation & Mould

Mould spores are present upon all surfaces within our homes but are generally dormant. When conditions are damp and humid, mould spores will germinate and flourish. Moulds need very little nutrients to survive and will grow upon walls, ceilings, fabrics and furnishings irrespective of the finish, where they can cause irreversible staining, damage and loss.

The effect of condensation and mold on our health

Exposure to damp and mouldy environments may effect the health of people who are sensitive to moulds. For sensitive people mould spores can cause nasal stuffiness, throat irritation, coughing or wheezing, eye and skin irritation. People with weaker immune systems or chronic lung illnesses should stay away from areas that are likely to have moulds as reactions could be more serious.

In 2004 the Institute of Medicine (IOM) found there was sufficient evidence to link indoor exposure to mould with upper respiratory tract symptoms, coughs, and wheeze's in otherwise healthy people; asthma symptoms and hypersensitivity in individuals with immune-mediated conditions. The IOM also found evidence linking exposure to damp indoor environments to shortness of breath and respiratory illness in otherwise healthy people and the potential to development asthma in susceptible individuals.

Ovvercoming the Problem

Overcoming a condensation problem can be difficult, as mentioned the initial cause of the problem is lifestyle related. Practices can be adopted into your lifestyle in order to limit the production of water vapour and/or changes can be made to the buildings construction and layout to reduce the risk.

It should be mentioned that adopting either lifestyle changes and/or improving the buildings construction, are not guaranteed to completely resolve the issue but are however likely to have a significant proactive effect.

Prior to making any changes, your problem should be monitored and assessed by a specialist such as ourselves, who will monitor your internal living environment over a given period using specialist data logging equipment. Following interpretation of the data recorded, we would be best able to advise you of which changes and practices to adopt in order to prevent unnecessary expense and achieve better results.

Following are a list of lifestyle practices which can be adopted in order to reduce the risk of condensation and associated problems.

As buildings are individual and their construction diverse, please contact us through our website @ www.dryfix.net for advice and assistance in implementing building changes.

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1: Regulate gentle heating of the property

Regulating gentle heating of the property throughout the day avoids intermittent heating of the building during busy periods of the day and cooling when the property is empty. This reduces the risk of warm humid air condensing on cooling walls and surfaces.

2: Avoid drying clothes internally

During winter months, drying clothes externally becomes difficult. If it is necessary to dry clothes internally, use vented or condensing tumble dryers, alternatively, if you do not have access to such equipment use one room specifically for drying, ensure the room is isolated with the door closed, heated and ventilated to remove water vapour from drying clothes.

Use external laundry services for larger washing loads.

3: Close doors between rooms

Closing doors between rooms which produce large volumes of water vapour such as the kitchen, bathroom and laundry room will prevent humid air moving around the property. Again these rooms should be heated and ventilated where possible.

4: Ventilate where possible using mechanical assistance

Ventilate within the kitchen and bathroom whenever cooking or washing is in progress. Ideally, mechanical assistance such as ventilation fans are best, some fans even have inbuilt humidity regulators which will operate until the moisture content of the atmosphere reduces to acceptable levels.

5: Ventilate with windows

When possible open windows to ventilate. Opening windows will allow internal humid air to be swept away by dryer external air (yes external air is usually dryer than internal air). For security, most modern window units can actually be locked but remain partially open to allow ventilation. New window frames will incorporate trickle ventilators at the top of the frame to allow ventilation when the window is closed.

6: Plan furniture layout

Avoid placing large items of furniture in rooms adjacent external walls as this reduces air movement and creates the ideal place for warm humid air to condense and go un-noticed, usually leading to mould.

Dehumidifiers

Domestic dehumidifiers can now be purchased at an affordable price from most electrical or DIY superstores.

Most domestic dehumidifiers are of the mechanical/refrigerant type which work by vacuuming warm internal air into the machine and quickly cooling the air over a refrigerant coil, this forces the condensation process to occur and the water from the air is removed and collected in a bucket before the dry air is gently heated and redistributed back into the home.

Dehumidifiers work well and are now cost effective, however, they should be regarded as an expedient rather than a permanent cure, simply allowing the problem to continue and assisting in removing moisture vapour from the atmosphere rather than resolving the issue at source.

In order to achieve best performance from your dehumidifier you must ensure these are placed centrally (usually landing/hallway) and, if possible, first floor as warm humid air rises. Avoid placing the dehumidifier in cool rooms or attic spaces, as the refrigerant process is less effective.

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Permanent solutions

If you require a permanent solution to a condensation problem, then we can install mechanical ventilation systems either within the walls or loft space. These systems work by forcing air movement and exchange through natural ventilation sources. These units are extremely effective, often resolving the most severe of condensation problems in under 48 hours.

The mechanical units have a very low power usage, ensuring optimised use and low running costs, low operating noise, long life and high quality filters. We install our units with a five year breakdown guarantee.

We are happy to provide more information on the operation, installation and costs of these units upon request - please don't hesitate to contact us through our website www.dryfix.net

Removing mould

Dryfix offer specialist mould removal and microbial cleaning services with the health and safety of our operatives and occupants of the property in mind.

All operatives working in hazardous mould environments are protected by air scrubbing systems and wear specialist HEPA filter respiratory equipment for protection.

Upon completion of cleaning affected surfaces, our operatives apply specialist antimicrobial treatments to prevent and inhibit the growth of further mould organisms.

After removing moulds and applying specialist antimicrobials, our operatives will perform a swab testing regime to ensure that all surfaces have be cleaned and treated thoroughly. Digital photographic evidence and written records of our sanitary testing regime are taken.

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