

Recommended Installation Guide

The inspection chamber has been designed to meet and exceed the requirement of EN124 40 tonnes without the aid of a concrete surround.

When a suitable site is found for the chamber, the opening created should be approximately 100mm deeper than the required depth of the chamber including lid and frame. The width at the base of the opening should be as close as possible to the outside dimensions of the Titan box section used leaving approximately 25mm movement for adjustment.

The opening at pavement level should be around 100mm to 150mm in excess of the Titan box section being used.

The base for the chamber can now be added using a C30 dry mix at a depth of 100mm. A small opening can be left in the base to act as a natural soakaway.

Construct the chamber to the required depth, using the 150mm deep sections.

Cast iron, galvanised steel, composite or concrete infill covers can all be used with the Titan box system.

For height and tilt adjustment, a galvanised steel frame with composite lid is recommended. Place frame inside chamber and lift to the required level, a 100mm adjustment is achievable with each frame. Surround the frame with C30 concrete.

Pole boxes are available in two standard sizes; 300mm x 300mm x 450mm deep and 450mm x 450mm x 450mm deep. Other sizes are available upon request.

The pole box locates around the traffic signal pole by means of a fabricated wrap around jaw. We recommend the traffic signal pole to be concreted in.

Specification

The duct inspection chambers shall be manufactured from 50mm thick, high strength, re-processed polypropylene sections. They shall be capable of withstanding 40 tonne wheel loading, without the need for a structural concrete surround. The chamber shall be manufactured from separate interlocking sections and have the capability to be assembled or disassembled on site without the need for sawing.

The chambers should be able to withstand a sideload pressure in excess of 1.5 tonnes without the need for a concrete surround.

The sections shall be 150mm overall depth and come with male and female joints and be available in a range of standard sizes as follows:

Titan Access Chamber Range			
Model Number	Clear Opening	Section Depth	Load Rating
Titan 1	300 x 300	150mm	D400
Titan 2	300 x 450	150mm	D400
Titan 3	450 x 450	150mm	D400
Titan 4	600 x 450	150mm	D400
Titan 5	600 x 600	150mm	D400
Titan 6	900 x 450	150mm	D400
Titan 7	900 x 600	150mm	D400

All dimensions in mm. Clear Opening measurements are width x length.



Plastech Limited, Park Industrial Estate, Liverpool Road, Ashton-in-Makerfield, Wigan WN4 0YU
 T 01942 717110 F 01942 717115 E info@plastechtitan.co.uk W www.plastechtitan.co.uk



Introduction

Plastech are pleased to announce the launch of it's new, Multi-Purpose, inspection chamber - **TITAN**

Designed to be extremely robust, versatile and flexible, it is suitable for a large range of applications including

STREET LIGHTING AND TRAFFIC SIGNALS

GAS, WATER AND ELECTRIC

MOTORWAY COMMUNICATIONS

AIRPORT LIGHTING

DRAINAGE MANHOLES

LAND DRAINAGE SCHEMES - SILT TRAPS

LANDFILL SITES - LEACHATE

AND GAS SAMPLING

CHAMBERS



Test Data

The Plastech **TITAN** Chamber System has been independently tested by Lloyds British at their facility in West Bromwich and has passed all the requirements of BSEN124 up to and in excess of 40 tonne load rating.



Test Report

LLOYDS BRITISH

TEST REPORT NO: 161518

CUSTOMER: PLASTECH LTD

DATE OF TEST: 20.02.2008

INTRODUCTION:

3 x 450 x 450 mm clear opening
2 x 300 x 300 mm clear opening
1 x 500 x 500 mm clear opening

PLASTECH TITAN - inspection chambers were submitted for load testing to: D400 class.

PROCEDURE:

Each unit was placed in a compressive testing machine calibrated in accordance with ISO 7500: 1- 2004 E part 1. The load was applied via a hydraulic ram & steel plate that covered the entire bearing surface of the box. This load was then applied gradually & without shock up to 125 KN were it was held for thirty seconds, then to 250 KN (held for thirty seconds) and the 400 KN (held for thirty seconds). The units were then taken to destruction.

A further test was carried out on a 450 x 450 mm clear opening where a load was applied via a 250 x 250 mm a pushing block to the side wall of the unit. This load was applied in 1 KN increments with measurements taken until destruction occurred.

