

Chelmer Site Investigations

Unit 15 East Hanningfield Industrial Estate
Old Church Road, East Hanningfield, Essex CM3 8AB
Telephone: 01245 400930 Fax: 01245 400933

Email: info@siteinvestigations.co.uk Website: www.siteinvestigations.co.uk



Client: London Basement/Holbase Ltd	Scale: N.T.S.	Sheet: 1 of 1	Date: 18.04.11	
Location: 3 Ranulf Road, London NW 2BT	Job No: 2602	Weather: Overcast	Drawn by: JC	Checked by: ME

SINGLE STOREY

FRONT DOOR

No. 3
(DOUBLE STOREY)

No. 4

BAY (DOUBLE STOREY)

FRONT GARDEN

PATH

ROAD

BH 1

3m

1.5m

6m

PINE
(Ht. 15m)

MH

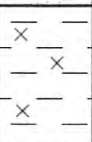
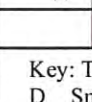
Notes: On site tree identification for guidance only. Not authenticated.	Key: Tree/Shrub Borehole Trial Pit Gully Tree Stump Rain Water/ Soil Pipe Manhole
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Site: 3 Ranulf Road, London NW2 2BT			Job No: 2602		Borehole No: 1		Boring method: CFA 100mmØ Secondman			
Depth Mtrs.	Description of Strata	Thick-ness	Legend	Sample	Test Type	Result	Root Information	Depth to Water	Depth Mtrs	
G.L. 0.050	PATIO SLAB 50mm	0.05								
0.6	MADE GROUND: medium compact dark brown gravelly silty fine sand with numerous brick and concrete fragments.	0.55		D			Roots of live appearance to 2mmØ to 2.0m ↓ No roots observed below 2.0m		0.5	
	Firm mid brown/orange sandy silty CLAY with partings of brown and orange silt and fine sand.	1.4		D		V 60 64		1.0		
2.0	Stiff as above.	3.4		D				1.5		
				D		V 82 86		2.0		
				D				2.5		
				D		V 100 102		3.0		
				D				3.5		
				D		V 120 122		4.0		
				D				4.5		
				D		V 140+ 140+		5.0		
5.4			D				5.3	5.5		
6.0	Very stiff mid brown silty CLAY with partings of brown and orange silt and fine sand and crystals.	0.6		D		V 140+ 140+			6.0	
	Borehole ends at 6.0m									
Drawn by: JC			Approved by: ME			Key: T.D.T.D. Too Dense to Drive D Small Disturbed Sample J Jar Sample B Bulk Disturbed Sample V Pilcon Van (kPa) U Undisturbed Sample (U100) M Mackintosh Probe W Water Sample N Standard Penetration Test Blow Count				
Remarks: Water seepage at 5.3m Borehole moist at base and open on completion.										



REPORT NOTES

Equipment Used

Hand tools, Mechanical Concrete Breaker and Spade, Hand Augers, 100mm/150mm diameter Mechanical Flight Auger Rig, GEO205 Flight Auger Rig, Window Sampling Rig, and Large or Limited Access Shell & Auger Rig upon request and/or access permitting.

On Site Tests

By Pilcon Shear-Vane Tester (Kn/m²) in clay soils, and/or Mackintosh Probe in granular soils or made ground and/or upon request Continuous Dynamic Probe Testing and Standard Penetration Testing.

Note:

Details reported in trial-pits and boreholes relate to positions investigated only as instructed by the client or engineer on the date shown.

We are therefore unable to accept any responsibility for changes in soil conditions not investigated i.e. variations due to climate, season, vegetation and varying ground water levels.

Full terms and conditions are available upon request.

DELTA MEMBRANE SYSTEMS LTD.



