

SubTerra Light Installation Guide

Issue 3 - 5th May 2023



Introduction

Health & Safety

Under the Construction (Design and Management) Regulations 2007, unless they are a domestic client, all parties involved in construction or building work have legal duties. These include:

Clients:

- Check competence and resources of all appointees.
- Ensure there are suitable management arrangements for the project welfare facilities.
- Allow sufficient time and resources for all stages.
- Provide pre-construction information to designers and contractors.

Designers:

- Eliminate hazards and reduce risks during design.
- Provide information about remaining risks.

Contractors:

- Plan, manage and monitor own work and that of workers.
- Check competence of all their appointees and workers
- Train own employees.
- Provide information to their workers.
- Comply with the specific requirements in Part 4 of the Regulations.
- Ensure there are adequate welfare facilities for workers.

It should be noted that additional legal duties are imposed where construction work is notifiable. All installation activities should be carried out observing the requirements of The Health and Safety at Work Etc. Act 1974; and The Management of Health and Safety at Work Regulations 1999.

Risk Assessment

Contractors are required to submit a method statement which includes a methodology for installation and risk assessment for the work to be carried out.

Site Guidance

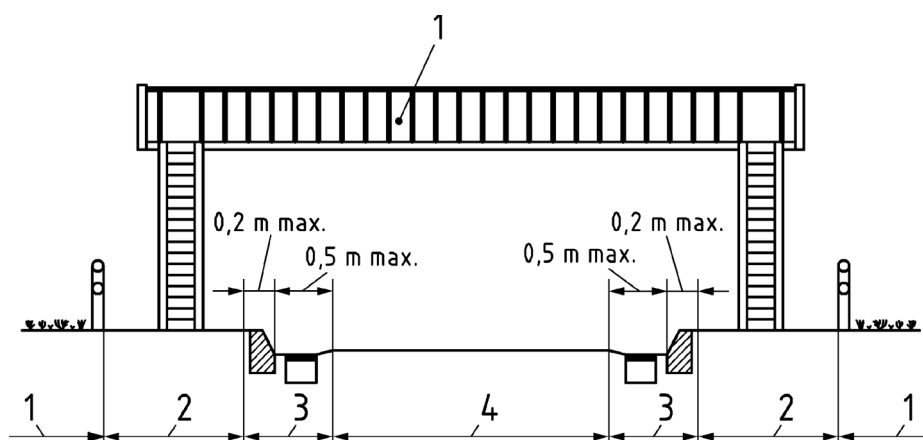
Good Practice Guide:

- Store units away from direct sources of heat including sunlight for excessive periods.
- Avoid prolonged storage in direct sunlight.
- Place packs of SubTerra Light on level ground. DO NOT stack filled pallets.
- DO NOT store units near fuel bowsers, fuel tanks or any other solvents.
- Although SubTerra Light units are robust and resistant to damage when handled normally, store in locations where impacts from vehicles and site plant will be avoided.
- Ensure the units are always kept clean.
- Broken/cracked units should not be installed. Broken/cracked units should be recycled wherever possible.

Install Classification Guidance

This installation guide is for the SubTerra Light chamber system for installation in Group 2 areas in accordance with European Standard BS EN 124:2015.

This means that Sub Terra Light chambers can be situated in pedestrian areas.



Equipment & Materials

To effectively install SubTerra Light, you will need additional equipment and materials as listed below.