RESULTS:

450 x 450 MM CLEAR OPENING UNITS

SAMPLE	125 KN (30 SECONDS)	250 KN (30 SECONDS)	400 KN (30 SECONDS)	BREAK LOAD
1	PASS	PASS	PASS	480 KN
2	0.05MM PASS	0.28 MM PASS	0.9 MM PASS	580 KN
3	0.31 MM PASS	0.43 MM PASS	0.74 MM PASS	528 KN

All measurements shown were taken from the sidewalls of the units.

300 x 300 MM CLEAR OPENING UNITS

SAMPLE	125 KN (30 SECONDS)	250 KN (30 SECONDS)	400 KN (30 SECONDS)	BREAK LOAD
1	0.25 MM PASS	0.45 MM PASS	0.82 MM PASS	482 KN
2	0.33 MM PASS	0.5 MM PASS	0.76 MM PASS	517 KN

All measurements shown were taken from the sidewalls of the units.

LLOYDS BRITISH TESTING LTD, ALBION ROAD, WEST BROMWICH, WEST MIDLANDS B70 8AQ
TEL: 0870 808 8140 FAX: 0870 808 8141
E-MAIL: WESTBROMWICH@LLOYDSBRITISH.COM WWW.LLOYDSBRITISH.COM REG NO: 4444080

LLOYDS BRITISH

600 x 600 MM CLEAR OPENING UNITS

SAMPLE	125 KN (30 SECONDS)	250 KN (30 SECONDS)	400 KN (30 SECONDS)	BREAK LOAD
1	0.27 MM PASS	0.49 MM PASS	0.72 MM PASS	605 KN

All measurements shown were taken from the sidewalls of the units.

