Fuel Storage

Regulations and Technical Specifications

Crown Oil
Fuels and Lubricants

Did you know?

There's different legal limit on how much fuel you can store at your business and at home.

Storing diesel or any other fuel in the workplace or at home presents a potential risk to both yourself and the environment: when not handled correctly, fuels are a dangerous and highly flammable substance that can cause big problems.

Oil is one of the most common reports of pollution, contributing to over 15% of pollution incidents each year. It can harm plants and marine life, damage rivers, groundwater and soil and destroy natural habitats and drinking water supplies.

Different regulations apply depending on where you store your fuel, how much you store and what you are using the fuel for. If you choose not to comply with these regulations, you can be served an anti-pollution works notice or face prosecution - both being bad news for your operations.

This document covers the essential technical aspects of fuel storage for both business and home applications. If you have any questions, or want to speak to our team of experts about your fuel storage needs, call us on 0330 041 4866.

Contents

Business Fuel Storage

If you store more than 200 litres of fuel, you must adhere to the Control of Pollution (Oil Storage) (England) Regulations 2001, which refer to:

Red Diesel

- DERV
- Kerosene
- Biofuels
- Lubricants or hydraulic oils
- Synthetic oils e.g. waste oil and motor oil
- Liquid bitumen-based products e.g. damp proofing or road surface products

The regulations do not apply to:

- Oil stored underground
- At a premise used for onward distribution of oil to another location
- Agricultural use of oil on farms for the production of heat and power - this is included the Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations, 1991
- Waste mineral oil storage

Where should I store my fuel tank?

Your tank must be stored at least 10 meters away from inland or coastal waters, away from areas that are at danger from flooding and 50 meters clear of a spring to avoid the risk of pipelines breaking and causing an oil spillage.

Your tank should be on floor level or below ground level – it must never be stored above roof level. Remember, your tank needs to be easily accessed for deliveries and maintenance, but away from areas that are at risk of damage via impact, machinery and weather.

If you have any questions regarding the storage of your fuel tank, please call us on **0330 041 4866** for help and advice from our team of experts.

Domestic Fuel Storage

If you have a new or replacement fuel container installed at your home, such as for your cooker or central heating, you must adhere to building regulations. These vary in Wales, Scotland and Northern Ireland. The containers must be designed solely for the purpose of fuel storage and must be fitted with a screw cap or closure to avoid leakage of liquid or vapour.

Under 30 litres

As a home, motor vehicle, boat or aircraft owner, you can store up to 30 litres of petrol without having to inform your local Petroleum Enforcement Authority (PEA). The law requires different containers, depending on how much fuel you are storing:

- Up to 10 litres – plastic container
- Up to 20 litres – metal container
- Up to 30 litres – demountable fuel tank

Between 30 litres and 275 litres

You can store over 30 litres but less 275 litres of petrol, but you must inform your local PEA via writing, with your name, address and storage location.

Between 275 litres and 3,5000 litres

You can store over 275 litres but less than 3,500 litres, but you will require a petroleum storage certificate and a licence to do so. Again, you must contact your local PEA who can issue you one for up to 3 years, but this is non-transferable.

Where less than 3,500 litres of oil is stored, you do not need to follow the Control of Pollution (Oil Storage) (England) Regulations 2001, however Building Regulations do apply for new tanks.

Remember…

- Do not store fuel inside your house – the shed or garage is ideal or in open air
- You should never manually or electrically dispense/pump fuel from a storage tank on site
- You must avert any sources of heat or ignition that could set alight
- You should only use fuel in the fuel tank of a combustible engine

You must ensure your tank is installed by someone who is registered with a ‘Competent Person’ scheme as they can self-certify that their own work adheres to building regulations. If you choose not to use a Competent Person, you must get a Building Control Notice off your local council and arrange and pay for an inspection as a homeowner.

Whoever fits your tank can be prosecuted if they do not comply with building regulations, however you are responsible for ensuring their work meets the regulations.

If you need to store more 3,500 litres of fuel, you must follow Control of Pollution (Oil Storage) (England) Regulations 2001 and apply for planning permission to install an oil tank with this capacity at home.