DELTA SYSTEM 500

'Providing Waterproofing Solutions'



The Sealed System

In Soil retaining situations such as basements and vaults etc. The **DELTA** sealed system is recommended. The membrane selection depends on the required finish and flow rate if applicable. All membrane junctions, fixing points, service entries and other protrusions are sealed with the **DELTA** Seal range of sealing products. Where active ground water is evident or expected drainage of one form or another should be incorporated into the specification. Our Technical staff are available to give advice in this respect.

The Ventilated System

In above ground situations or in areas where no free running water is expected, for example where external pavements have been built up the ventilated system can be used. The ventilated system with air gap at top and bottom does not require sealed joints or fixings, a 100mm overlap is sufficient in this situation. This

method is seen as a sympathetic solution in Heritage type properties as a general damp proofing system. The fabric of the building remains unchanged but the new internal surfaces are 'dry' and are salt and contamination free. Both dry lining or plaster direct finishes are available on the ventilated system.

Floors

As well as being a complete waterproofing and damp proofing system **DELTA** system is also used to upgrade damp and defective floors. With excellent crush resistance the system lends itself to a variety of different finishes which include conventional screeds, thin layer fast drying screeds and wood based floating floors. Insulation can also be used in conjunction with the system where required. The system can be linked to the D.P.C. constructed within a new wall or to an existing or chemical D.P.C.

Preparation

As the membrane systems are mechanically fixed there is no



reliance on the ability of the product to bond to the substrate. The **DELTA** system can be applied



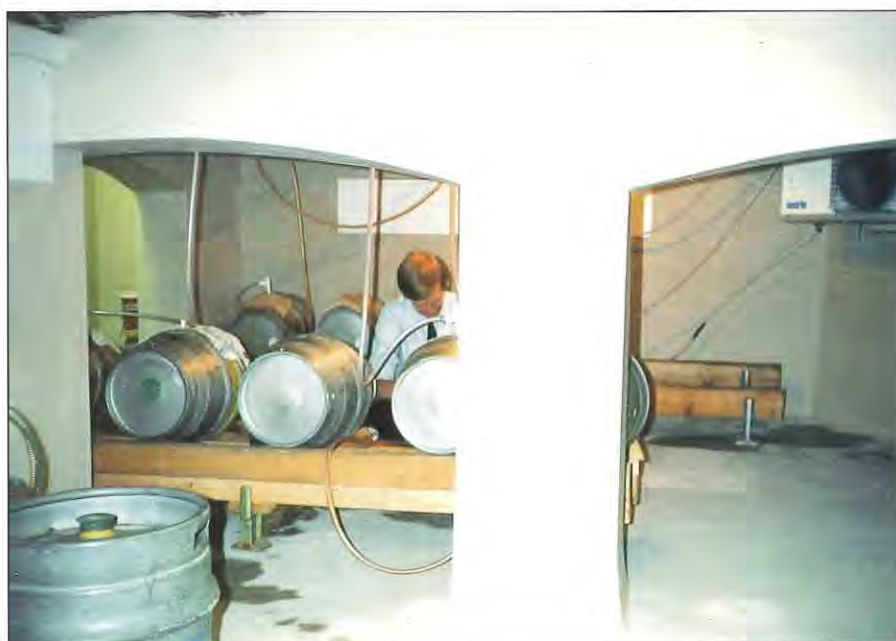
to a variety of different substrates for example over existing renders or broken down bitumen coatings, etc. This can be easily achieved without detriment to the integrity of the system.

Damp Pressure Equalisation

The studded structure of the membrane allows the dampness behind the membrane to move in all directions unhindered, therefore the whole of the wall or floor surface takes the damp loading. Break down created by weak points are eliminated. The product does not divert the problem to other areas.

Flexibility

In structures where movement or vibration can be a problem, examples being under street vaults, railway arches, and buildings constructed with movement joints,



the **DELTA** system can cope. The **DELTA** membrane has an elongation break of greater than 50%.

Speed

As there is little or no preparation required the system is by comparison quick to install. When dry finishes are used the system is a 'fast track' solution. Decoration does not need to be delayed as there is no drying process.