3.1 Materials

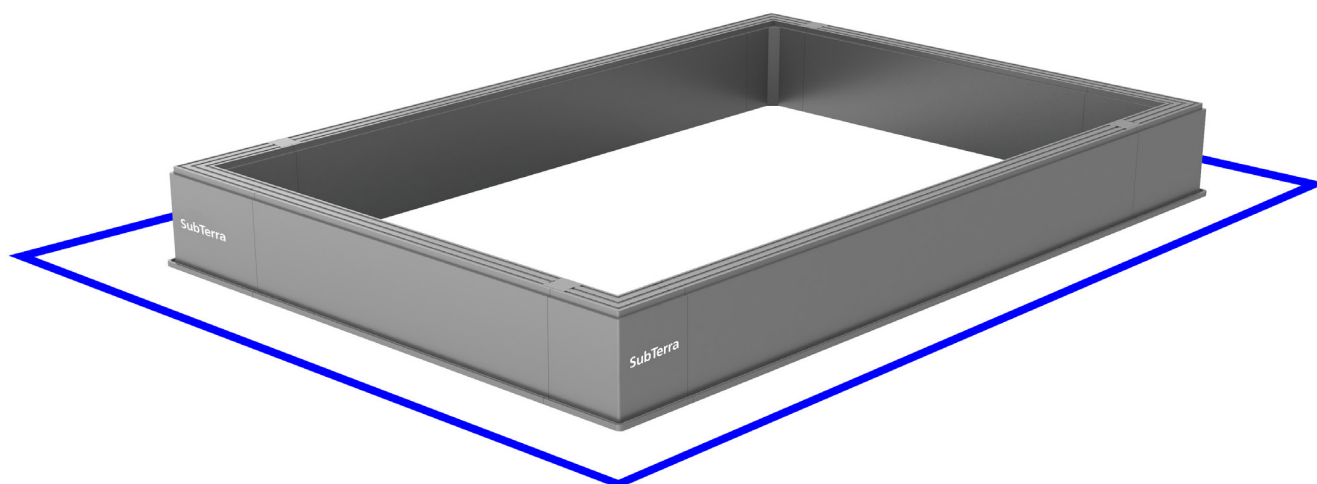
- Base material as shown in Annex A.
- Bedding materials such as mortar cement or epoxy resin bedding mortar.
- Backfill materials as shown in Annex A.

3.2 Equipment

- Equipment for excavating a hole; pneumatic digger etc. Depending on the condition of the ground and location the chamber is being installed into.
- Shovel
- Handsaw
- Measuring tape
- Floats & trowels for working and finishing cement and concrete.
- Drill bits if required to move any furniture positions.
- Spirit level & straight edge
- Power drill and hole saw to suit duct diameter and chamber wall thickness if required.

Excavation

- Place the chamber on the location you wish it to be installed and mark the ground around it, allowing for surround minimum thickness as stated in Annex A.
- Excavate to the required depth, remember to allow for the depth of the base required and the depth of the cover & frame with bedding mortar as well as the overall chamber depth.



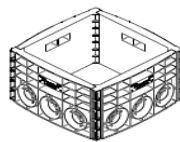
Base

- Make sure the bottom of the excavation is firm by using suitable compaction equipment. Any soft spots should be removed. Please refer to Annex A for base material information. Ensure the base is firm and level for the chamber to be installed. A piece of pipe may need to be set in the base to form a soakaway or drainage connection.
- It is important to spend the time to get the base right as mistakes at this stage with the depth / level will only lead to problems later in the process.
- Once the base is done you can now start to install the chamber sections. They are 300mm deep and stack on top of each other.
- Build the chamber up to the desired height by using the appropriate number of Sub Terra Light units and always allow for the final cover & frame.

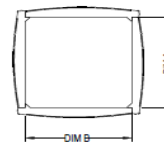
Duct Entries

- Drill the holes for the duct entries outside of the trench.
- It is recommended to use the pre-panned guides on the SubTerra Light panels for the drilling of duct entries.
- We recommend using a high-quality, appropriately sized drill and bi-metal hole saw to make appropriate size duct entry holes in the chamber.

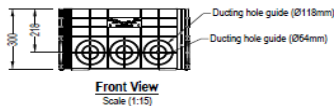
ALL DIMENSIONS IN
MILLIMETRES UNLESS
OTHERWISE STATED,
UNLESS SPECIFIED,
DO NOT SCALE.
IF IN DOUBT, ASK!



