

Above Ground Tank Installation Guide

Customer Responsible For Ground Works

This document is Calor's above ground tank installation guide and sets out the specific requirements you must follow to ensure:

- **The installation is completed correctly, first time and on schedule**
- **Everyone is safe when completing the work**

• Suitable tank location agreed.	Calor & Customer
• Installation schedule date confirmed.	Calor
• Base & pipework trench completed correctly.	Customer
• Tank delivered onto the base.	Calor
• Engineer completes the underground service pipework installation from the property back to tank.	Calor
• Tank installation and pipework tested.	Calor
• First delivery of gas arranged	Calor

The following guide provides the necessary information to enable your Above Ground Tank Installation to be completed correctly, first time and on schedule and will ensure the safety of everyone completing the work.

1. Step by Step Installation Guide

1.1. Installation Sales Agreement (ISA)

A Calor sales representative will agree with you a suitable location for the above ground tank and the route of the pipework connecting the tank to your property.

The tank position, including the minimum separation distances, and the route of the pipework are shown on the ISA.

- If you have chosen to complete the tank base and ground works yourself, or you are using your own contractors, then these will need to be completed in accordance with the requirements detailed in Sections 2 and 3.

1.2. Scheduling

- On receipt of the ISA, a Calor Customer Engineering co-ordinator will contact you to confirm the scheduled week commencing date for the above ground tank installation.
- The actual installation date will be confirmed with you 2 - 3 weeks prior to the installation date.
- You will need to complete the tank base and groundworks in accordance with the requirements in this Tank Installation Guide.
- 2 to 3 days before your agreed tank delivery date, the Customer Engineering co-ordinator will contact you to confirm that the tank base and pipework trench have been prepared and are ready for the tank delivery and pipework installation.

1.3. Preparation

- The tank base should be prepared at least seven day prior to the delivery of the tank in the location specified on the ISA, ensuring the minimum separation distances are maintained.

Note: Failure to complete the base and trench in the correct location will result in an aborted visit and could incur additional charges.

- You will need to prepare the trench for the gas pipe, before the tank can be connected. It should, where possible, be in a straight line between the gas tank (the centre of the short side of the base) to the agreed gas supply entry point as shown on the ISA. The trench requirements are detailed in Section 3 of this Tank Installation Guide.

1.4. Tank Delivery & Installation

- On the day of the tank delivery ensure that the trench is not flooded and that there is suitable access for the crane vehicle.
- The engineer and crane operator will confirm the tank base and pipework trench meet the required specification and that the tank separation distances are correct.
- The tank will be lowered into position on the base.
- The engineer will prepare for the connection to the tank and complete the installation of the pipework, terminating at the agreed point of entry at the property with an Emergency Control Valve (ECV).
- Once the pipework is installed the engineer will complete the final connection of the pipework to the tank and then test the pipework and equipment. If the tightness test is successful, the pipework will be purged up to the ECV ready for connection by your own engineer.

Please note: You will need a suitably qualified engineer to install the pipework beyond the ECV and to connect up your appliance(s). You can find a Gas Safe approved engineer at:

<https://www.gassaferegister.co.uk/>

1.5. Gas Delivery

- Once the installation is complete, contact your local Calor Operation Centre (COC) to arrange for a first gas delivery. Contact details for your local COC can be found by following the link below:
<https://www.calor.co.uk/home-energy/using-lpg/calor-customer/delivery-information>

The following section provides the requirements for the preparation of the tank base

2. Preparing your Tank Base

2.1. Base Construction

A stable, level and adequately sized load-bearing base will need to be constructed for your tank.

To achieve a successful above ground tank installation please follow these base construction requirements:

- Peg out the base and ensure the minimum separation distance from buildings, boundary, property line and fixed sources of ignition to the tank have been achieved;
- Excavate the ground and construct a consolidated hard-core base;
- Use a simple 4 parts gravel, 2 parts sand and 1 part cement mix;
- Ensure the surface for the base is completely level;
- Allow at least seven days for the base to set.

