

**QUOTATION**

**Ref:** 171117-UG-WARRENCOTTAGE-BC-6106596SG

17<sup>th</sup> November 2017

Mr Terry King  
Warren Cottage  
Lynford  
Thetford  
Norfolk  
IP26 5ET

Dear Mr King,

**BULK CALOR PROPANE SUPPLIES TO UNDERGROUND TANK AT:**

As above

Following our recent discussion, I am pleased to submit our quotation for a Calor Propane underground tank installation and the supply of Calor Propane, sent on behalf of Ben Chilvers.

If you need to clarify any points or if you wish to accept this quotation please contact Ben Chilvers on 07766443942.

On your acceptance our representative will be happy to call and complete an Installation and Gas Supply Agreement.

**Prices:**

Delivery, installation and commissioning of storage tank Regulators and Pipework	£500.00
Standing Charge pence per day (exempt until property occupied)	25.13 ppd*
Gas Price pence per Litre	39.0 ppl*

**\*Value Added Tax will be applied to prices at rates applicable at date of supply.**

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### **Gas Storage Installation**

Calor will deliver and install to your pre-excavated site 1 x 2100 litres capacity underground storage tanks.

Suitable first stage gas pressure regulating equipment will be provided and installed. Gas will be regulated to the required operating pressure.

### **Pipework and 2<sup>nd</sup> Stage Regulator**

Calor will supply and install into 600mm deep pre-prepared trenches, pipework to the one entry point terminating with an isolating valve at the entry point to the building. The pipeline will terminate above ground at a quick action isolating valve.

Underground pipelines will normally be run in polyethylene pipe any above ground pipe will be run in steel pipe.

Ownership of all pipework, regulators and valves transfers to the customer after Calor's installation invoice is settled. Calor provides a 12 months parts and labour Warranty.

### **Commissioning and Standards**

Calor will commission the tank(s) and the pipework that Calor has installed including all necessary safety and operating checks. Installations will comply with *The Gas Safety (Installation and Use) regulations 1998* and the *LP Gas Association Code of Practice No 1, the Storage of LPG at Fixed Installations*.

Calor Propane conforms to BS 4250. Product Data Sheets can be provided on request.

### **Statutory Testing and Tank Maintenance**

Calor retains ownership of the tank(s) and will periodically carry out the required testing procedures free of charge, including an annual test of the tank Cathodic protection.

The repair or replacement of the tank or tank fittings is also carried out free of charge.

The cost of maintenance and alterations to all pipework and gas regulators is the customer's responsibility. Calor can provide separate quotations for such work.

N.B. Any Testing and Maintenance that requires excavation and subsequent backfilling of the tank pit will be at the customer's expense.

### **Emergency Service**

Calor provides all bulk Calor Propane customers with a 24-hour all year round emergency call-out service, utilising our team of Gas Safe approved local Contractors.

### **Gas Deliveries**

Whenever possible, gas will be delivered on an automatic top-up basis. We try to make sure that all tanks are topped up before the contents gauge drops to a minimum reading of 25%. This ensures you need never be out of gas.

Any special delivery requirements should be discussed with our Salesperson.

### **Tank Siting / Excavation and Preparation of Site**

The storage site must be prepared to comply with the *LPG Association Code of Practice No 1, The Storage of LPG at Fixed Installations (Part 4)*, and then maintained to these standards which may be checked by Health and Safety Inspectors or local Environmental Health Officers on any routine visits.

The site must be excavated and prepared as per Calor Specification D-043-SP2.

Our local Salesperson will advise on tank siting but the tank manhole lid must be sited a minimum of three metres from any building, property boundary or fixed ignition source.

In some locations Planning permission and or Building Warrant may be necessary. Our local Salesperson can advise but if in doubt we recommend you contact your local Planning Department.

#### **Vehicle Access**

Our local Salesperson can also advise on vehicle access requirements. They can arrange for an access check to be carried out by our distribution dept if necessary. All bridges and access roads must be capable of taking a minimum of 16 tonnes gross, 9 tonne axle weight vehicle.

#### **Supply Agreement**

Gas will be supplied as per our Domestic Gas Supply Agreement, further qualified by the supplemental Conditions in this quotation. The minimum term of supply will be two years.

In the event of termination of the Supply Agreement, the cost of excavation, disconnection and removal of the tank will be at the customer's expense.

#### **EXCLUSIONS**

- Preparation of site as per Calor Specification.
- Excavation and subsequent backfilling of 600mm deep pipe trench
- Laying of plastic security mesh during backfill of tank site
- Backfill and making good of site.

Thank you for your interest in our services. Calor are UK market leaders in the supply of L.P.G. Our aim is to provide the highest quality customer service and safety standards.

