

## Gedney, Oliver

---

**From:** Polly Harris-Gorf  
**Sent:** 18 January 2021 13:39  
**To:** \_planningadvice  
**Subject:** FW: response to environment agency comment on application no h07-1059-20,  
**Attachments:** We sent you safe versions of your files; TUV Ensign Range.pdf; MI-Ensign-Domestic-STP-full-range-.pdf

Please add as 6SUP (the proposed sewage treatment plant)

---

**From:** Des Ford  
**Sent:** 14 January 2021 11:42  
**To:** Polly Harris-Gorf  
**Cc:** 'gr.merchant@btconnect.com'  
**Subject:** FW: response to environment agency comment on application no h07-1059-20,

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

---

**This message originated from outside your organization**

---

Good morning ,

Please find below e mail from marsh industries with attached information regarding the proposed sewage treatment plant for the application of highstock lane. As you can see from jon bradleys e mail and attachments, the proposed unit meets all the required standards and is an acceptable way of achieving a drainage system for the site. The tank will be maintained by the management company and is located in a position that would enable it to be connected in the future to any Anglian water system that went into the village. we will of course apply to both the shidb and also the environment agency for the necessary permits required should the application be successful.

Des ford

---

**From:** Jon Bradley <  
**Sent:** 14 January 2021 11:28  
**To:** Des Ford <  
**Subject:** d brown 10 unit site gedney hill

Dear Mr. Ford

I have looked at your plans for Highstock Lane and we are more than able to help you with your submission. We have supplied treatment plants all around the Gedney Hill area including several on station Road, which discharge to either drainage fields or drainage ditches. As you will see from the attached certificate, our treatment plants are tested and proven to provide much higher standard of effluent than is legally required. This means a colourless and odour free discharge, which should satisfy any authority that you are doing your upmost to preserve the environment. I also attach our brochure to show the compact and efficient design of our units. The only visual impact is the 600mm square lids of the unit. Also an added safety feature above other available units. The 10 number 2 bedroom properties shown would work out by Building Regulations to require a 32 person treatment plant. We offer a 35 person as detailed in our attached brochure. If you or the authorities require any further information to support your application please do not hesitate to contact me.