DELTA Membrane Systems are the U.K. arm of the world's largest producer of studded membrane systems. The market leading **DELTA** brand has a track record approaching three decades. The **DELTA** systems have been used successfully in many situations in the U.K. From small domestic basements up to major



waterproofing of London Underground stations there is rarely a dampness or water ingress problem that falls outside the scope of the capabilities of the **DELTA** system.

What are DELTA Systems

With the introduction of the latest British Standard 8102 (1990) 'for Protection of structures against water



from the ground', the use of cavity membranes has been generally accepted in the U.K. **DELTA** Systems are a complete range of products which are used together to solve many of today's problems in both new and old construction. **DELTA** Systems can easily deal with aggressive ground water conditions, where basements are liable to flooding, or indeed where simple dampness, contamination or salting problems are prevalent. Other more diverse applications include Turf covered roofs, barn conversions, tunnel linings or even as a barrier against radon gas.

The main components of the system are the membranes themselves. These are manufactured from virgin high density polyethylene which is thermally and alkaline stabilised. The stud heights vary from 3mm for **DELTA-FM**, 8mm for **DELTA MS 500 & DELTA PT** to 20mm for **DELTA MS 20**. The cavity created by the membrane contains between 2.1 and 10 Litres of space respectively. This is known as either the 'Air gap' or the 'Drained Cavity', in wet situations.

The Membranes

DELTA-MS 500 This is used for walls and floors, and is supplied in 2.4, & 2m x 20m rolls. This membrane can be used for light water ingress situations, and is available in brown, yellow (**DELTA-FM**), and clear. The 500 clear aids the selection of good fixing points in the more difficult application i.e. Random stone and friable brickwork. The sealed **DELTA** fixing is used to secure System 500, the centre shank of this fixing is also used for subsequent dry lining applications.

DELTA PT LATH This membrane has a mesh incorporated on the internal face which is attached by a thermic welding process at the time of manufacture. The sealed PT fixing plug is used to secure the





membrane at 250mm horizontal and vertical centres. The welded mesh and fixing plugs allow for direct render 1.1.6.

(cement/lime/sand), or plasters: Tilcon Whitewall, Carlite Bonding, or dab fixed plasterboard for internal applications. When this grade is used for external above ground protection DELTA renders can be used as a finish. These renders are polymer modified and also have reinforcing fibres incorporated for added strength and durability. This grade is available in clear 2.0m x 20m (40m²) or 1.5m x 10m (15m²).

DELTA MS 20 This is a heavy gauge version of System 500 with deep 20mm studs. This is used where extra drainage capacity is required, for example on deeper structures, or where a larger flow rate is required. MS 20 can also be used as a 'cavity former' for many types of new construction. The rolls are a full 2 metre width by 20 meters in length (40m²).

External Protection

DELTA GEO-DRAIN

Structures that are earth retaining can be damaged by moisture penetration from the outside or by water under hydrostatic pressure.

DELTA Membranes are available as geocomposites to deal with such problems. They act as a waterproof

drainage layer, and quickly remove the water to suitable drainage around the structure. They prevent the build-up of hydrostatic pressure on the structure and filter the water via an integral polypropylene filter layer. This prevents the fine ground particles from blocking the drainage facility and avoids destabilising the soil.

Guarantee

DELTA membrane systems come with a thirty year guarantee. The guarantee covers the membrane and all other system components. Based on experience, accelerated ageing tests and a quality manufacturing system to ISO 9001, the **DELTA** range can also be guaranteed with confidence.

Technical site and/or office visits

Staff are available to visit site to give advice on particularly difficult or in unusual situations, where appropriate specifications are prepared to assist in the correct use of the system. We believe our technical staff to be second to none and certainly the most experienced in the U.K. Market. This service is open to

Property owners, Architects, Surveyors and specialist companies.