TEST TO SIDEWALL OF 450 x 450 MM UNIT VIA 250 MM ø BLOCK

LOAD	DEFLECTION
1 KN	0.58 MM
2 KN	0.78 MM
3 KN	1.01 MM
4 KN	1.21 MM
5 KN	1.47 MM
6 KN	1.77 MM

LOAD	DEFLECTION
7 KN	2.05 MM
8 KN	2.35 MM
9 KN	2.69 MM
10 KN	3 MM
11 KN	3.32 MM
12 KN	3.72 MM

LOAD	DEFLECTION
13 KN	4.02 MM
14 KN	4.38 MM
15 KN	4.75 MM
16 KN	5.32 MM
17 KN	5.93 MM

UNIT FAILED @ 20 KN

S.P. FOX TEST-MANAGER

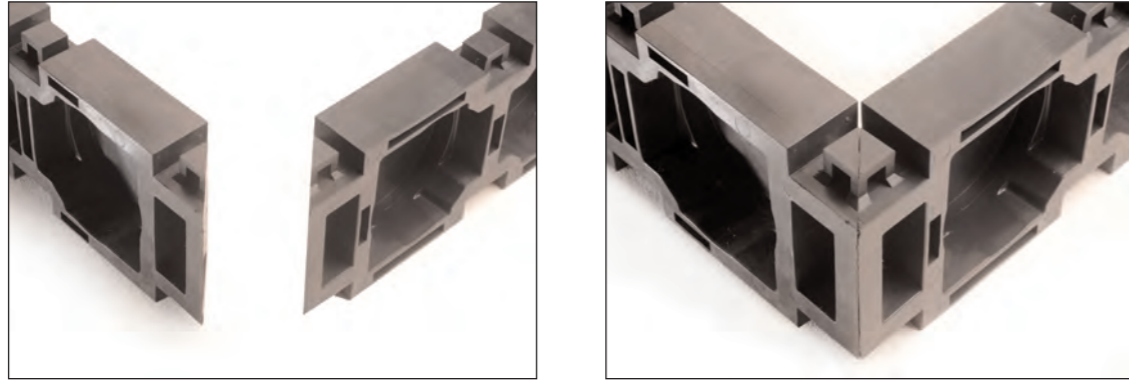
PLASTECH LTD
PARK IND. ESTATE
LIVERPOOL ROAD
ASHTON IN MAKERFIELD
WIGAN
WN4 0YU

LLOYDS BRITISH TESTING LTD, ALBION ROAD, WEST BROMWICH, WEST MIDLANDS B70 8AQ
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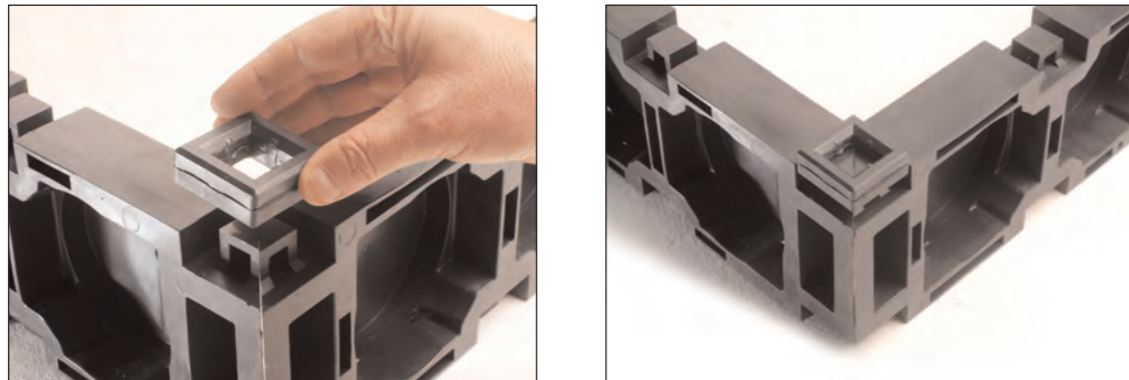
Assembly

Clever design means that no tools are needed during the construction of the chamber on site.

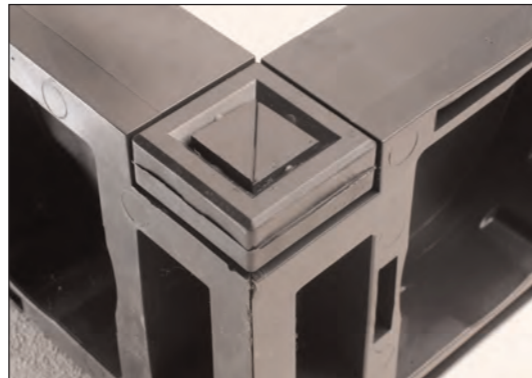
Mitred Corner Sections are simply brought together



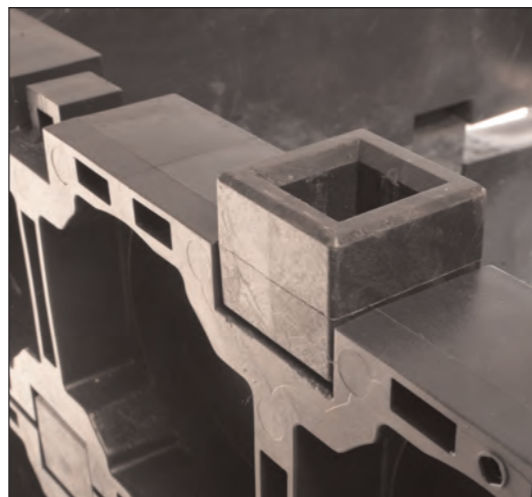
A Single Corner Connector is then located over the joint...



...and pushed home by hand.

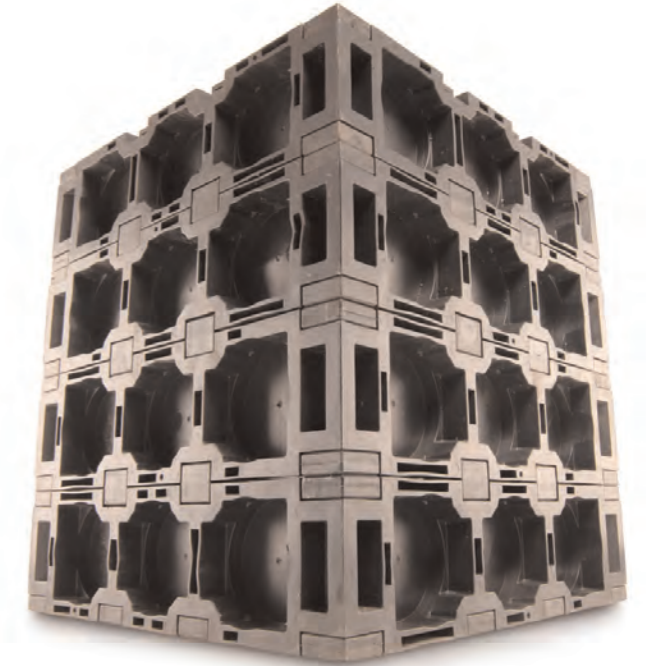


Stacking is also very simple using a standard double coupling which accommodates the two male joints.