I look forward to your favourable response.

Yours sincerely

Samantha Gilfillan  
Sales Support Team  
Calor Gas Ltd

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**SUPPLEMENTARY CONDITIONS - UNDERGROUND TANKS**

1. The vessel will be delivered onto site and placed in the hole which must be EXCAVATED AT THE CUSTOMER'S EXPENSE and which must meet Calor's specification ref. D-043-SP2 and comply with the drawings provided by Calor:

Such hole to be excavated in the position agreed with a Calor Representative and shown on the Domestic or Commercial Bulk Order.

It is recommended the customer consult a professional advisor such as an architect, or reputable contractor for site preparation services.

2. CALOR reserves the right not to site a vessel if it appears to CALOR in its absolute discretion the hole excavated is unsuitable, or that the site is in ground that is subject to eddy currents, salt water, or the water table is unsuitable or for any other reason.

3. CALOR will arrange for the vessel to be inspected periodically as required and in any event in accordance with Regulations.

4. Upon termination of the contract for any reason the charges for uplifting the vessels will be payable by the customer.

It is the customer's responsibility to backfill and make good the excavation of the removal of the vessel.

Customer Signature.....

Name .....

Date .....

Calor Signature .....

Name .....

Date .....

CGO/DGO reference .....

**NOTICE TO DEVELOPERS**

Where Calor has agreed under the terms of a contract to install subterranean Liquified petroleum gas storage tank and pipework, it is most anxious to point out to developers and their customers that the vessel should be properly maintained and serviced. In addition, if a customer decides to stop using Calor Gas, the tank should be uplifted or made safe.

It is Calor's practice to request any customer who wishes to have a subterranean tank to enter into a contract with Calor which includes special conditions relating to uplift. These include the right to enter upon the customer's premises not only for the purposes of maintenance and repair, but also for the purpose of uplift and/or making the subterranean gas system safe. Accordingly in any agreement with a purchase of the land, provision should be included in the contract that the purchaser will enter into a standard form of contract with Calor. That the purchaser should give Calor rights of access and egress to the property serviced by the vessel whilst the subterranean tank remains on site. Finally the developer should ensure that it obtains a release from Calor from any contractual obligations it has with Calor in relation to the underground tank. Such release will only be given by Calor where a customer of the property upon which the tank is situated has signed directly a contract with Calor Gas Limited for the supply of LPG. And/or in the alternative, a purchaser not wishing to utilise Calor's subterranean storage tank makes arrangements for the same to be uplifted or plugged and the costs thereof paid by the customer.

## INSTALLATION SPECIFICATION FOR UNDERGROUND TANKS

### 1. GENERAL DESCRIPTION

The tank valves are enclosed in an open topped box or hood which has a hinged, lockable lid which is flush with the ground after installation. The cathodic protection system consists of two magnesium sacrificial anodes, (connected to the tank via a junction/test box), which are placed at the sides of the excavation during back-filling.

To prevent any chance of floatation, the standard installation has the tank anchored down to a concrete slab or concrete blocks.

Once the tank is in place and anchored to the slab/blocks, the excavation is back-filled. However, in the clay or other water retaining soils it may be necessary to include sand in the back fill to assist drainage of water from the valve box or, in extreme cases, provide proper drainage facilities. The anodes are placed when the backfill is just below the centre line of the tank.

On completion of the installation, marker pegs are inserted, flush with the ground, marking the extent of the tank. The area over the tank may be turfed or planted with shallow rooted, low growing flowers or shrubs. However, need for clear access to the hood lid for filling must be taken into account and deep rooted shrubs and trees are not permitted due to the risk of root damage to the tank and the cathodic protection system. Continuous concrete or tarmac covering is **NOT PERMITTED** over these tanks.

### 2. INSTALLATION

#### 2.1 Siting

Underground tanks must not be sited in ground subject to vehicle movement, flooding or where the water table is above the underside of the tank. Tank siting relative to buildings, boundaries and other features shall be as specified in LPG Association CoP No 1 (See Appendix 1)

Access during installation for the crane vehicle is required. A line of sight for gas delivery is essential. A line of sight means the driver must be able to see the tanker when standing at the tank location.

#### 2.2 Excavation

Before excavation, the area must be checked for the presence of underground pipes and cables etc.

The excavation dimensions are shown in Diagram 1. The contractor shall determine the need for shuttering or the sloping of the excavation sides in order to ensure safe working conditions for personnel working in the excavation during tank installation. Reference should be made to the requirements of the Construction (General Provision) Regulations 1961, Part IV (Statutory Instrument SI 1580) and BS6031 : 1981.

The base of the excavation (or top of hard core) must be level, flat and compacted. The depth of the excavation must be checked by Calor Gas before tank installation.

