

## STOVES IN BOATS

Some of the basics about fitting and using solid fuel stoves on boats in the UK and Ireland.

The numbers in (brackets) are sections in **British Standard BS 8511:2010 Code of practice for the installation of solid fuel heating and cooking appliances in small craft** where much more detailed information can be found. The code isn't compulsory, but will always be referred to if an accident occurs.

A good stove and its chimney will follow the rules here and:

- Be recommended by the manufacturer for use in boats.
- Be installed by a competent person. (5.2)
- ... strictly to the maker's instructions
- Be the right size for the space to be heated.
- Have securely latching doors which can't jolt open.
- Use very dry wood or smokeless fuels. Avoid bituminous coal (called 'housecoal' or 'Polish coal')
- Have chimney and flueways cleaned very regularly.
- Have door seals, windows and liners kept sound.
- If your stove has a lower ash door which can be opened separately from the main door – take *very great care*, leaving it open can make the fire burn far too fiercely, a common cause of serious boat fires.

- Choose an insulated flue pipe to make the smoke rise
- Make sure enough fresh air is coming in.
- Keep anything flammable well away.

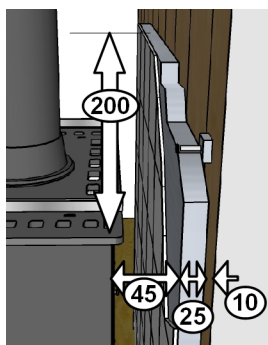
**STOVE SITED** where it won't cause obstruction, particularly to escape routes or near steps. (5.1)

**WELL AWAY FROM COMBUSTIBLES** ...*anything* like wood, GRP, fuel, gas containers, oil, candles, curtains, cushions, clothing, books, oil lamps, fold-away furnishings or anything which could create a fire hazard – all as far away as the stove maker says is safe, usually about **600mm away** or behind a **PROTECTION PANEL**. (5.1)

### Heat PROTECTION PANELS

Stoves and uninsulated flue pipes can easily get hot enough to set fire to paint, wood or other combustibles a distance away. A single fireproof panel fastened straight to a wall is no use – heat can pass straight through it.

One way of making a good protection panel is to have: a **10mm air gap** (supported on offcuts), then 25mm thick **calcium silicate board** (which can be tiled) then at least a 45mm gap to the stove body, all extending at least 200mm above the stove. (7) (This construction can be used as the hearth underneath a stove with legs, if topped by a 15mm cement-board panel.)



Open-sided **RAIN CAP** (8.4)

**HEIGHT** At least 600mm above the roof when moored – removable if need be. (8.4)

### INSULATED CHIMNEY

Insulated pipe outside *and* inside the cabin, for safety and to keep the smoke **HOT** so it rises. Uninsulated pipe cools the smoke down and drastically spoils stove performance. (8.2)

### THROUGH THE ROOF

The pipe should have provision for expansion, have no join inside the roofspace and be well protected from combustibles (8.4)

### A SOUND CHIMNEY

Even tiny leaks in the chimney can let air in, which cools the smoke, stops it rising, and risks poisonous CO gas leaking out.

**FIT ALARMS!** Carbon Monoxide in smoke is poisonous, and fire can start unnoticed.

BS EN50291 CO alarm

BS EN14604 Optical smoke alarm

Stoves need **FRESH AIR** to burn safely. Have a completely open vent of 550mm<sup>2</sup> (about 1" square) for each 1kW of stove output, preferably divided between vents at high and low level (9)

The whole chimney able to be **CLEANED** from end to end (8.5)

Check with the makers, but insulated pipe often needs to be **3/4 of its diameter** away from unprotected combustibles (8.2)

**IDEALLY STRAIGHT**, but *never* more than 2 x 30° bends and **NO** horizontal lengths! (8)

If there has to be a short length of **uninsulated** pipe to connect to the insulated chimney, then **at least 3x its diameter** away from unprotected combustibles.

Stoves to the latest safety standards show an 'EN' number and how close combustibles can safely be.

(5.3) Stove, hearth and chimney all **FIXED FIRMLY IN PLACE**

**THE HEARTH** needs to project at least 225mm in front and 150mm to each side of the stove **OR** have a high lip. Made of sturdy, non-flammable material, to fully protect combustibles underneath. (6) (Portway Model shown has built-in hearth to standard)

**FLUE PIPES** fit socket end up, and are sealed with fire cement (8.3). They should be of the diameter recommended by the stove manufacturer, and never less than 100mm.