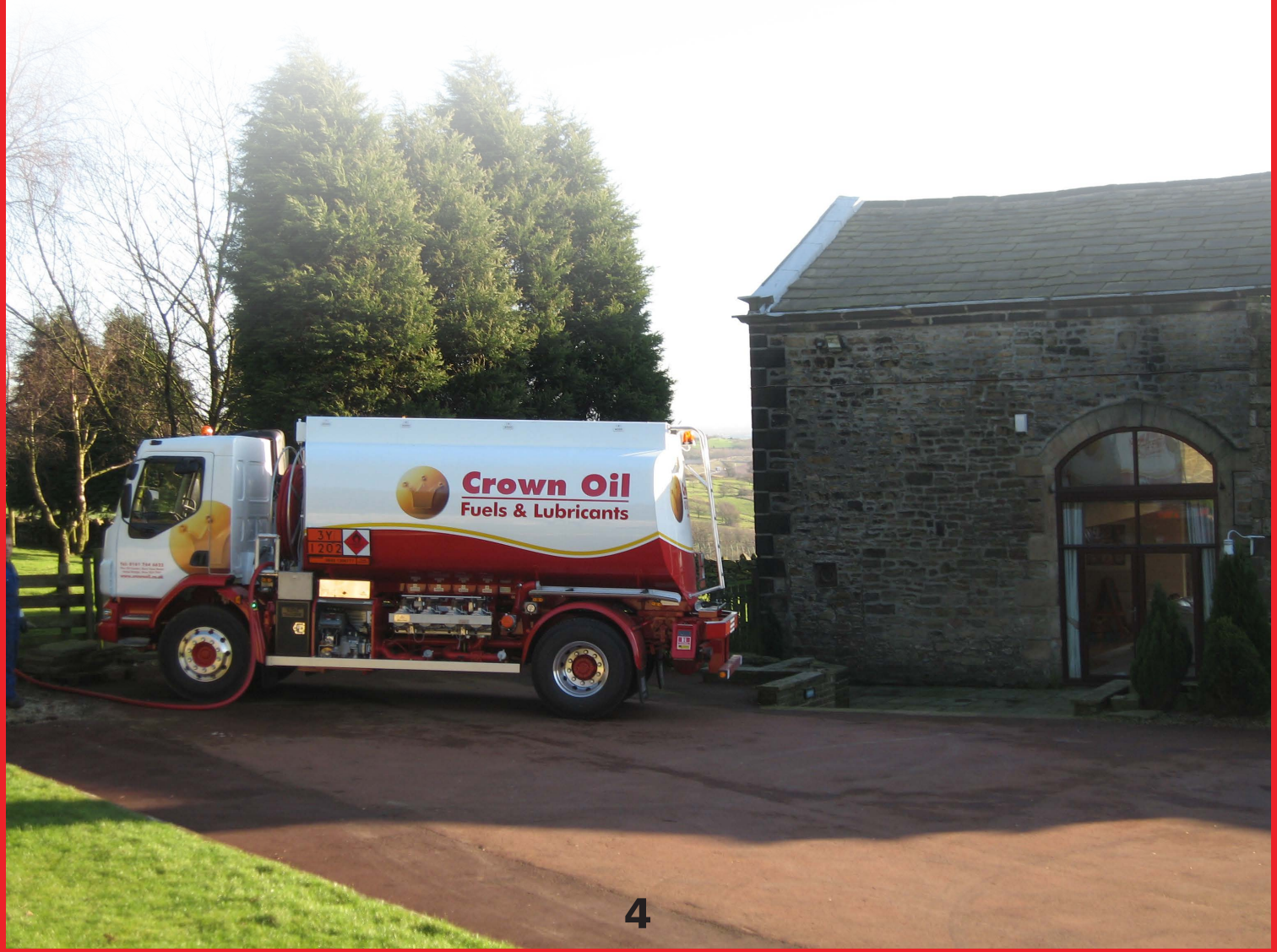
Where should I store my fuel tank?

- At least 10 meters away from inland or coastal waters and 50 meters clear of a spring
- Away from areas that are at risk from flooding
- On floor level or below ground
- Away from areas that are at risk of damage via impact, machinery or the weather
- In a location that can be easily accessed for deliveries and maintenance
- On an impervious surface if near to delivery area where oil is dispensed

For further information, read the relevant regulations:

- Control of pollution (oil storage) (England) regulations 2001
- The Water Environment (Oil Storage) (Scotland) Regulations 2006
- The Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010

Have any questions about the storage of your fuel tank? Call us on **0330 041 4866** and we will be able to offer advice from a team of experts.



Design Standards for Fuel Containers

When your tank is being installed, the company must ensure the work complies with Building Regulations 2010. If your fuel tank is near a river or water source, the company is required to fit a secondary containment, such as a bund to prevent any oil spillages.

If you use a company that is not fully qualified, it will be your responsibility if any pollution is caused as a result of poor fuel storage.