Who Installs DELTA Systems

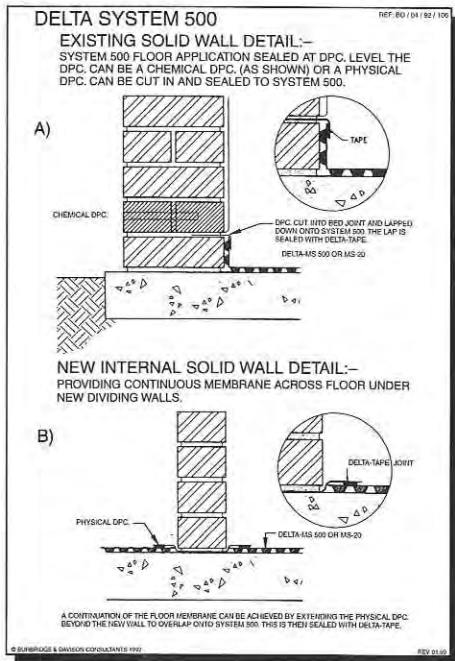
Although **DELTA** systems are by comparison, easy to install, it must be recognised that correct diagnosis of the problem is essential so that **DELTA** systems can be designed and tailored to the needs of the building, to give the best possible performance.



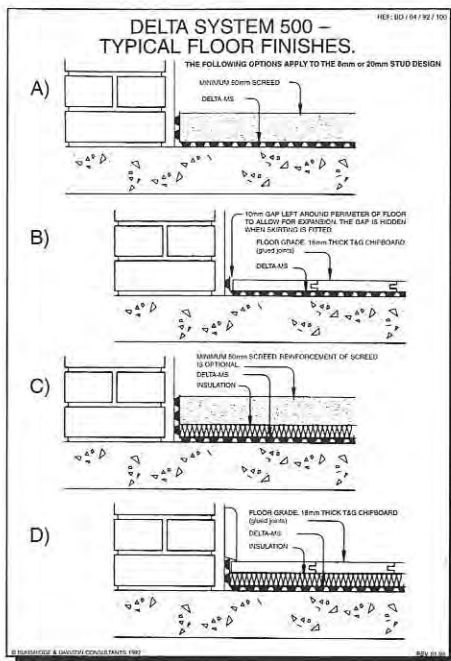
It is therefore recommended that only competent specialist contractors, who understand dampness, and the associated problems, be employed to survey the site, install the system and thereby ensure the best possible performance of the system. **DELTA** systems are installed by a nationwide network of specialist contractors who are holders of 'Registered Installers' Certificates.



