



# GP® VOID VENT

## Installation Guidance

GP® VOID VENT is a geocomposite void former composed of a cusped High Density Polyethylene (HDPE) Drainage core with a non-woven polypropylene (PP) geotextile separator/filter bonded to one side.

GP® VOID VENT is designed to be used below ground level structures to provide a void in which harmful gases have a preferential pathway to flow through the underside of the building and discharge at the perimeter via suitable outlet accessories dependent on the design.

GP® VOID VENT should be used in conjunction with an approved Gas Protection Barrier and in accordance with the recommendations contained within BS8485:2015 + A1 2019.

### Approved Gas Barriers:

JUTA GP2® BBA certified High performance Damp proof membrane is specifically designed and manufactured to perform as a high performance damp proof membrane, Radon (BRE 211), air and moisture protection system, as well as low level protection to carbon dioxide and methane (NHBC Amber 1). GP®2 can be used on any site where low levels of ground gas is present.

JUTA GP4® BBA certified Radon Barrier is a multilayer, low-density polyethylene membrane. Reinforced with a polypropylene reinforcing grid. GP®4 is specifically designed and manufactured as a high Performance Radon, air and moisture protection system, as well as low level protection to carbon dioxide and methane. GP® 4 can be used on any site where Radon Gas is present.

JUTA GP1® BBA certified gas barrier incorporates an aluminium foil core, offering additional protection against Methane and Carbon Dioxide in addition to Radon and Bulk Ground gas. GP®1 can be used on any site where carbon dioxide, methane, bulk ground gas and/or radon is present up to and including BS8485:2015 + A1 2019 Characteristic situation (CS) 6.



## Design & Installation:

Gas venting design should be prepared by a suitably qualified geo environmental engineer with calculations to demonstrate suitable dilution capabilities. JUTA UK recommends the installation of the GP® VOID VENT is completed by a suitably qualified and accredited installers (NVQ level 2). JUTA UK can offer advice as to suitable/recommended installers if required.

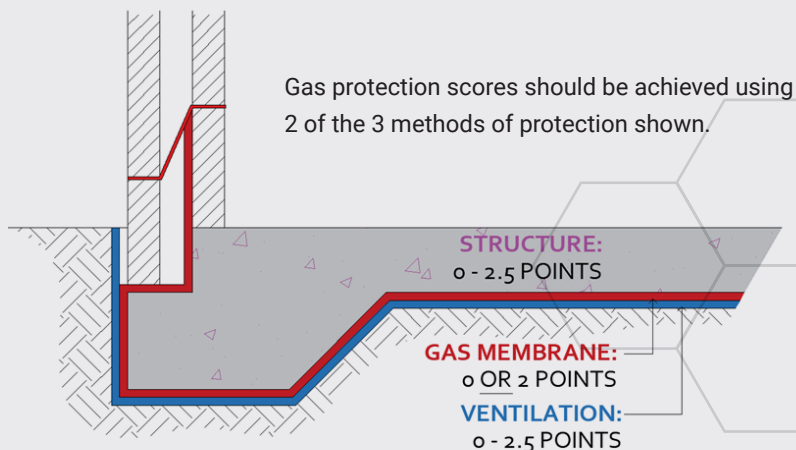
The Void Vent is supplied in either 25mm or 40mm void depth. Material is joined by overlapping of the loose edge of geotextile for full coverage, or laid in strips as per the ventilation design.

## Ventilation Design:

Gas Ventilation Design should follow the guidance in BS8485:2015+A1:2019 & Partners in Technology Passive Venting of Soil Gases Beneath Buildings 1997 to allocate gas protection points dependent on the gas risk which is provided in the Phase 3 Interpretative Report or the Phase 4 Remediation Strategy. The designer will propose a gas protection system which should consist of at least two different elements from Structure, membrane and Ventilation. Commons solutions include: a structural barrier element (0-2.5 Points) with a membrane (2 points); or ventilation (0-2.5 points) and a membrane (2 points). GP® VOID VENT can be used as apart of a ventilation system achieving between 0.5 –2.5 points as described in the table shown.

