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1. What is heating oil?

Heating oil or kerosene is a liquid fuel used in boilers and furnaces in domestic and commercial settings. Like petrol, kerosene is a by-product of crude oil and is very similar to diesel in chemical composition and application.

2. What are heating oil storage tanks used for?

Heating oil is generally used as an alternative to gas in properties which are not connected to the national gas network. Oil tankers deliver the oil to heating oil storage tanks for transportation to boilers and furnaces where the fuel is ignited. Uses vary between domestic and commercial applications.

DOMESTIC HEATING OIL

Generally, heating oil is used to fuel a boiler for hot water and central heating. Around 1.6 million households in the UK use oil for home heating. Although it’s less common, heating oil can also be used for cooking.

COMMERCIAL HEATING OIL

In a commercial setting, heating oil is used to fuel machinery for construction, agriculture and horticulture. It can also be used to fuel furnaces, generate electricity, produce steam for industrial machinery, and heat commercial buildings including holiday homes.
3. What are the advantages of using heating oil?

While for most homeowners using heating oil is more of a necessity than a choice, there are still definite advantages:

• Heating oil actually burns hotter than gas and warms a house quicker than gas or electric powered heaters.
• Heating oil is the cheapest alternative to gas at a cost of around 5.5 pence per kWh. Comparatively gas is 5.1 pence per kWh and electricity is 20.7 pence per kWh. (NottEnergy 2019)
• Modern heating oil systems are more efficient than gas or electric meaning that less fuel is wasted and more fuel is converted into heat. Heating oil furnaces exceed 90% efficiency whereas gas heating furnaces is around 75% and electric 30%.
• Heating oil gives you much more control of your fuel supply. You can choose when you want to fill your heating oil storage tank, who fills it, who supplies it, and you can shop around for the best deals.
• Most heating oil suppliers give you the option of paying monthly making your heating payments the same as if you were paying for gas.

4. What are the disadvantages of using heating oil?

• Prices for heating oil fluctuate and you may have to spend time to get the best deal. However, this can work to your advantage.
• Heating oil requires delivery which can be inconvenient compared to gas.
• Heating oil is a fossil fuel and is therefore non-renewable.

5. What types of heating oil storage tanks are available?

Heating oil storage comes in a variety of types and sizes with different capacities suitable for domestic and commercial applications. They can be manufactured in steel or plastic (polyethylene), and are available in single skin or bunded. A select few manufacturers - including Tuffa - sell fire protected tanks available in steel. Tuffa Tanks specialise in fire protected heating oil tanks and are unique as the only manufacturer providing patented fire protected tanks in plastic.

You can find out the differences between these tanks and the benefits of each below:

SINGLE SKIN HEATING OIL TANK

Single skin oil tanks have a single layer of steel or plastic. The reduced manufacturing costs in producing a single layer of material makes this tank the cheapest of all the options. However, single skin oil tanks are subject to stricter regulations as oil spills risk polluting land and water
sources. Therefore, heating oil storage tanks sited near water sources and all oil tanks over 3,500 litres in capacity are required to be bunded.

**BUNDED HEATING OIL TANK**

*Bunded oil tanks* have two layers – an inner tank and an outer tank (bund) which acts as a secondary containment (a tank within a tank). Regulations state that the bund must be able to hold at least 110% of the contents of the inner tank. In the event of a leak, the outer tank will contain the oil which would otherwise risk contaminating the local area. Having a bund is a requirement for any tank with a capacity to hold 3,501 litres of oil or more.

**FIRE PROTECTED OIL TANK**

*Integrally fitted fire protected oil tanks* contain a flame-retardant material offering 30 or 60 minute fire protection. This provides sufficient time to evacuate the area while a fire is controlled and extinguished. It also means that your tank can legally be installed in a location which is otherwise prohibited by building regulations such as to next to, or even inside, non-fire rated buildings. An added advantage to fire protected oil tanks is that they are LABC certified upon arrival. This makes additional building work and site inspectors unnecessary.