DELTA® SYSTEM 500

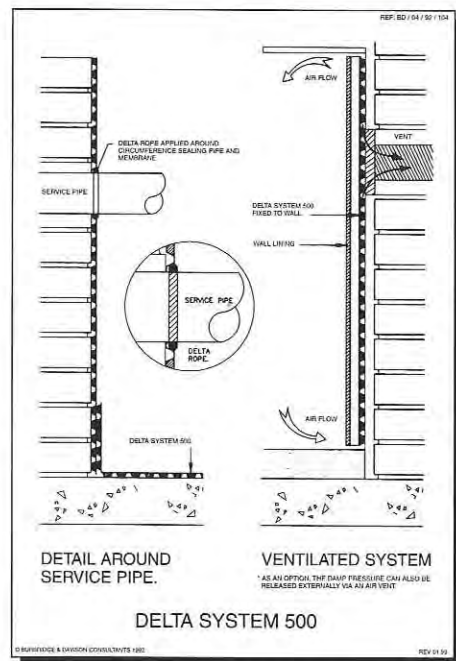


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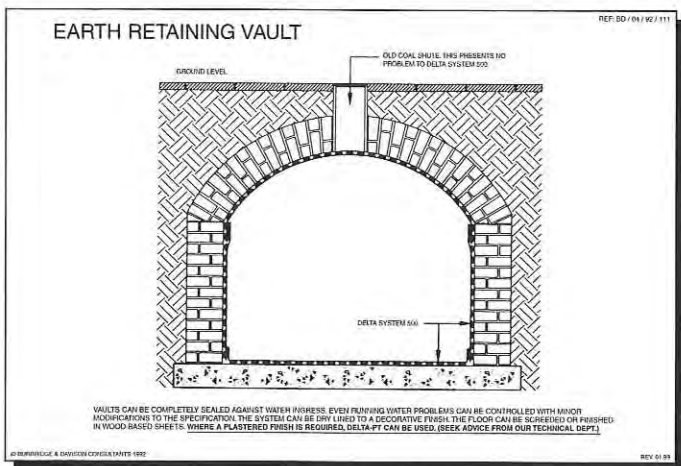


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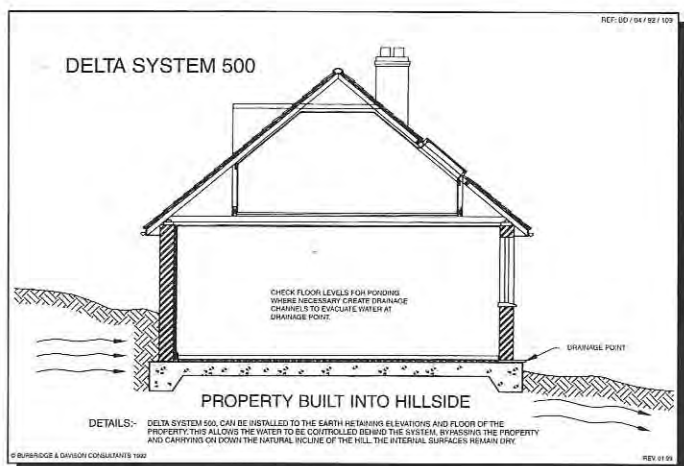
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DELTA®-FM:

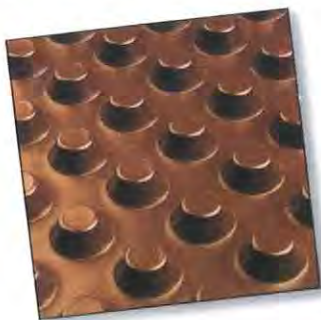


DELTA®-FM is specifically designed for floor applications, to combat dampness, and contamination. The special low stud profile (3mm) minimises changes in floor levels but still provides an air gap to achieve damp pressure equalisation.

The membrane is a fast-track application that allows various floor finishes to be achieved with zero 'down time'. The R.H. levels are isolated in the air gap, and controlled. Delta-FM can be used in new build, remedial or refurbishment projects for floors, and walls.

Material:	Virgin high-performance PE-VHD
Application:	Special low stud profile for floor. Can be used on walls
Sheet thickness:	approx. 0.6 mm
Dimple height:	approx. 3 mm
Compressive strength:	approx 140 kN/m ²
Roll dimensions:	20m x 2m (40m ²)
Volume between dimples:	approx 2.1 l/m ²
Service temperature range:	-30degC / +80degC

DELTA®-MS 500:



Cavity drainage membrane for use on walls and floors, as a waterproof system. A choice of finishes are available. Can also be used externally for waterproof protection of sub-ground structures.

Material:	high density polyethylene
Thickness:	approx. 0.6 mm
Stud height:	approx. 8 mm
Roll size:	available in brown & clear
(With flat edge of 7 cm on one side)	2.4 x 20 m
Compressive strength:	2.0 x 20 m
Drainage capacity:	> 250 kN/m ²
	approx. 2.25 l/s · m
	approx. 135 l/min · m
	approx. 8 100 l/h · m
Air volume between studs:	approx. 5.3 l/m ²
Temperature resistance:	- 30°C to + 80°C
Chemical properties:	resistant to chemicals, resistant to root penetration, rotproof, neutral towards drinking water
Behaviour in fire:	B2 accord. to DIN 4102, in the case of special requirements possibly B1 accord. to DIN 4102 (test mark PA III 2.2087)

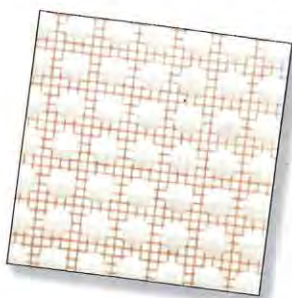
DELTA®-MS 20:



Dimpled sheeting with particularly high drainage capacity and compressive strength, suitable for high performance seepage layers in building and civil engineering construction.