The anode location “shelves” may be created during excavation or after partial back-filling to suit site conditions. These shall be 600 to 700mm above the bottom of the excavation (or top of hard core).

### **2.3 Tank Installation**

The sequence of installation shall be as follows:

Place prefabricated base slabs in the prepared excavation. 2000 Litre tanks require two slabs, 4000 Litre tanks require four slabs (two at each end, stacked) Slab positions are shown in Diagram 1.

### **2.4 Service Connection**

Connection to the customer gas supply may be carried out after placing of the tanks or after partial back-filling.

The pipe can exit the hood through an opening at either end, to suit the customer site layout. Because the hole is less than 500mm below ground level, the pipework must be initially run downwards along side the tank to give the 600mm depth required in the pipe trench.

Calor Gas will terminate the gas supply at the wall of the house with a plugged isolation valve.

**BACK-FILLING MUST BE CARRIED OUT WITH GREAT CARE AND IN A CONTROLLED MANNER** to ensure that the tank, the anchoring straps, service pipe and, after putting in place, the anode connection wires are not damaged. The back-fill must be carefully compacted underneath the tank at stages throughout the back-filling process.

### **2.5 Marker Pegs**

Following completion of back-filling, four marker pegs shall be inserted into the ground to indicate the position of the tank. The top of the pegs should be flush with the ground. The pegs must not be covered or obscured from view in service.

## **3. MULTIPLE TANK INSTALLATION**

Underground tanks may be installed in multiple tank installations in order to provide the required offtake. In all cases the space between adjacent tanks shall be 15 metres.

**APPENDIX 1**

**MINIMUM SEPARATION DISTANCES FROM UNDERGROUND VESSELS**

VESSEL SIZE	NUMBER OF VESSELS IN GROUP	Distance from buildings, Boundary, property line or fixed Source of ignition		Between Vessels
		To valve assembly	To vessel	
2000 L	Up to and Including 3	3m	1m	1m
	Over 3	3m	3m	1m
4000 L	6 max	3m	3m	1m

***APPENDIX II***

Total weight of vessel with pre-cast slabs attached

: 2000 litre - 1670 kg

: 4000 litre - 3250 kg

DIAGRAM 1.

Example of Installation for underground tanks using anti-flotation system anchor blocks only.

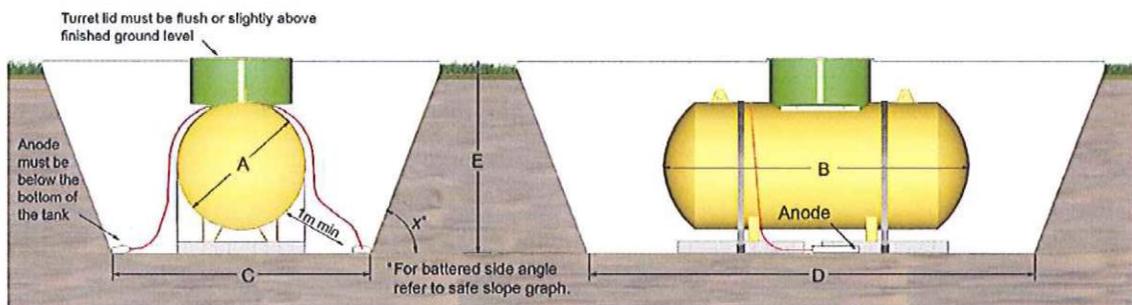
## LEVEL GROUND INSTALLATION SINGLE TANK USING PRE-CAST ANCHOR BLOCKS

The following details are for the installation of a Calor 2100 Litre **Type 227** below ground tank using Calor Pre Cast anchor blocks only.

Dimensions shown are minimum to the bottom of the excavation (E)

With this type of installation there is a risk of the turret becoming flooded which can result in subsequent problems for both the customer and the Calor driver. Where the tank is installed in clay type or water retaining soils, to prevent flooding of the turret, it may be required to install drain tubes from the low points either side of the turret to a soak-away pit filled with hard core rubble, etc. The top of the soak-away must be at the depth (E) shown in the diagram. At some sites alternative drainage methods may be appropriate.

**Figure 3 Excavation criteria**



**Table 2 Excavation dimensions using pre cast anchor blocks**

BELOW GROUND TANK EXCAVATION DIMENSIONS (Using Calor pre cast anchor blocks)		
Diameter of tank	A	2100 Litre 1200mm
Length of tank	B	2520mm
Minimum width of excavation (at bottom)	C	2600mm
Minimum length of excavation (at bottom)	D	3700mm
Depth of excavation	E	1830mm

**Figure 4 Reinstatement criteria**