Design

Manufactured from re-processed, co-polymer polypropylene, **TITAN** is a very heavy duty inspection chamber which has been independently tested to far exceed the requirements of BSEN124 D400 load rating - (see Test Data), making it suitable for a wide range of applications, without the need for a concrete surround.



Design Benefits

FLAT-PACK COMPONENTS

EASE OF TRANSPORTATION

REDUCED TRANSPORT COSTS - LESS CO² EMISSIONS

LIGHTWEIGHT - REDUCED PLANT AND MACHINERY COSTS

EASY TO HANDLE COMPONENTS

REDUCED HEALTH AND SAFETY ISSUES - ELIMINATES MANUAL HANDLING RISKS

CAN BE BUILT UP IN-SITU

NO TOOLS NEEDED FOR ASSEMBLY

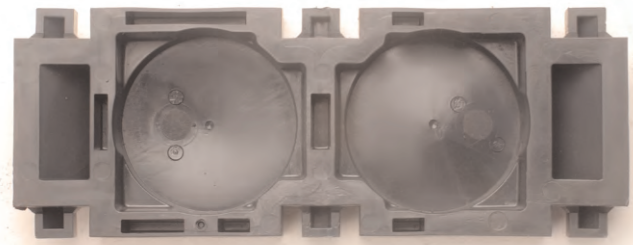
ENVIRONMENTALLY FRIENDLY - MANUFACTURED FROM RECYCLED MATERIALS

RESISTANT TO AGGRESSIVE SOIL CONDITIONS - WIDE RANGE OF BROWN FIELD APPLICATIONS

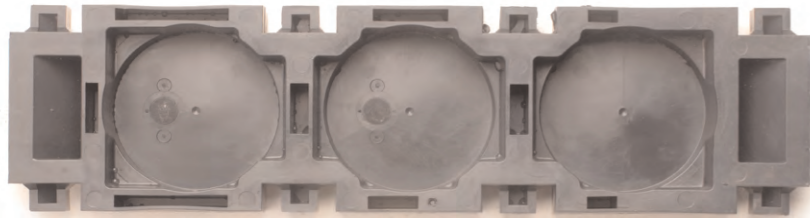
Components

The product is produced in four sidewall sizes as standard and is constructed using a single and double connector piece.

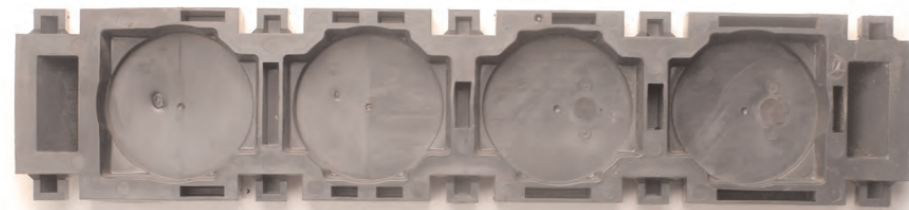
Can be delivered to site, flat packed or pre-assembled.