Material:	high density polyethylene
Thickness:	approx. 1 mm
Stud height:	approx. 20 mm
Roll size:	2.0 x 20 m
	In the case of special requirements, also available in board format
Compressive strength:	approx. 150 kN/m ²
Drainage capacity:	approx. 10 l/s · m
	approx. 600 l/min · m
	approx. 36 100 l/h · m
Air volume between studs:	approx. 14 l/m ²
Temperature resistance:	- 30°C to + 80°C
Chemical properties:	resistant to chemicals, resistant to root penetration, rotproof, neutral towards drinking water
Behaviour in fire:	B2 accord. to DIN 4102, in the case of special requirements possibly B1 accord. to DIN 4102

DELTA®-PT:



Dimpled sheeting with plastic mesh welded on, suitable as a damp-proof base for plaster or shotcrete, e.g., as a seepage layer in tunnel construction, or for repairing basements internally.

Material:	high density polyethylene
Thickness:	approx. 0.5 mm
Stud height:	approx. 8 mm
Roll size:	2.0 x 20 m
	1.5 x 10 m
Compressive strength:	approx. 70 kN/m ²
Drainage capacity:	approx. 5 l/s · m
	approx. 300 l/min · m
	approx. 18 100 l/h · m
Void between studs:	approx. 5.5 l/m ²
Temperature resistance:	- 30°C to + 80°C
Chemical properties:	resistant to chemicals, resistant to root penetration, rotproof, neutral towards drinking water
Behaviour in fire:	B2 accord. to DIN 4102

DELTA®-GEO-DRAIN:



Dimpled sheeting with integral separating membrane and welded-on geotextile as a compact protection and drainage system for elastic thick layer waterproofing in building construction. Installation depth up to 10m.

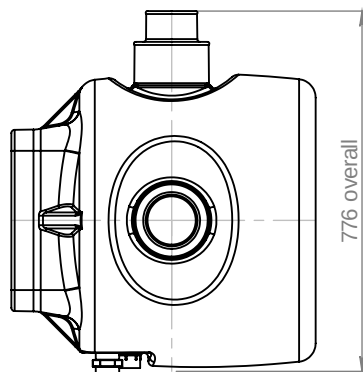
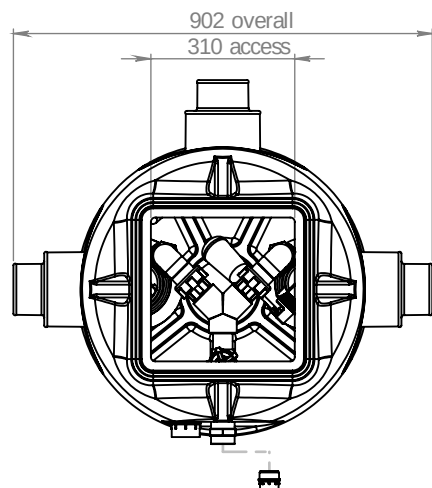
Material:	high density polyethylene
Material of geotextile:	polypropylene
Material of separating membrane:	polyethylene
Stud height:	approx. 9 mm
Roll size:	2.0 x 12.5 m
Compressive strength:	approx. 400 kN/m ²
Drainage capacity:	approx. 3.5 l/s · m
	approx. 210 l/min · m
	approx. 12 600 l/h · m
Void between studs:	approx. 7.9 l/m ²
Temperature resistance:	- 30°C to + 80°C
Chemical properties:	resistant to root penetration, rotproof, neutral towards drinking water
Behaviour in fire:	B2 accord. to DIN 4102

Delta Membrane Systems Ltd.