Note: Subject to local ground conditions the hard-core base depth may need to be increased. If a large base is to be constructed then suitable reinforcement may be required and advice from a civil contractor should be sought

- The surface of the base must be finished to ground level if the tank is being delivered by trolley. Delivery by trolley will only occur in exceptional circumstances and will be specified on your ISA by your Calor representative

2.2. Base Dimensions

- Please refer to your ISA where it specifies quantity and size of your LPG Tank(s) and use the table below to determine the correct size of your tank base.

Tank Size	Number of Tanks	Base Dimensions Where tanks are side by side (m)		
		Width (a)	Length (b)	Depth (c)
380 Litres	1	0.65	1.7	0.15
	2	2.3	1.7	0.15
1200 Litres	1	1	2	0.15
	2	3	2	0.15
	3	5	2	0.15
	4	7	2	0.15
2000 Litres	1	1.2	3	0.15
	2	3.5	3	0.15
	3	5.7	3	0.15

The following section provides the trench requirements for the underground PE service pipework from the ECV at the property entry point to the tank installation.

In all circumstances Calor shall install the underground PE pipework to ensure it is installed correctly.

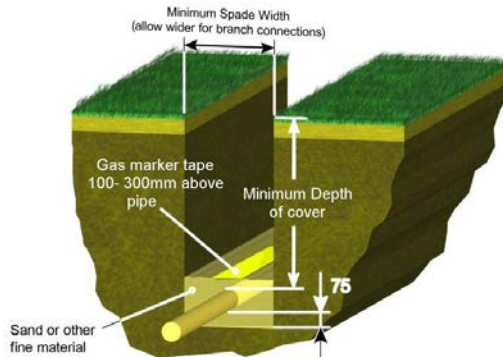
3. Installation of underground service pipework

3.1. Trench Preparation

- Trenches shall be excavated to the required depth and width. This will depend upon the routing and protection of the pipework.
- Consideration should be given to the tank delivery. Where the open trench may make access difficult for the delivery vehicle, it should not be excavated until after the delivery.
- The trench shall be free from stones, rocks, bricks or other materials that may cause damage to the PE pipework.
- There should be no sharp bends.
- Trenches should normally be dug from the centre of the short side of the tank base and square up to the outside wall of the property.

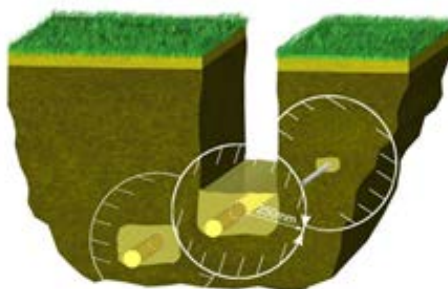
3.2. Depth of Cover

- The trench must be excavated to give a minimum depth of cover of 600mm above the top of the pipework. If the pipework is to be laid in agricultural land or across public roadways contact Calor for further guidance.
- The PE pipework will normally be 32mm diameter unless otherwise specified by Calor.
- Where the base of the trench is in rock or ground of irregular consistency, the trench should be excavated to 75mm below the required depth and a layer of sand provided to protect the pipe.



3.3. Adjacent Services

- The gas pipework must be a minimum of 250mm from any other service or utility.

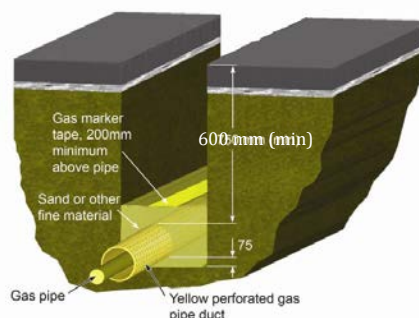


3.4. Ducting

A pre-laid duct can be used for the pipework where it is inconvenient or impractical to leave an open trench, such as across paths, driveways, or patio areas. Ducting must be perforated and yellow conforming to BS 4962 and it must have the same depth of cover as PE pipe (refer to Depth of cover section 3.2).