BS8485:2015+A1:2019 Code of Practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings provides guidance and defines protection points for the venting element on table 6.

GP® VOID VENT Physical Properties		
	GP® VOID VENT 25 mm	GP® VOID VENT 40 mm
Overall Thickness	27 mm	42 mm
Roll Width	900 mm	970 mm
Roll Length	50 m	25 m
Gross Roll Weight	60 kg	50 kg
Compressive Strength	300 kPa	200 kPa



Protection Element/System	Score	Comments
a) Pressure Relief Pathway	0.5	This system relies on a continued serviceability of pumps and therefore maintenance schedule
(b) Passive sub floor dispersal system Very Good Performance Good Performance	2.5 1.5	The ventilation effectiveness of different media depends on a number of different factors including the transmissivity of the medium. The width of the building, the side ventilation spacing and type and the thickness of the layer.
(c) Active Dispersal Layer	1.5-2.5	This system relies on a continued serviceability of pumps and therefore maintenance schedule
(d) Positive Pressurisation	1.5-2.5	This system relies on continued operation of the pumps and therefore alarm and response systems and maintenance schedule should be in place.
(e) Ventilated Car Park	4	Assumes that the car park is vented to deal with car exhaust fumes.



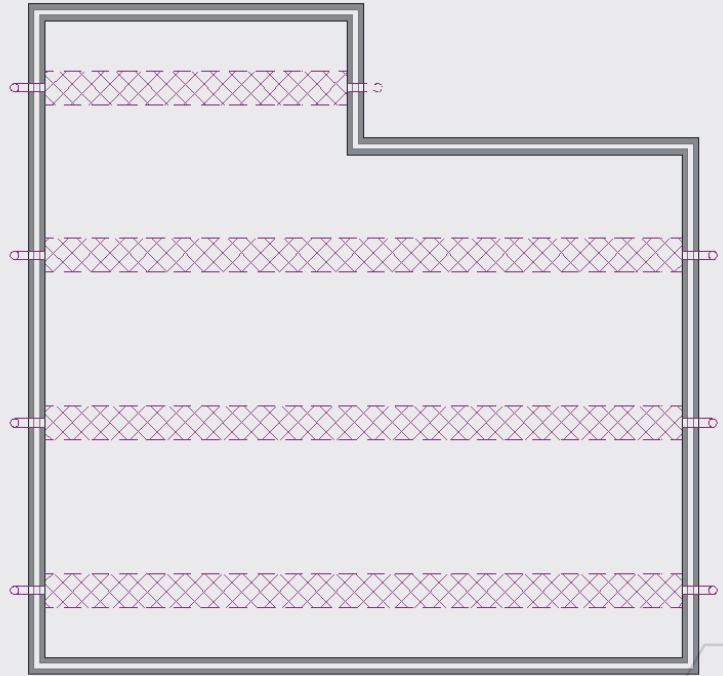
## Pressure Relief Pathway

Subject to specialist design, to achieve 0.5 Points

0.5 points can be achieved by installing GP® Void Vent 25 below the slab in strips to create a Pressure Relief Pathway. GP® VOID VENT 25 is installed at pre-determined centres as advised by the designer.

The strips are then terminated into GP® VENT BOXES/ Telescopic Vents (subject to design) along the 2 longest lengths of the perimeter to allow the harmful gases to be diluted to an acceptable level .