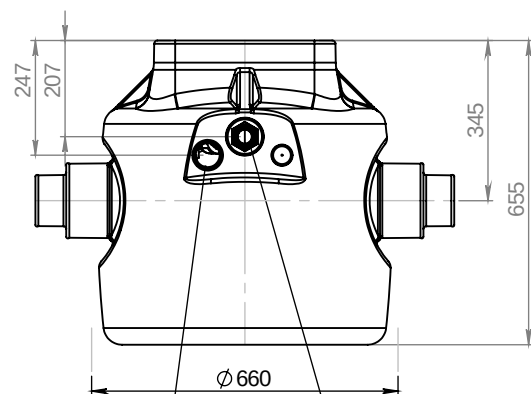
Bassett Business Centre, Hurricane Way, North Weald, Epping, Essex CM16 6AA

Tel: 08707 472 181 Fax: 08717 178 060

E-mail: info@deltamembranes.com www.deltamembranes.com

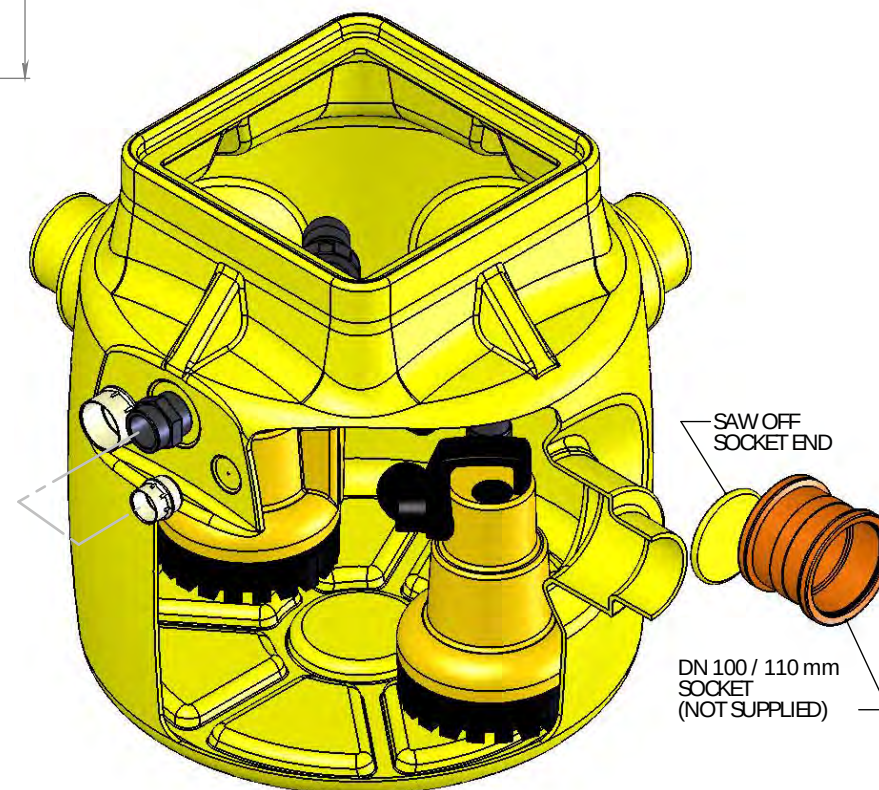


Pump Type	V3P
P1	0.43kW
P2	0.18kW
FLC	1.9A



CABLE DUCT
2" / 50 mm FEMALE
TO ACCEPT STD.
DRAINAGE PIPE

DISCHARGE
1 1/4" BSP / 32 mm MALE
IRON SUPPLIED LOOSE



Delta Code
DMS 164

Specification Code
2-660-655-V3P-HLA

Product Description
Delta Dual V3 Sump - V3 Pump