**STEEL**

*Steel oil tanks* can be single skin or bunded, and bunded tanks can be fitted with fire protection. Generally steel tanks are made to order meaning they can meet bespoke requirements, capacities and dimensions. This makes steel tanks popular with people who are replacing old tanks as they can sit inside the same space. Steel tanks are more expensive than plastic tanks but they offer greater durability with a serviceable life in excess of 30 years.
PLASTIC

Plastic oil tanks can be single skin or bunded and bunded tanks can be integrally fitted with fire protection. The plastic used is a polyethylene, a recyclable material known to be extremely hard-wearing. Our plastic tanks are roto moulded which makes a single unit without seams or joints which can create weak points. Tuffa's plastic tanks have a serviceable lifespan of 20 years or more and are a cheaper alternative to steel oil tanks.

MANUFACTURING AND QUALITY STANDARDS

All heating oil storage tanks should meet British Standards and trade association standards. At a minimum, tanks need to comply with BS EN ISO 9001, should be made of a material suitable for the oil stored with sufficient strength to ensure it won’t burst or leak with ordinary use and are expected to last at least 20 years with proper maintenance.

Rotationally moulded polyethylene tanks must also meet BS EN 13341 standards and be CE marked to indicate conformity with health, safety and environmental protection standards. Steel tanks must meet BS 799 standards. Your manufacturer, supplier, or installer should advise you on whether a tank meets these standards.
6. What size heating oil tank do I need?

As a rule of thumb, we recommend that domestic heating oil tanks have a capacity of at least 500 litres per room in the house. However, there are cost advantages to getting a larger tank than necessary. Use the table below to find Tuffa manufactured tanks suitable for your usage:

<table>
<thead>
<tr>
<th>1-BED HOUSE</th>
<th>900L bunded oil tank</th>
<th>1350L bunded oil tank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L:2000mm  W:625mm  H:1450mm</td>
<td>L:2680mm  W:670mm  H:1665mm</td>
</tr>
<tr>
<td>2-BED HOUSE</td>
<td>1100L bunded oil tank</td>
<td>1350L bunded oil tank</td>
</tr>
<tr>
<td></td>
<td>L:2200mm  W:675mm  H:1450mm</td>
<td>L:2680mm  W:970mm  H:1665mm</td>
</tr>
<tr>
<td>3-BED HOUSE</td>
<td>1350L bunded oil tank</td>
<td>1800L bunded oil tank</td>
</tr>
<tr>
<td></td>
<td>L:2680mm  W:970mm  H:1665mm</td>
<td>L:1830mm  W:1175mm  H:1450mm</td>
</tr>
<tr>
<td>4-BED HOUSE</td>
<td>2300L bunded oil tank</td>
<td>2500L bunded oil tank</td>
</tr>
<tr>
<td></td>
<td>L:2840mm  W:1620mm  H:1630mm</td>
<td>L:2000mm  W:1335mm  H:1450mm</td>
</tr>
<tr>
<td>5-BED HOUSE</td>
<td>2300L bunded oil tank</td>
<td>3500L bunded oil tank</td>
</tr>
<tr>
<td></td>
<td>L:2000mm  W:1335mm  H:1450mm</td>
<td>D:2840mm  H:2520mm</td>
</tr>
</tbody>
</table>
7. How much heating oil will I use?

Obviously the amount of heating oil you use depends on the usage: the size of the house, how often you’re at home and whether it’s used for heating, cooking or both. However, to get a basic idea of heating oil consumption, a typical three bedroom household using kerosene for heating only, and mostly on weekends and evenings, will use around 1,600 litres of oil. Using kerosene for heating and cooking will bring that up to 1,750 litres. You can use this [oil usage calculator](#) to get an idea of how much oil you need.

8. When should I buy heating oil?

Kerosene prices vary dramatically so doing a little research and shopping around to get the best price is well worth the time spent. The graphs below highlight just how much money can be saved on heating and cooking bills if kerosene is purchased at the right time.

Graph 1 shows the average monthly price of a 1000 litres of kerosene. This data suggests that June – August is the best time to buy your heating oil with prices increasing during winter.

When we look at a wider period of time in graph 2 we can see that there is a huge overall variance in fuel prices even in the same month; the cost of 1,000 litres of heating oil in February 2013 was £688.47 compared to February 2016 at £285.98 – that’s 2.4 times higher. This variance occurs because the price of heating oil is dependent on a whole range of factors from exchange rates to conflict in oil producing countries, and crude oil prices.

On the whole, late spring or early summer is the best time to stock up on heating oil before autumn and winter demand ramps the prices up. However, it’s worth monitoring the prices too as you might grab yourself a bargain.
9. How do I get the best price for heating oil?