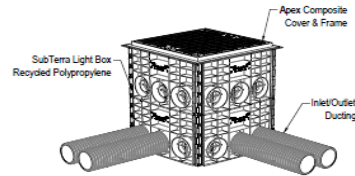
Isometric View
Single SubTerra Light Riser Box
Scale (1:15)



SubTerra Light Box
Plan View
Scale (1:15)



Front View
Scale (1:15)



Isometric View
Scale (1:15)

Configuration Table			
Chamber Product Code	Apex Cover and Frame Product Code	DIM A	DIM B
STL300300	APX300300BCC/TS	300	300
STL450300	APX450300BCC/TS	450	300
STL450450	APX450450BCC/TS	450	450
STL600450	APX600450BCC/TS	600	450
STL600600	APX600600BCC/TS	600	600

All information in this document is of an illustrative nature and is supplied by Polypipe Civils & Green Urbanisation without charge. Polypipe may modify and change the information, products and specifications from time to time for a variety of reasons, without prior notice. Updates will not be issued automatically. This information is not intended to have any legal effect, whether by way of advice, representation or warranty (express or implied). We accept no liability whatsoever (to the extent permitted by law), if you place any reliance on this document you must do so at your own risk. The information within this document should not be solely relied upon to determine the suitability or installation requirements of our products for a proposed application and expected site conditions; expert advice should be sought in this regard.

Copyright © 2020 Polypipe. All rights reserved. Polypipe logo is a registered trademark of Polypipe. All Polypipe products are protected by Design Right under CDPA 1988.

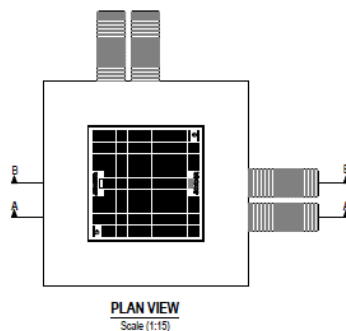


REV	AMENDMENT	DATE

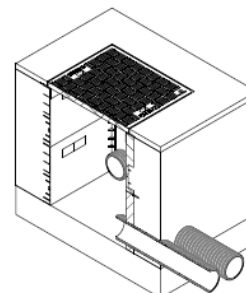
FOR INFORMATION			
SHEET NO.	SHEET NO.	DATE	DRAWN BY
A3	2 of 2	11/07/23	RM
SCALE	AS SHOWN		
DRAWING NO.	STL_SD_001_2of2		

NOTES

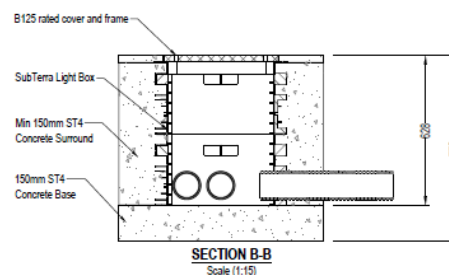
- All dimensions in millimeters, unless stated
- All dimensions are nominal and may vary within manufacturing or construction tolerance
- Ducting shown is for illustrative purposes only
- SubTerra Light chambers are to be installed in accordance with Polypipe Civils & Green Urbanisation recommendations (refer to SubTerra Light install guide for further information), giving due consideration to the requirements of the approving and adopting organisations(s) who will be taking ultimate ownership of the installation
- Additional configurations of SubTerra Light chambers available. Check project specification for specific product & ducting layout before carrying out any work. Please ensure the compatible cover and frame is being used with SubTerra Light.