Suitable fuel storage containers include:

- Fixed tanks and oil drums
- Intermediate bulk containers (IBCs)
- Mobile bowsers
- Some generators and transformers

All fixed tanks must comply to British Standard 5410 and be bunded to prevent any spillages, however a drip tray is not suitable on this type of tank.

Plastic fuel storage tanks

A plastic tank must comply with the Oil Firing Technical Association (OFTEC) standard OST T100.

What are the advantages of plastic tanks?

- Lightweight – meaning installation and transportation is easier and cheaper
- An insulator – the transfer of heat from the environment to the contents is slow
- Can be custom made
- Pliable – even though it's shape can deform, they can be easily corrected with little damage

What are the disadvantages of plastic fuel storage tanks?

- Weak - exposure to sunlight can degrade and weaken the plastic, making it less suitable for the outdoors
- Soft material – it can become damaged onsite and is more prone to theft as it's easier to drill a hole into the tank
- It's inevitable that it will absorb some of the fuel which can reduce the integrity of the tank, decreasing the prospect of recycling
- It's limited on how big it can be made before the integrity is affected

Metal fuel storage tanks

A metal tank must comply to OFTEC standard OFS T200 or British Standard 799-5 and ideally, be stored above ground.

What are the advantages of metal tanks?

- Sturdy – able to withstand more impact when onsite and reduces the chance of theft
- Non-porous – it will not absorb the fuel enabling it to be recycled more easily
- Able to come in larger capacities due to its nature – enables you to take advantage of cheaper fuel prices

What are the disadvantages of metal tanks?

- Heavy – more challenging and expensive to install and transport
- It will corrode over time if not regularly maintained

Whether you choose a plastic or steel tank will depend on your operations. Steel tanks offer more benefits to bigger operations that require large amounts of fuel being stored that a plastic tank cannot necessarily handle. However, a plastic tank can be easily moved if required.

Give us a call on **0330 041 4866** to discuss what type of tank is suitable for your needs.

Maintaining your fuel tank's safety

We recommend that you check your fuel tank at least fortnightly to detect any early signs of contamination. You are looking out for any signs of corrosion and wear and tear, and also any sudden reductions in the level of your fuel. Identifying problems early on will reduce the likelihood of hefty costs.

You must only fill the tank up to 85% to leave room for expansion and to avoid any spillages.

It is also important to use a trusted and professional company to carry out an industrial tank inspection at least once a year. Unfortunately, the human eye does not have x-ray vision built in, so it is extremely difficult to detect all levels of contamination.

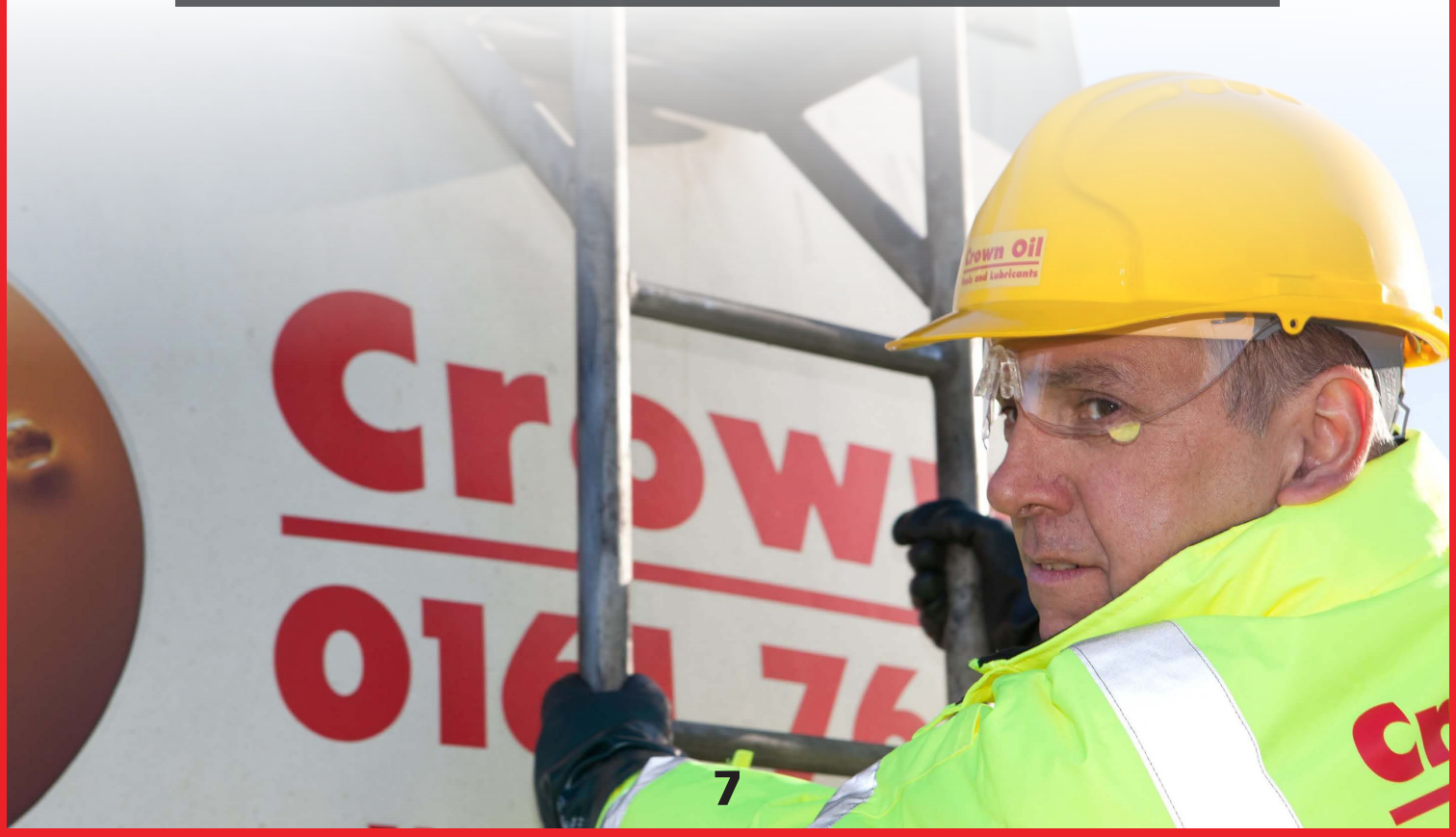
Our sister company, Crown Environmental has a team of fully-trained inspectors to get in the tanks where most cannot, enabling our oil tank inspections to be extremely cost-effective. An oil tank inspection can find the root of a problem which can be repaired, eradicating the need of having to replace your fuel and tank.