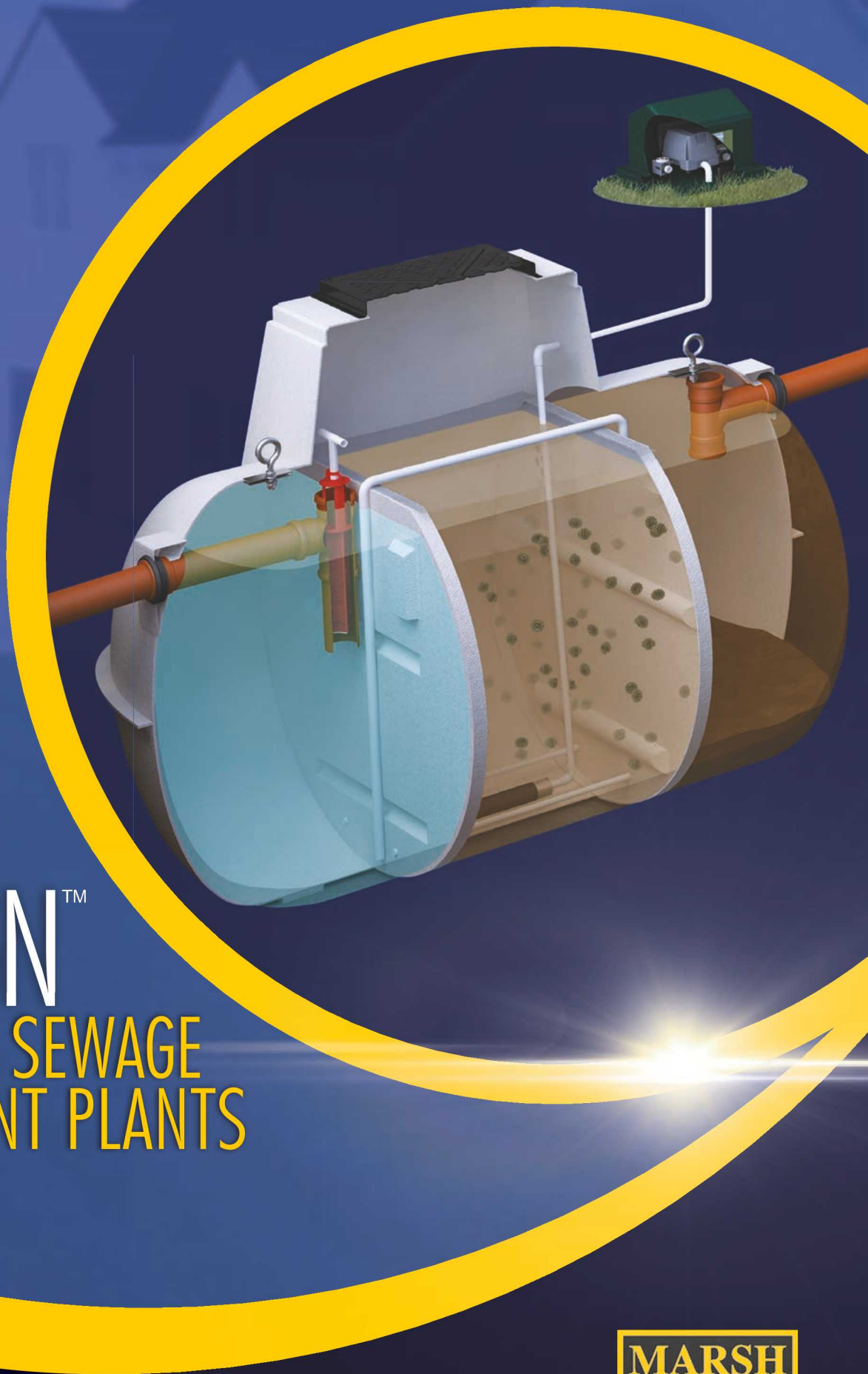
**Jon Bradley**  
**Regional Sales Director**

Marsh Industries Limited

[www.marshindustries.co.uk](http://www.marshindustries.co.uk)



Marsh Industries is a limited company registered in England & Wales. Registered number: 5157928



# ENSIGN<sup>TM</sup>

## DOMESTIC SEWAGE TREATMENT PLANTS

4-50PE



# ECONOMIC, EFFICIENT, ENVIRONMENTALLY SAFE

## Marsh Ensign – Advanced sewage treatment plant

The Marsh Ensign is widely regarded as one of the most efficient, reliable and economical sewage treatment plants on the market.

The standard Ensign has been adapted to improve reliability and the Ensign:Ultra now brings unique enhancements to further improve noise level, treatment efficiency and final effluent quality.

### Class leading performance

Tested and approved to BSEN12566-3/A1:2009 all Ensign units provide treatment well within national consent requirements. Published test results of 11.5:19.2:8.4mg/ltr (BOD:suspended solids:ammonia), with influent concentrations on test higher than those chosen by most competitor plants, effectively equates to 97% pollutant removal.

### Unrivalled choice

Ranging in size from 4 to 50+ PE in Ultra, Standard and Shallow versions of each, and with a wide range of ancillaries, almost all site, consent and budget requirements can be met by units from the range.