While purchasing fuel at the right time is important, it isn’t the only way you can get the best price for your heating oil. While gas and electric companies tie you into long-term contracts with a single supplier, heating oil does not require a contract – although you can choose to pay monthly. This means that when it comes to refuelling your tank you can compare heating oil prices from different suppliers and pitch competitors against each other.

Another way you can reduce the price of your fuel is by joining a “heating oil club” – communities of people who have banded together to buy their heating oil in bulk to lower the overall cost and get a better deal for each member of the community.

Our top tip for getting the best price on heating oil is buying the biggest oil tank you can practically keep. The cost difference between a small 1,350 and a larger 2,500 litre heating oil tank is fairly minimal. However, the additional 1,150 litre capacity can provide you with pretty substantial savings if you buy at the right time.

The larger the tank you have, the more you can save by bulk buying heating oil when the prices are low. Also, most heating oil suppliers will offer you incremental discounts when you purchase a large amount of fuel. Normally purchasing 500 litres will give you a standard rate with a small discount for every 100 litres above 500 litres that you purchase. Of course, bulk buying reduces the number of deliveries required which always costs you even if the charge is in the price of the oil. Finally, this tactic allows you to store enough fuel to last you through the winter months when you need heating the most but fuel prices are the highest.
10. Which heating oil storage regulations apply to me?

Everyone storing oil in a container with a capacity of over 200 litres must follow oil storage regulations. The regulations you are required to follow depends upon the usage of the tank and its location – both the proximity of the tank in relation to other structures and the country in which the tank resides. Read on to find out which regulations apply to you.

DOMESTIC OIL STORAGE REGULATIONS

The England control of pollution (oil storage) regulations (2001) state that an oil tank is considered domestic if it has a capacity of 3,500 litres or under and it’s used to heat a domestic building – e.g. the primary use can’t be for commercial purposes. Domestic oil tanks with a capacity under 3,501 litres aren’t required to have a bund unless it’s sited in any of the following places:

- Where oil spills could run over hard ground and reach coastal waters, inland fresh waters or a drinking water source.
- Where oil spills could run into an open drain or a loose manhole cover.
- Where the tank vent pipes cannot be seen when the tank’s being filled, for example, because the delivery tanker is parked too far away.
- Within 10 metres of coastal waters or inland fresh waters like lakes or streams.
- Within 50 metres of a drinking water source, for example, wells, boreholes or springs.
- In the inner zone of groundwater source protection zone 1.

While in these circumstances a bund isn’t compulsory, we still recommend bunding all tanks as it’s good environmental practice. Additionally, when you install a single skin tank you face the risk of regulation updates making your tank no longer compliant.

COMMERCIAL OIL STORAGE REGULATIONS

Commercial oil storage regulations must be followed if your business (including marinas and public sector premises) stores oil in a tank with a capacity of 201 litres or higher, or if your domestic premises stores oil in a tank with a capacity over 3,500 litres.

If your oil tank falls into this category then your tank must contain a secondary containment to reduce the risk of spillages. This secondary containment usually takes the form of a bund – an outer layer capable of holding at least 110% of the inner tank’s capacity. This bund can be constructed from masonry or concrete, or can be ‘integrally bunded’.

Tuffa’s oil tanks are integrally bunded meaning that the bund is fitted during the manufacturing process.
WALES, SCOTLAND AND NORTHERN IRELAND

With an increased focus on protecting the environment oil storage regulations are becoming increasingly strict and regulations in Wales now require all new oil tank installations with a capacity over 200 litres to be bunded. In Scotland all oil tanks with a capacity above 2,500 litres must to bunded. Tanks in Northern Ireland follow the same secondary containment requirements as England and must be bunded when above 3,500 litres in capacity.

To find out more about oil storage regulations in your country click on the appropriate link:

England – Control of pollution (oil storage) regulations 2001
Wales – Control of pollution (oil storage) regulations 2016
Scotland – The Water Environment (Controlled Activities) Regulations 2011
Northern Ireland – Control of pollution (oil storage) regulations 2010

BUILDING REGULATIONS – FIRE SEPARATION DISTANCES

As well as oil storage regulations, heating oil tanks which are connected to a furnace or boiler must also comply with building regulations. These regulations state fire separation distances – minimum distances that your heating oil tank must be from boundaries and structures. These regulations are in place to reduce the risk of fires igniting the kerosene. Under these regulations your tank cannot be located:

1. Within 1.8m of a non-fire rated building or structure.
2. Within 760mm of a non-fire rated boundary.
3. Within 1.8m of non-fire rated eaves.
4. Within close proximity to a balanced flue.

