

The OFTEC easy guide to...

# flues, chimneys and ventilation

This easy guide applies to flues, chimneys and ventilation required for any domestic oil fired appliance, including boilers, cookers and stoves used in the home.

Part J of the Building Regulations (2006) for the Republic of Ireland sets out minimum standards for air supply to a combustion appliance.

## Adequate air supply

In order for fuel to burn, oxygen is needed. Therefore for open flue appliances that take their air supply from the room they are in, a combustion air supply path is required. For boilers with limited air supply, in compartments for example, additional ventilation air will be required.

Adequate combustion and ventilation air supply is vital for the safe working of appliances. Conventional or open flue appliances should not be installed where they can draw their air from a bedroom or bathroom, as this could result in dangerous levels of carbon monoxide being produced. A garage is also not an appropriate place because the air may well be full of car fumes. A balanced flue boiler should be used in these situations.

Any room or space containing an appliance (other than a balanced flue appliance) should have a permanent ventilation opening to provide combustion air and cool the appliance.

Extract fans must have limited extract rates and be placed as far away as possible from open flues serving oil fired appliances, as they could affect the air supply path.

## Flues and chimneys

Unless you are using a balanced or low level flue, flue pipes should be the same diameter size as the flue outlet from the appliance and continually rise to the terminal. If the flue is square, it should have a cross-sectional area equivalent to the appliance flue outlet.

For a conventional flue appliance, horizontal flue runs should be avoided. If a bend is required it should not make an angle of more than 45 degrees with the vertical.

Care should be taken to site the outlet from a balanced flue or low level discharge so that the products of combustion can disperse, and enable free intake of air for a balanced flue. Flue outlets should be at least 600mm away from any openings such as doors or windows, and must be protected with a terminal guard if located below 2m above ground level.

## Brick chimneys

New chimneys should be constructed with stainless steel flue liners suitable for the intended application.

When installing a new appliance in an existing chimney, the flue should be checked and altered if necessary. Flue refurbishment could include the use of a metal liner, but only after the chimney has been swept to remove any deposits. A flue might also need to be lined to reduce the flue area, as oversized flues can be unsafe and promote condensation.

If a chimney has been relined in the past using a metal liner, and the appliance is replaced, the metal liner should also





be replaced unless the metal liner was recently installed and is proven to be in good condition.

Manufacturers also recommend that a cowl is fitted to chimneys to prevent rain entering.

## Factory-made insulated chimneys

Where a factory-made insulated chimney penetrates a fire compartment wall or floor it must not breach fire separation requirements as required by Building Regulations, but requirements may be met by using a chimney of the appropriate level of fire resistance or encasing the chimney in a non-combustible material, giving at least half the fire resistance recommended for the fire compartment wall or floor.