PLAN VIEW
Scale (1:15)



SECTION A-A
Scale (1:15)



SECTION B-B
Scale (1:15)

NOTES

- All dimensions in millimeters, unless stated
- All dimensions are nominal and may vary within manufacturing or construction tolerance
- Ducting shown is for illustrative purposes only
- SubTerra Light chambers are to be installed in accordance with Polypipe Civils & Green Urbanisation recommendations (refer to SubTerra Light install guide for further information), giving due consideration to the requirements of the approving and adopting organisations(s) who will be taking ultimate ownership of the installation
- Additional configurations of SubTerra Light chambers available. Check project specification for specific product & ducting layout before carrying out any work. Please ensure the compatible cover and frame is being used with SubTerra Light.

All information in this document is of an illustrative nature and is supplied by Polypipe Civils & Green Urbanisation without charge. Polypipe may modify and change the information, products and specifications from time to time for a variety of reasons, without prior notice. Updates will not be issued automatically. This information is not intended to have any legal effect, whether by way of advice, representation or warranty (express or implied). We accept no liability whatsoever (to the extent permitted by law), if you place any reliance on this document you must do so at your own risk. The information within this document should not be solely relied upon to determine the suitability or installation requirements of our products for a proposed application and expected site conditions; expert advice should be sought in this regard.

Copyright © 2020 Polypipe. All rights reserved. Polypipe logo is a registered trademark of Polypipe. All Polypipe products are protected by Design Right under CDPA 1988.



REV	AMENDMENT	DATE

FOR INFORMATION			
SHEET NO.	SHEET NO.	DATE	DRAWN BY
A3	1 of 2	11/07/23	RM
SCALE	AS SHOWN		
DRAWING NO.	STL_SD_001 (1of2)		

Surround

When the chamber is fully installed to its required depth, wall accessories fitted and duct entries formed, the surround of the chamber can go ahead. Care should be taken when installing the chamber surround. See Annex A for correct surround material.

Note: Please ensure the surround material is built up equally around all 4 sides of the chamber.

Covers & Frames

The cover & frame can be installed once the chamber is surrounded fully.

Remove the cover and set aside safely. Use the frame to check the finished levels. Position the frame on top of the chamber and check the level with the finished ground level, the top of the Frame should be approx 10mm - 30mm below the finished ground level, this is to allow for bedding mortar between the top of the chamber and the underside of the frame.

Once all levels are checked, remove the frame, and place the approved bedding mortar material all around the top ring of the chamber to the required thickness. Position the frame carefully on to the mortar bed, making sure the inside faces of the frame are in line with the edges of the chamber. This should happen automatically if using a rising frame.

To level the frame, gently tap the frame into the mortar bed until the desired level is achieved, checking the frame is still in a coplanar state. Remove excess mortar that has entered the chamber, and trowel mortar over exterior grout lugs/flanges at a 45° angle away from the frame. Once the bedding mortar has cured sufficiently, the covers can be placed inside the frame. Where quicker installations are required, an epoxy resin mortar or similar could be used.

Reinstate the finished surface around the chamber and cover.

Typical Install Detail

Work with tech to draw up install details.

Installation Notes (Applicable to all sizes)

- Reinstatement to comply with the requirements of the New Roads and Street Works Act (subject to category).
- All materials and workmanship to be in accordance with the appropriate specification.
- Refer to Annex A for base requirements. Any concrete base slab to be placed, tamped and surface finished.
- Duct entries may vary in number, grouping and orientation. Duct entry positions shall be checked prior to construction.
- Draw lines shall be secured inside chambers by tying off a suitable fixture or by tying to an approved batten.
- Refer to Annex A for surround requirements.
- For full build guidelines, please refer to all other information in this installation guide.

Annex A - Base, Surround Material and Thickness Information

EN 124 Group	Recommended Minimum Cover Class	Maximum Number Of SubTerra Light Boxes Used For a Chamber	Minimum Excavation Footprint (mm)	Base Material	Backfill
2	B125	3	150	150mm of ST4 Concrete	ST4 Concrete

*Cover Class refers to the recommended minimum cover & frame for the EN124 group.

If chamber is to be used for another EN 124 group to what is specified in the table, please contact the Polypipe Technical Team.