Please refer to project specific design documentation for quantity and spacing of venting components



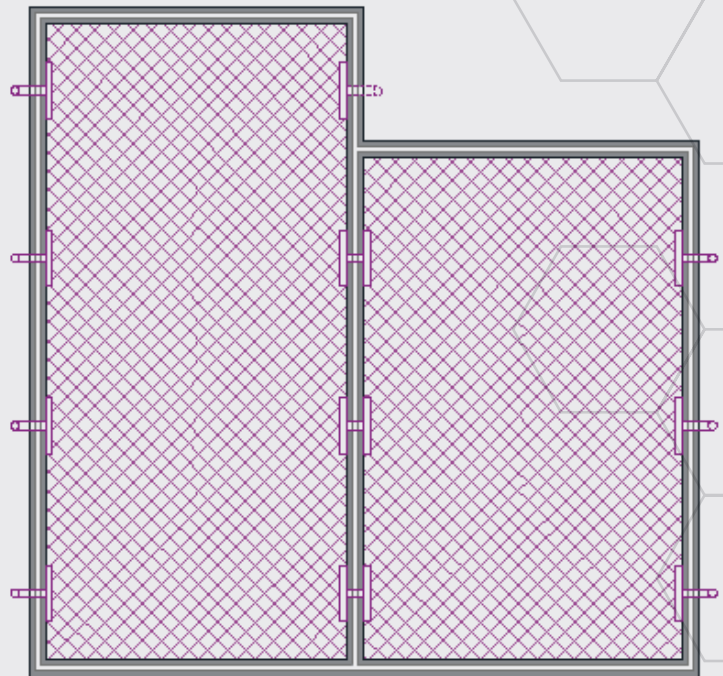
## Full Blanket System

Subject to specialist design, can achieve 1.5–2.5 Points

Good (1.5) and Very Good Performance (2.5) can be achieved by installing GP® VOID VENT 25/40 as a full blanket and terminated into GP® VENT BOXES/ Telescopic Vents to the building perimeter at pre-determined centres advised by the designer.

This method should have a site specific design with a defined level of performance and supporting dilution calculations to qualify for the 1.5 – 2.5 protection points (as detailed in Table 6 above)