In addition, the tank must be sited on a hard base such as concrete or paving slabs at least 42mm thick. The base must also extend for a minimum of 300mm around all sides of the tank.
WANT TO SITE YOUR TANK NEXT TO OR WITHIN A BUILDING?

If you are struggling to comply with these regulations, or you simply wish to hide your tank, then you can use a fire-rated barrier to store a heating oil tank adjacent to or even in a building.

DOMESTIC

With a 30 minute fire protected oil tank your domestic heating oil tanks can be sited directly adjacent to buildings and boundaries including your home, shed, garage and trellis.

With a 60 minute fire protected oil tank your domestic heating oil tank can be sited within an uninhabited building.

NON-DOMESTIC

Non-domestic heating oil tanks and tanks with a capacity above 3,500 litres and require 60 minute fire protection to site a tank adjacent to a building.

11. How do I check and maintain my heating oil storage tank?

Oil tank maintenance is the responsibility of the homeowner in domestic properties. Oil spills and leaks are detrimental to the environment and the charges for cleaning contaminated land can be extremely costly. As well as properly maintaining your oil tank you should check your home insurance to ensure it covers leaks onto your property and neighbouring land.
CHECKING YOUR OIL TANK

It’s recommended that you check your oil tank intermittently every 6 months and after any episodes of extreme weather. Some of the visible signs you should look for on the tank include:

- Cracks and splits
- Rust
- Bulging
- Faulty gauges
- A sudden increase in oil usage
- A stronger smell of oil

If you notice any damage then have it repaired immediately. You should also check the base for subsidence and ensure that there is no foliage within a 300mm range of the tank.

MAINTENANCE

As well as checking your oil tank every 6 months we recommend that you use a competent technician to maintain your tank every year. Your technician should check the tank, bund and pipework and remove any condensation water. Upon completion, you should receive a written report on the state of the tank and any work done. This service can be performed by members of the Association of Plumbing & Heating (APHC) Contractors amongst various other trade bodies.

Condensation inside tanks causes sludge which can clog fuel lines and filters. However, by making sure your oil levels don’t get too low you can reduce the chance of sludge being able to enter the fuel lines. It’s often the fuel delivery technician who notices the build-up of sludge and they may be able to advise you on when to clean your tank. However, we recommend you clean an oil tank roughly every five years to keep it in good working order and to prevent oil contamination. Usually tank cleaning is performed by a professional tank cleaning service as it’s a laborious and complicated job – especially without the professional tools. You can however clean the tank yourself.

12. What should I do with oil spills and what insurance do I need?

Oil spills from your tank can be caused by cracks, splits, over-fueling, theft and human error. Spilt oil will contaminate the earth and can reach ground water causing pollution and damaging the environment. This can also be very costly to clean up and requires appropriate insurance.

OIL SPILLS

To reduce any impact to the environment that oil spills have it’s important you keep a spill kit near the tank containing commercial sorbent products, sand and earth. In the event of a spill you should
take immediate action and soak up the spilt oil with contents of your spill kit. You should then report the environmental incident on the 24-hour emergency hotline 0800 80 70 60.

INSURANCE

As well as properly maintaining your oil tank you should check your home insurance to ensure it covers you for cleaning up oil spills. Make sure your policy covers you for:

- Expenses for cleaning up oil on your own property.
- Environmental cleanup for accidental oil loss.
- Liability expenses to cover neighbouring land and boreholes.

13. What do I look for in a new house with a heating oil storage tank?

Viewing and buying a new house and discovering it's heated by an oil tank can be alarming for someone who hasn't owned one before. However, there is no reason that it should put you off buying a house. Check out the diagram below to familiarise yourself with the layout of a heating oil tank.
As you would do before moving into any new property, it’s worthwhile doing a few basic visual checks to ensure everything looks okay:

- Check the condition of the heating oil tank looking for any signs of deterioration – see previous section 11 ‘How to check and maintain my heating oil storage tank’ to find out what to look for. You can expect a tank to have a few minor scrapes but if there are any leaks and cracks then you will need a new tank – this might affect how much you offer on the house.
- Perform a basic check to see if the heating oil tank is obviously in breach of building regulations regarding fire separation distances. Basically, the tank should be 1.8m away from most boundaries and buildings and should be sited on a solid concrete base which extends 30cm past the outer edges of the tank. If that’s not the case then ask for the tank’s paperwork to see if it’s fire protected (and can therefore legally be sited near boundaries and buildings).
- Check the condition of the boiler and any visible pipes.
- Check the fuel level gauge to ensure you have heating oil ready for when you move in – delivery can sometimes take a week or two so book early or be prepared with alternative heating.
- Be sure to read the rest of this guide to familiarise yourself with heating oil and to get the best price for kerosene.
14. How do I prevent fuel theft?

With domestic heating oil tanks capable of holding well over £1,000 worth of kerosene it’s no great surprise that oil tanks are a target for thievery. To add insult to injury, heating oil theft can also lead to spillages, an uncomfortable phone call to the environment agency and the possibility of clean-up fees. This is a real problem in the UK and in 2018 there were over 25,000 confirmed fuel thefts equating to losses of over £1.75m. The best way to stop theft is to prevent thieves from even trying to steal from your tank. However, if that fails it’s always worthwhile having additional protection on your tank.

PREVENTION

Preventing fuel theft usually involves installing glaringly obvious visual deterrents to stop thieves from targeting you. Or, simply hiding your fuel tank away so thieves don’t know you have one. On the cheaper end of the visual deterrent scale, you can install motion-detection security lighting which alerts you to a presence in your property and is often enough to discourage intruders. With a little extra money, you can install CCTV (or even dummy CCTV) placed in a position where intruders can see they are being filmed but can’t reach the camera. Visual deterrents are also a great way to let intruders know they are dealing with someone who is security conscious – this is often enough to make thieves choose an easier target.

The location of the oil tank itself can help to reduce fuel theft – if you can’t see the tank from the road then most people simply won’t know it’s there. Obstacles such as sheds, fences, trellis and foliage can be used to ensure tanks aren’t visible from the road. Hiding a tank is made more achievable with integrally fitted fire protection oil tanks as they allow you to site your tank next to or even inside buildings. Incidentally, this has the added benefit of making your oil tank impossible to see from Google’s satellite images – a tool that criminals are increasingly using to locate valuable items in people’s properties.

PROTECTION

As well as simply preventing heating oil theft, there are products available which can physically protect your tank or alert you when theft is occurring. Also, if you are looking to purchase a new heating oil tank then it’s worthwhile considering which type of tank offers the most protection.

Lockable fill points

The easiest way to steal heating oil is to siphon it from a fill point or inspection hole in the tank. If your tank doesn’t have a lockable lid then tank arms (which acts like a steering wheel lock) and security locks can be used instead to offer extra protection to these vulnerable points.

Tanks alarms

A tank alarm such as a Watchman Alarm is used to alert you when there is a sudden drop in oil
in your heating oil tank. A leak in your tank or someone stealing fuel will trigger an alarm in the monitor which can be fitted inside your house or office.

These can be fitted inside your house or office and also give you a visual reading of the oil level.

**Lockable lid**

Some heating oil tanks (including our bunded and fire protected ranges) are equipped with a lockable lid which can be fitted with a padlock. This offers the fill points protection from siphoning. We recommend using round-shackle padlocks as they leave little room for bolt cutters to grip the lock and because they are not spring loaded they will not unlock if the key barrel is drilled into.

The easiest way to steal heating oil is to siphon it from a fill point or inspection hole in the tank. Tank arms and security locks offer extra protection to these vulnerable points and enable you to padlock the lids in place.

**Steel tanks**

Unsurprisingly steel is more difficult to penetrate than plastic and often tools are required to drill into the tank which can alert tank owners. Comparatively, plastic is easier to penetrate and makes much less noise when being drilled. There have even been reports of thieves heating metal rods to melt holes into plastic tanks. These factors also make steel tanks a less attractive target than their plastic counterparts.

**Bunded tanks**

Bunded oil tanks make stealing fuel more complicated as thieves have to penetrate both the outer tank and inner tank. They also often come with lockable lids which hide fill points.

If you have any more questions about heating oil storage tanks, or if you would like to enquire about prices, then please contact our sales team on 01889 567700 or by emailing sales@tuffa.co.uk.

You can also subscribe to our newsletter to stay up to date with news, guides, product updates and more.