Note: Give careful consideration into the type of duct selected and its installation; failure to observe these duct recommendations could lead to re-excitation of the trench.

- All ducts must be laid in a straight line with no kinks or obstructions.
- Incorporate a draw rope when laying the duct and identify the ducting by placing gas marker tape 200mm above it.
- To avoid damage, we recommend the duct is covered with 100mm of fine sand prior to backfill.
- Leave the last metre at both ends of the trench open for the engineer to work in.
- The duct should protrude by at least 150mm at each end.



Duct sizing:

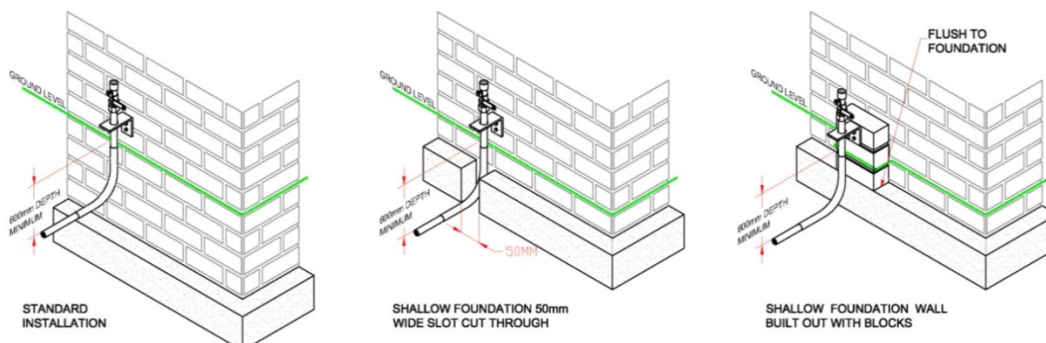
PE Gas Pipe (mm)	Duct Diameter (mm)	Maximum Duct Length (m) ¹
32	100	30

¹The maximum length of duct must not exceed 30m. If the length of duct exceeds this, additional inspection pits will be required at 30m intervals to ensure correct depth of pipe. Inspections pits should be a minimum of 1m²

3.5. Footing Preparation

- If the property has a concrete raft a channel (minimum of 50mm) should be provided to allow the pipework to be fitted correctly and to the required depth. Alternatively, the brickwork can be blocked out to allow the emergency control valve to be fitted and the installation pipework routed from this point, see figures below.

Note: It is recommended that a structural engineer should be consulted prior to cutting into or altering structural supports.



3.6. Trench backfilling

- The back fill at the sides of the pipe and immediately above it should be sand or similar soft material free from stones or sharp objects.
- The initial cover of backfill shall be placed in layers and carefully consolidated by hand to provide lateral support between the pipe and trench sides.

4. Screening

4.1. Screening Requirements

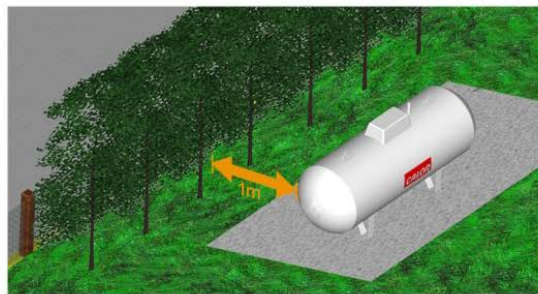
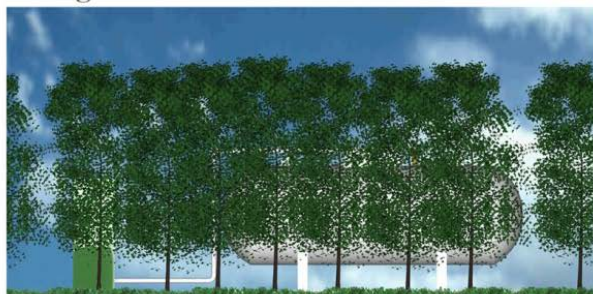
Screening may be used provided:

- It is located at least one metre from the tanks
- There is unimpeded ventilation and access around the tanks
- The screen does not obstruct more than 50% of natural ventilation and allows free movement of air around the tanks.
- The delivery tanker driver will have a clear line of sight between the tank and the delivery tanker

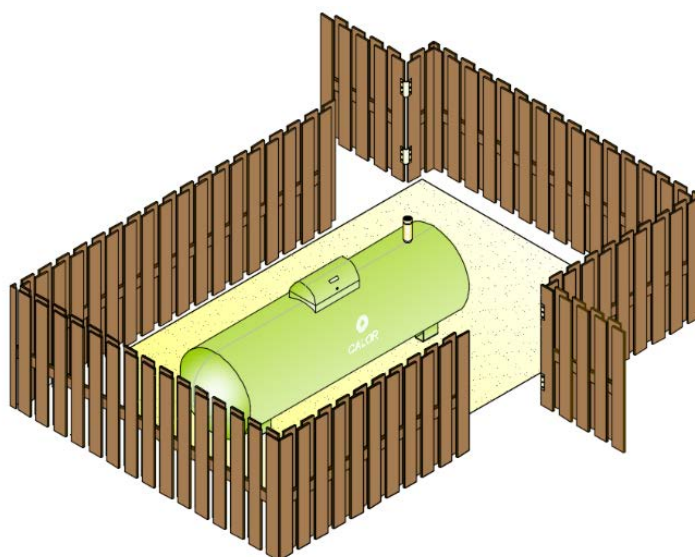
4.2. Screening Options

- Evergreen shrubs or trees can be used on up to two sides of the tank. These must be positioned and maintained to ensure they do not restrict access and that they do not grow nearer than 1m to the tanks or above the tanks.

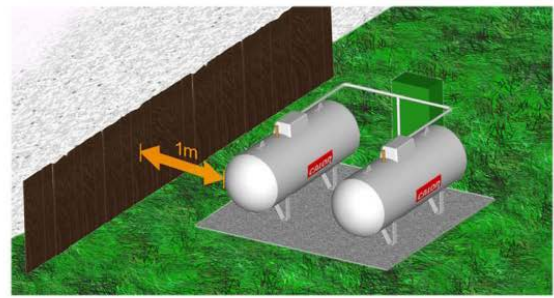
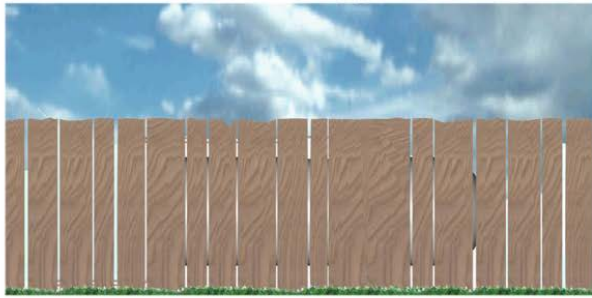
Evergreen Shrubs.



- A hit and miss type fence with 50% natural ventilation is allowed on all 4 sides but if used on more than 2 sides, additional access gates are required (further guidance can be obtained from your sales representative or Customer Engineering co-ordinator). The hit and miss fence should not be closer than 1m to the tanks and there should be a clear line of sight between the tank and the delivery tanker.



- A solid wall or close board fence can be used on two sides with the other two sides left clear to allow for ventilation and access.



5. Post Installation Tank Protection

- Once installed Customers must ensure that:
 - ✓ no building or structure of any kind, such as sheds, greenhouses, summer houses etc. shall be constructed, moved, or placed within the separation distance of the tank;
 - ✓ weeds, long grass, deciduous trees shrubs and trees within the separation distance should be controlled and excessive vegetation should not be allowed to accumulate
 - ✓ no flammable materials shall be permanently stored within the separation distances;
 - ✓ they comply with all security precautions with respect to the tank as may be required from time to time by Calor or any applicable regulatory body.