Requirements for oil storage tanks

Guidance notes: 23

The Government changed the building regulations on 30 November 2006. These included changes to Part L “Combustion appliances and fuel storage systems”.

The rules for how you must construct, position and install oil storage tanks (oil tanks) were brought into the building regulations for the first time (see section 5 of technical booklet L). You must now meet Government requirements for protecting oil tanks against fire and protecting the environment against pollution from spills from oil tanks.

When you apply under the building regulations, building control will inspect any new oil tanks along with the central-heating system. You should also make an application if you are installing a new oil tank or a replacement oil tank in a different location from an existing one.

How oil storage tanks are built

New oil tanks must be built in line with the recommendations of British Standard, BS 799-5:1987 for ‘steel tanks’, or the Oil Fired Technical Association (OFTEC) publication OFS T100, 2005 edition, “Polyethylene oil storage tanks for distillate fuels”.

Protecting oil storage tanks against fire

The idea of the new regulation is to reduce, to a ‘reasonable level’, the risk of fuel in an oil tank catching fire if there is a fire in nearby buildings or premises.

It applies to fixed oil tanks which hold more than 90 litres (20 gallons) of oil and any pipe work attached to them.

Where to place an oil storage tank

If you place the oil tank more than 1.8 metres from any part of the building and more than 750 millimetres (mm) from a boundary, you do not need to provide fire protection to the oil tank.

If the oil tank is closer than 1.8 metres to any part of a building then:

- any eaves less than 1.8 metres from the tank must have 30 minutes' fire resistance (for more information about fire resistance, see section 5 of technical booklet L). This fire-resistant material must extend 300mm beyond each side of the tank,

and either

- any part of the building's wall must be imperforate, (that is, have no openings in it other than very small openings such as air bricks), and have at least 30 minutes fire resistance;

or

- you must provide a fire wall between the tank and any part of the building. Fire walls must extend at least 300mm higher and 300mm wider than the tank. Fire walls must be imperforate and made from material which is non-combustible (that is, does not burn). They can be walls, such as masonry walls, or screens and should be built so that they are not dangerous to people around them.

Fire walls around oil storage tanks which are close to a boundary

You must build a fire wall to the side, or sides, of an oil tank where they are less than 750mm from any boundary. The wall must have at least 30 minutes' fire resistance. This is to make sure that a fire cannot affect the tank from the boundary side or that a fire at the tank cannot reach across the boundary.

Fire walls must extend at least 300mm higher and 300mm wider than the tank. Fire walls must be imperforate and made from material which is non-combustible (that is, does not burn). They can be walls, such as a masonry wall, or screens and should be built so that they are not dangerous to people around them.

Flues ending near oil storage tanks

The end of any flue must be more than 1.8 metres from the oil tank unless a fire wall is provided between the tank and the end of the flue.

Hard-standing for oil storage tanks

If an oil tank is above ground level, it must be placed on a hard surface, made either from concrete or paving slabs, which is at least 42mm thick. The hard surface must extend beyond the edges of the tank by at least 300mm.

Protecting pipe work carrying fuel oil from fire

Fuel pipe work must be:

- able to resist fire; and
- be fitted with a fire-valve system if it enters a building.

The fuel pipes must be made from steel, copper or a material which is similarly fire resistant. If pipes pass through the walls or floors of buildings they should be sleeved. There should be no joints in the pipeline within the thickness of the walls or floors. The sleeve should be built into either the wall or floor and be made from the same material as the pipeline. The sleeve should have an internal diameter at least 25mm greater than the outside diameter of the pipeline passing through. The space between the pipeline and sleeve should be sealed against water, gas, vermin, insects, dust and the spread of fire with suitable material.

Where the pipeline is exposed it should be supported by purpose made clips and attached to permanent structures such as walls.

Additional recommendations for buried fuel pipes are that:

- they should be at least 300mm clear of other services, such as water pipes and electricity cables;
- they should be buried to a depth of 450mm;
- they should be laid on a 40mm layer of well compacted sand covered with another 40mm of sand and a layer of building grade polythene to protect from contamination from material used to fill the trench; and
- warning tape should be placed above the pipe 150mm below the surface.

For additional information refer to OFTEC's publication PUB/21, issue 1 2006, "Easy guide to domestic oil feed pipes" and British Standard, BS 5401-1:1997 "Code of practice for oil firing installations", in particular section 8.2 "Fuel feed pipe work".

Fire valves are fitted to pipes that feed oil to a heating appliance. They cut off the supply of oil to the heating appliance if it catches fire. If you are installing the boiler which the oil storage tank supplies inside the building, there should be a fire valve which can cut off the oil supply where it enters the building. If the boiler is outside a building, in a boiler house or garage, there should be a fire valve at least one metre away from the appliance.

Where possible the fire valve should be suitably protected from damage and if any part of the valve should become damaged, it is essential that they close off the oil supply.

For more information on fire valves, read British Standard, BS 5401-1:1997 "Code of practice for oil firing installations", section 8.3 "fire valve types and installation".

Protection against pollution from oil spills from an oil storage tank

The aim of this regulation is to reduce, as much as possible, the risk of oil escaping from an oil tank and causing pollution to the environment. It applies to a fixed oil storage tank which serves a home and:

- holds between 2500 litres (550 gallons) and 3500 litres (770 gallons);
- is within 10 metres of inland streams, rivers, waterways or coastal waters;
- is within 50 metres of a source of drinking water such as a well, bore-hole or spring;
- is in an area where spilled oil from the installation could reach inland freshwater, coastal waters or a source of drinking water by running across hard ground;
- is in an area where a spillage could run into an open drain or loose fitting manhole cover; or
- is in an area where the tank vent pipe outlets cannot be seen from the intended filling point.

If any of the above points apply, all new oil tanks need to be **'integrally bunded prefabricated tanks'**. This effectively means that there is a tank (which holds the oil) inside another tank and the gap between them acts as a reservoir to trap oil that might leak from the inner tank. This effect is called 'bunding' and this bund must be able to hold all of the oil from the inner tank with spare capacity so that it can hold at least 110% of the contents.

Further information

You may find the following websites useful:

www.**oftec**.co.uk

www.**buildingcontrol**-ni.com

If you need any help or assistance, call us on 028 9027 0650, or telephone our helpline on 208 9027 0432.