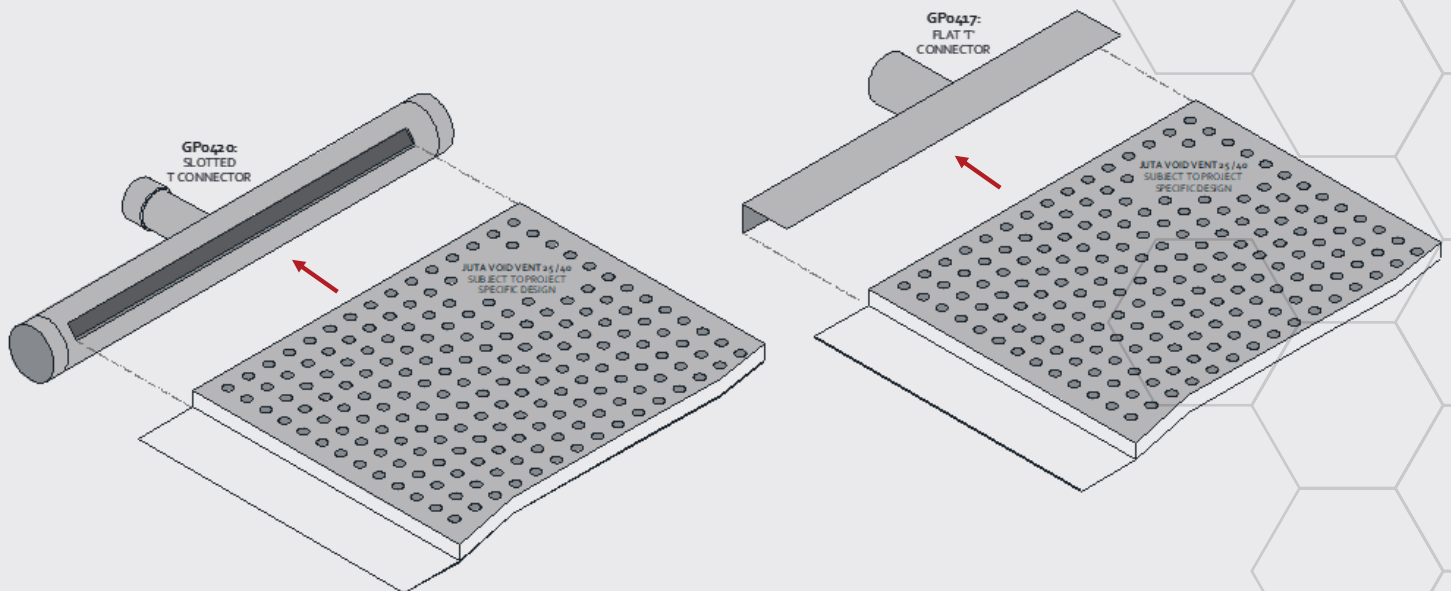
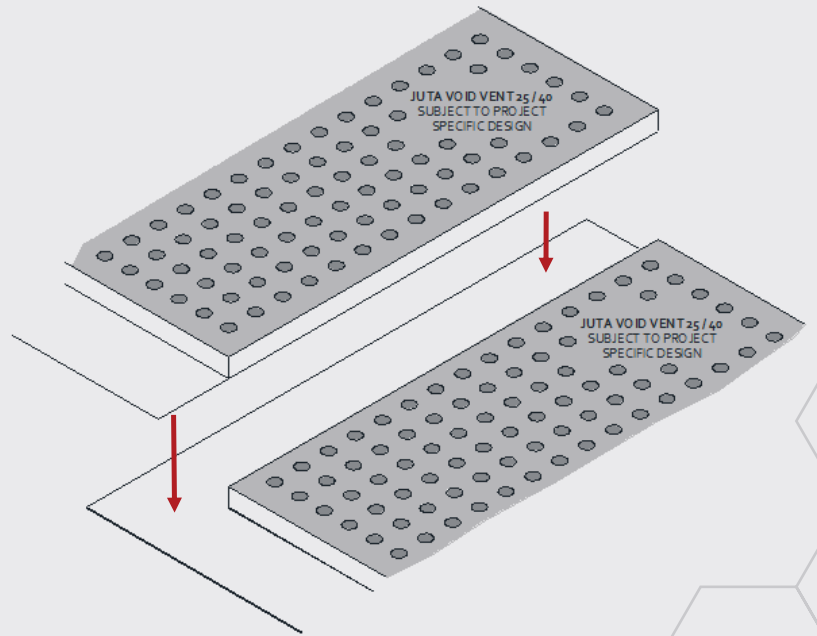
Please refer to project specific design documentation for design calculation and outlet quantity and spacing as applicable.





## Installation Methodology:

- GP® VOID VENT should be unrolled across the length of building as per vent layout drawing and flipped over so that the geotextile is facing down onto a suitably prepared sub base of 50mm sand. The Void Vent should be cut to suit the length of the building.
- If the building is longer than the roll lengths (25m /50m), GP® VOID VENT can be butt jointed at roll ends where there is an overlap of geotextile for lapping. If providing a full blanket system laps between rolls of Void Vent (end side laps) are also achieved by butt jointing the products and overlapping the leading edge of geotextile.
- At the building perimeters, the Void Vent roll ends should be inserted into the Slotted T Connector or placed below the Flat T Connectors as indicated below:



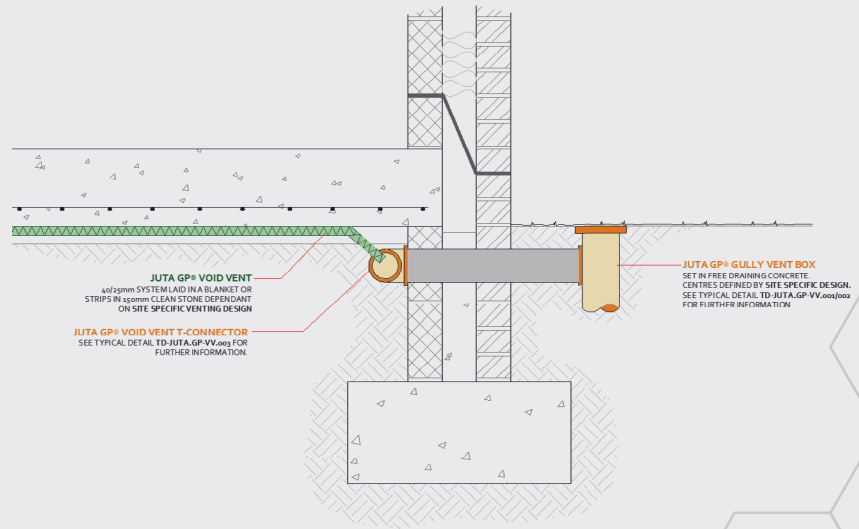


## Installation Methodology Continued:

### External Walls

Once the Void Vent has been laid and perimeter connectors are in place, a 110mm PVC-U pipe is used to provide continuity through the external walls and subsequent connection to a suitable discharge point (GP® VOID VENT). The PVC-U pipe connects to the T/ Flat connector below the slab internally and to a ground vent box externally as per Vent Box detailing overleaf.

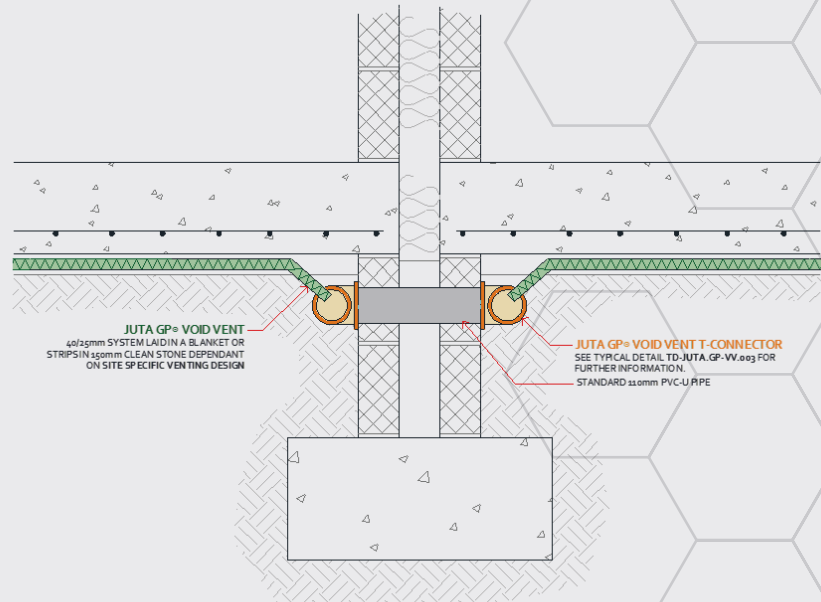
### PERIMETER CONNECTION TO OUTLET - TYPICAL DETAIL



### Internal Walls

Where internal walls extend down to foundation, continuity is achieved using a length of 110mm PVC-U Pipe through the walls. Cut the PVC-U pipe to size (to suit wall width) and connect to 2 Void Vent Connectors (T or Flat connector subject to project requirements) at either side as indicated to provide a continuous system.

### INTERNAL WALL CONTINUITY - TYPICAL DETAIL





## Void Vent Outlet Accessories:

JUTA UK provide a bespoke range of venting accessories (referred to as inlets/outlets in construction drawings) to be used in conjunction with Void Vent to ensure the harmful gases disperse into the atmosphere external to the building.

GP® VENT BOX can be installed around the perimeter of the building to provide a suitable discharge point for gases flowing through the Void Vent system.