Crown Oil fuel tanks

All of our barrels and tanks are perfect for storing all fuels and oils and can even be tailor-made to suit your exact requirements. We supply 205-litre red diesel barrels that are constructed from welded mild steel and a wide array of tanks that vary in shape, size and capacity.

All of our storage facilities come hand in hand with our wide range of ancillary products that are designed to help increase safe handling and storage.

Call us today on **0330 041 4866** to order one of our fuel tanks or dispensing products, or simply for some advice.



Fuel Tank Connections and Fittings

Avoid pollution penalties by using the correct fuel tank connections and fittings

When storing a fuel tank on your site, whether it's at your home, farm or business, you want to be confident that it is in perfect condition all year round. Any leaks or faults in your tank can be not only costly but potentially dangerous too, so it's imperative that it is well maintained, regularly cleaned and handled safely.

To help achieve this, there is a wide range of fuel tank connections and fittings that are required by law to help avoid an oil spill which can result in huge expenditure and possible prosecution.

Secondary Containment

Secondary containment is required to prevent oil escaping from the tank or ancillary equipment in the event of a leakage or spill. All fuel tanks and ancillaries must be positioned in an oil tight secondary containment system, such as a bund or drip tray.

Bund

A bund is the outer case to a fuel tank. It is constructed from concrete, brickwork or it can be manufactured as part of a tank system, which is known as an integrally bunded tank.

Bunded fuel tanks are the most reliable fuel facility to store fuel safely and securely. They are ideal for plant equipment and machinery that need regularly refilling.

A bund must adhere to ISO 9000 regulations:

- It must be able to hold 110% of the tank's capacity to prevent overfilling, sudden tank failure, loss of tank contents and to facilitate rainfall during spillage
- If you store more than one fuel storage tank, the secondary containment needs to be able to store 110% of the biggest tank's capacity or 25% of the total capacity – whichever is the largest
- It must be non-corrosive and resistant to oil and water, with no drain-down pipe
- All of the tank must be contained with valves and taps pointing downwards and locked when not in use
- Delivery pipes must always be attached to the tank, with self-closing taps or valves inside that are locked when not in use
- If the fuel tank is stored underground, the bund must have a life expectancy of 20 years without needing maintenance
- Bulk tanks must have a bund and will also meet the requirements of DSEAR regulation 6(4)(e)

A bunded tank is now required in almost all commercial and industrial sites and also in most domestic premises too, pending an inspection by an OFTEC-registered engineer.