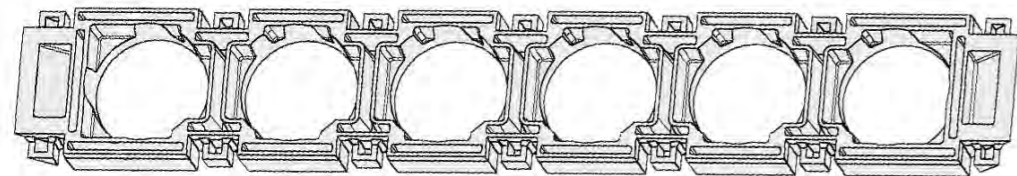
300mm



450mm



600mm



900mm Available Shortly



Single Corner Connector

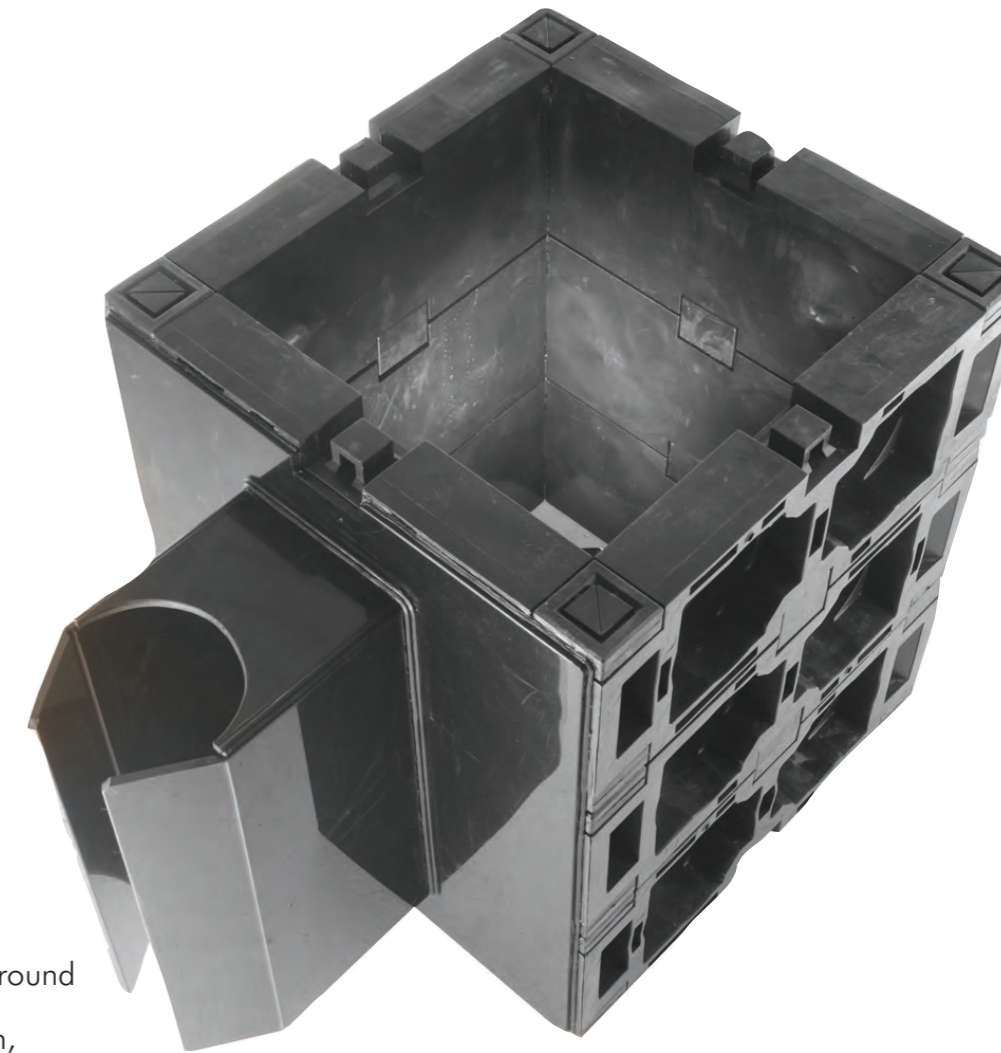


Double Stacking Connector

Sidewall Strength

The product is extremely resistant to sidewall deformation and has been tested in excess of 1.5 tonne loading - (see Test Data)

TITAN IS A LOAD BEARING, STRUCTURAL CHAMBER, IT WILL NOT BELLY AND BUCKLE WHEN BACKFILLED. UNLIKE A LOT OF FLIMSY LINER TYPE PRODUCTS ON THE MARKET, GIVING YOU, THE CLIENT, A FIRST CLASS INSTALLATION, EVERY TIME!



Pole Boxes

Plastech have developed two standard Polebox designs.

The original design features a mechanical jaw, which locates around the pole and is then concreted in, securing the pole and chamber.

Our newest design features a unique pole sleeve unit with **anti-spin, nylon retaining bolts**, which grip the pole, preventing spinning and swaying, but also allow the pole to be removed if damaged, without the need to dig up the whole installation.

The compact design allows easy backfilling of concrete and compaction around the chamber.