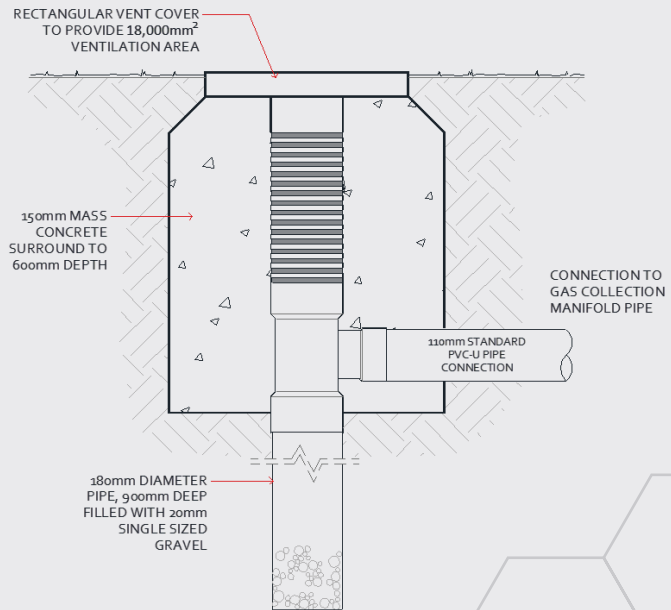
The quantity and location of vent boxes should be determined by the gas ventilation designer and should be indicated on the project specific drawings, level with the finished ground level (unless otherwise stated).

The 110mm PVC-U collection pipe taken through perimeter walls should fit snugly onto the base connector as indicated adjacent. Please contact JUTA for further details on GP Vent Box products.

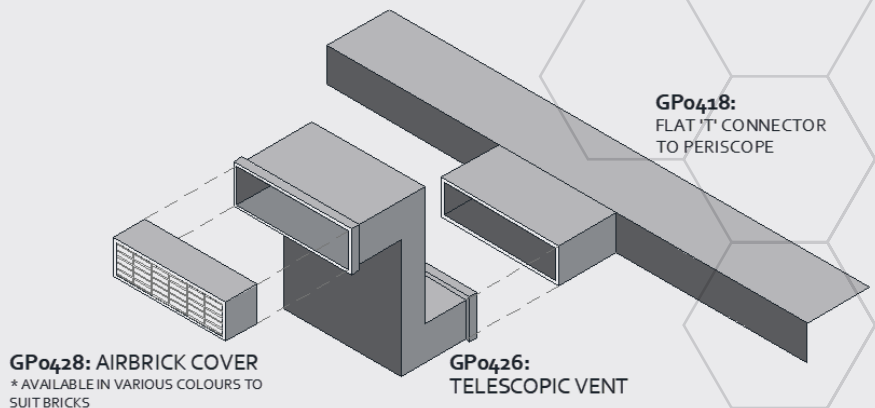
JUTA Telescopic Vents can also be used to as suitable discharge points installed within cavity walls at pre-determined centres as per project specific design. The periscopic vent is built into the cavity wall construction on site. Slotted and Flat T connectors can be supplied with rectangular connections to link to the lower level of telescopic vent below the slab. Vertical height extension pieces can be added to ensure termination min 150 mm above external FGL.

Please contact JUTA for further details on GP® VENT BOX products.