Drip Tray

A drip tray is designed to catch any spillages to prevent oil from entering the environment. The drip tray will ensure the fuel is contained within as it is attached to the bottom of the tank. If it can hold the same amount as the container, it should also be able to hold one quarter of the drum it is holding. This is only valid if you use the tray to hold a single drum.

For example, a drip tray that can hold four separate 205 litre drums must have a capacity of 205 litres, even if you only use it to hold a single 205 litre drum.

Here at Crown Oil, all of our barrels are designed to sit on drip trays to help you prevent an oil spillage.

Tank Gauging System

Sight Gauge

Fuel tanks require a gauge to help the delivery driver when they are refuelling the tank to prevent overfilling and spillages. Without a gauge, most companies will refuse to fill the tank.

What is a gauge?

A gauge is a traditional method used to measure the contents of a bottom outlet oil tank. It must be:

- Properly supported so it can’t become loose
- Situated in the secondary containment
- Fitted with a bracket along the length of the gauge to fix the tube to the tank to avoid it being knocked over
- Fitted with a valve that automatically shuts when not in use

Dipping

You can also gauge using a drip rod that is constructed from non-sparking alloys that are unearthed. You should only use the rod in the tank that it was specifically designed for to guarantee accurate readings.

Fuel Tank Connections & Fittings

Remote filling

If you fill your container through a remote fill pipe, you must use a drip tray to catch any oil spillages that may occur during the delivery. A remote fill refers to when your tank is filled at a fill point that is outside of the secondary containment e.g. the bund or drip tray. In a remote fill, the tank may not be visible from the fill point.

Piping

Commercial oil supply pipes tend to be constructed from steel to provide protection from damage and vandalism. They must not be galvanised and must be painted to reduce corrosion.

Domestic oil supply pipes are usually constructed from plastic-coated soft copper tubing to enable them to be easily manipulated.

Underground pipework must be avoided where feasible as it is difficult to pinpoint any leakages or damage.

Above ground pipework should be located to prevent the risk of damage via impact and collision. It is a legal requirement that the pipework is supported so it cannot become loose.

Pump

A pump is a potential source of ignition, meaning it must be positioned outside of the bund on an impervious base and in open air. It must also be located away from delivery areas to prevent the risk of damage by impact.

A pump must have a valve in its feed line to prevent the fuel from emptying if the tank is damaged.

It must remain locked shut and enclosed in a casing when not in use or the supply of electricity switched off to prevent unwanted usage.

Delivery Pipe

If your fixed fuel tank contains a flexible pipe to dispense oil, it must be in a secure cabinet that remains locked shut when not in use, with an attached drip tray.

On the contrary, the pipe must be kept inside the bund, where the pipe leaves the oil tank. It must remain locked when not in use, with a valve or tap at the input end that secures automatically. You must ensure it is not fixed open, unless if it has an automatic cut-off mechanism.

Overfill Prevention Device

If your fuel tank and vent pipe are not visible when filling up, an automatic overfill prevention device will ensure your tank is not overfilled. This can entail an apparatus to cut off the oil when the tank is full or an alarm or fixed tank probe to send an alert when it’s full. This is imperative to prevent an oil spillage.

Fixed Couplings & Screw Fittings

The screw fitting and fixed coupling must not become eroded. You must check that debris has not become trapped within.

Valves, Taps and Vent Pipes

A valve is an imperative safety feature of an oil tank installation as it cuts off the oil supply in the event of a fire. It must be:

- Locked when not in use
- Outside of a building
- Before the point of entry
- Visible from the filling point
- Triggered by a remote sensor

Pipes are a potential source of an oil leakage, so they must have a shut-off valve that has been tested to BS EN ISO 10497 and therefore fire safe.

If your fuel tank has any permanently attached vent pipes, taps or valves where oil can escape, they must be inside the bund and positioned so that oil goes directly into the bund to prevent polluting the environment.

The Fuel Experts

Established over 70 years ago, Crown Oil is an independently owned, family-run business, supplying oil, fuel additives and lubricants throughout the UK, to both domestic and commercial customers.

We believe excellent service before and after your order is paramount to our continued success. When combining this with our first-class local knowledge, competitive fuel prices and efficient deliveries, we are confident we can provide a complete fuel solution you can rely on.

We have a wide range of fuel services on offer, including environmental services, designed to help you get the most out of your fuels, such as:

- Fuel Management Service
- National Fuel Supplies
- Out of Hours, Emergency Fuel Deliveries
- Fuel Testing
- Fuel Uplift
- Fuel Polishing
- Priority Fuel Contract Service

To find out how Crown Oil can benefit your business, call us on **0330 041 4866** or visit our website at www.crownoil.co.uk.