## TYPICAL VENT BOX DETAIL

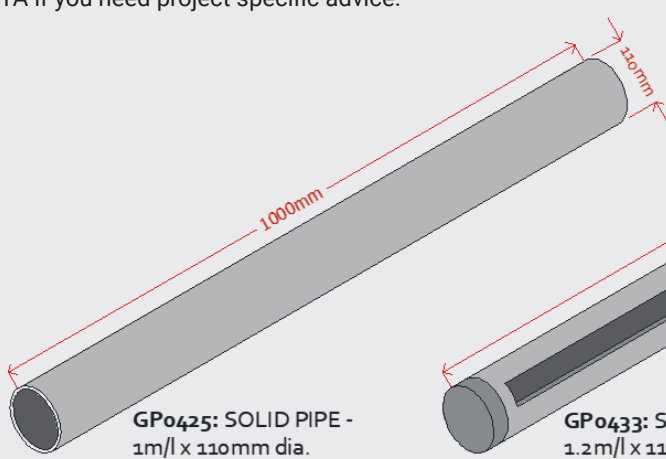


## TYPICAL TELESCOPIC VENT CONFIGURATION

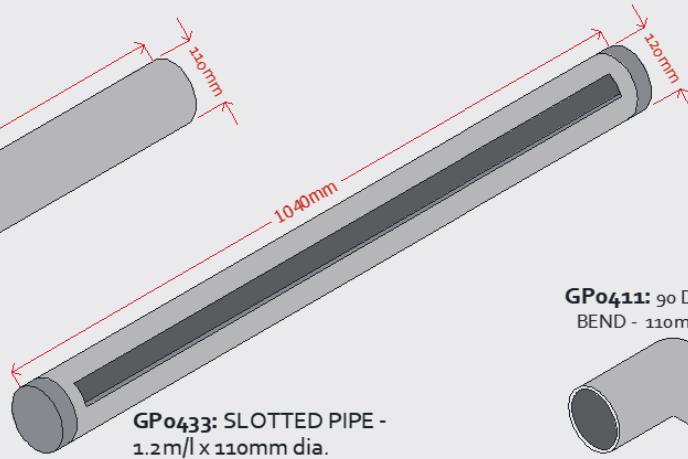




JUTA offer a wide range of ancillary products to for connection of JUTA Void Vent products. Each product has an individual product codes for reference but please refer to GP® VOID VENT & GP® VENT BOX Technical Datasheets and Typical detail for further information or contact JUTA if you need project specific advice.

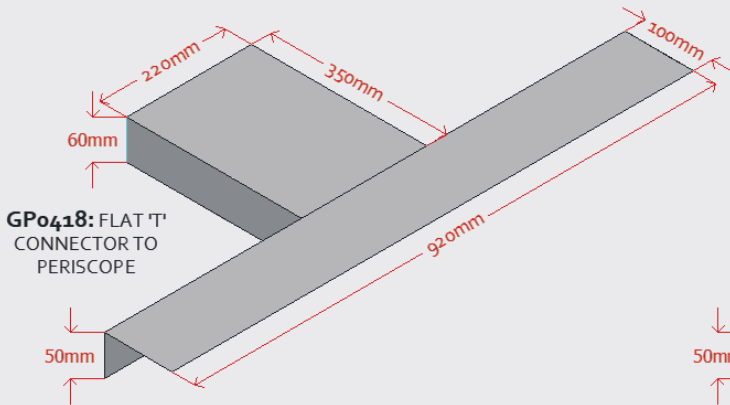
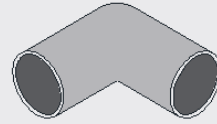


**GP0425: SOLID PIPE** -  
1m/l x 110mm dia.

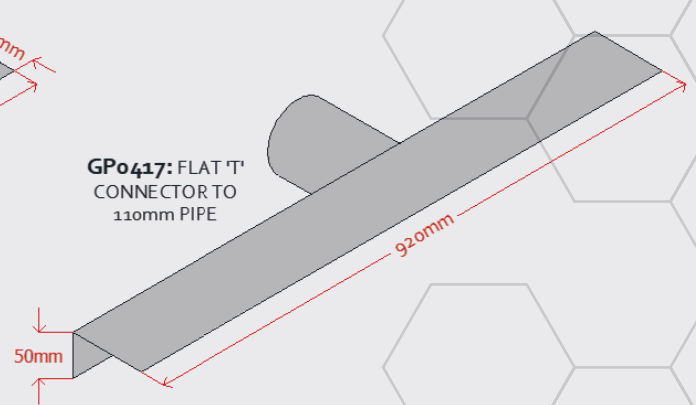


**GP0433: SLOTTED PIPE** -  
1.2m/l x 110mm dia.

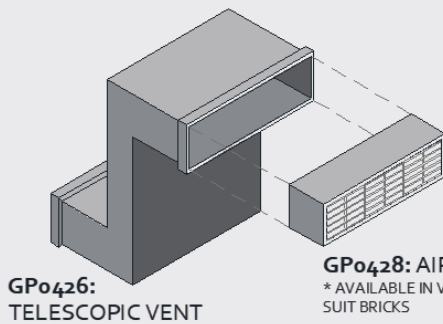
**GP0411: 90 DEGREE  
BEND** - 110mm dia.



**GP0418: FLAT 'T'  
CONNECTOR TO  
PERISCOPE**



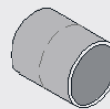
**GP0417: FLAT 'T'  
CONNECTOR TO  
110mm PIPE**



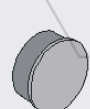
**GP0426:  
TELESCOPIC VENT**

**GP0428: AIRBRICK COVER**  
\* AVAILABLE IN VARIOUS COLOURS TO  
SUIT BRICKS

**GP0432: COUPLING  
FOR 110mm PIPES**



**GP0416: END CAP  
FOR 110mm PIPES**





## Maintenance

There is no maintenance required for GP® VOID VENT layer. However, as with all gas venting system a maintenance schedule should be put in place to ensure that all gully vent boxes are kept clear of debris such as leaves etc. The venting system has been designed with levels of redundancy which take into account the short term blockage of some vents, however these should be inspected on a monthly basis for blockage and/ or damage.

## Supply/ Storage

GP® VOID VENT is delivered on pallets containing 2 rolls and supplied in packaging designed to protect the product during handling and storage and degradation as a result of UV exposure. Void Vent should be kept in the supplied packaging until such a time as it is required for unloaded and handling.

## Additional Information

For additional information or assistance, please contact JUTA UK directly.

GP® VOID VENT ACCESSORY PART LIST		
	Part No.	Component Description
GP® VOID VENT	GP0400	GP® VOID VENT 25MM VENT MAT - 0.9 X 50M ROLLS
	GP0401	GP® VOID VENT 40MM VENT MAT - 0.97 X 25M ROLLS
	GP0402	GP® VOID VENT 25MM VENT MAT - 0.45 X 50M ROLLS
INLETS / OUTLETS	GP0426	GP® VOID VENT - TELESCOPIC UNDERFLOOR VENT (20 PER BOX)
	GP0427*	GP® VOID VENT VERTICAL EXTENSION – (5 PER BOX)
	GP0428	GP® VOID VENT AIRBRICK - TERRACOTTA – (20 PER BOX)
	GP0429	GP® VOID VENT GULLY VENT UNIT (HSF/CIRCULAR) - 1.5M DEPTH
	GP0430	GP® VOID VENT GULLY VENT UNIT (HSF/ RECTANGULAR) - 1.5M DEPTH
	GP0421	GP® VOID VENT GULLY VENT UNIT (ALLOY/CIRCULAR) - 1.5M DEPTH
	GP0415*	GP® VOID VENT BOLLARD - 750MM X 110MM
PIPEWORK / CONNECTORS	GP0416*	GP® VOID VENT END CAPS - 110MM
	GP0417	GP® VOID VENT FLAT TEE CONNECTOR TO 110MM PIPE (V36)
	GP0418	GP® VOID VENT FLAT TEE CONNECTOR TO PERISCOPE (V34)
	GP0420	GP® VOID VENT 950MM SLOTTED T CONNECTOR WITH END CAPS (1.2M LENGTH)
	GP0410*	GP® VOID VENT 450MM SLOTTED T CONNECTORS WITH CAPS
	GP0424	GP® VOID VENT SOLID CARRIER PIPE - 3M LENGTH
	GP0425	GP® VOID VENT SOLID CONNECTOR PIPE - 110MM X 1M
	GP0432*	GP® VOID VENT 110MM COUPLING
	GP0433*	GP® VOID VENT 110MM SLOTTED CARRIER PIPE (1.2M LENGTH)