### Why choose Marsh Ensign?

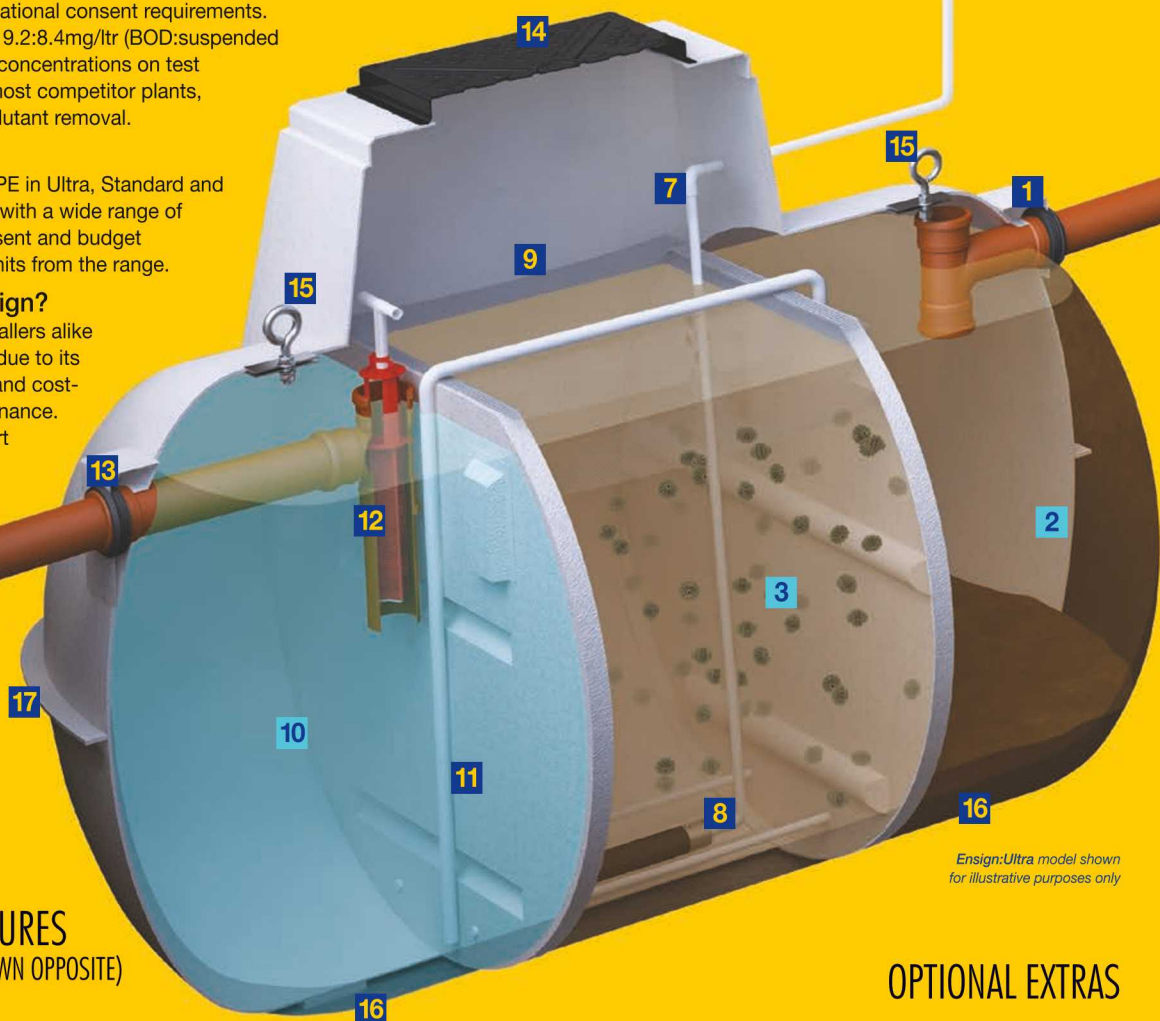
End users, merchants and installers alike recommend the Ensign range due to its ease of installation, reliability, and cost-effective operation and maintenance. All backed by technical support from local contacts.



## PRINCIPLE TANK FEATURES

(DETAILED TANK FEATURES SHOWN OPPOSITE)

- 1 Inlet
- 2 Primary settlement chamber
- 3 Aeration chamber
- 4 Compressor with alarm
- 5 Compressor housing (External or internal options)
- 6 RCD / Electrical connection
- 7 PVC pressure pipe for diffuser(s)
- 8 Bio-media
- 9 Stainless steel mesh
- 10 Final settlement chamber
- 11 Sludge return
- 12 Unique Polylok tertiary filter (Ensign:Ultra units)
- 13 Outlet
- 14 Access lid
- 15 Integral lifting eyes
- 16 Stabilising feet
- 17 Unique 'keying-in' lip



*Ensign:Ultra model shown for illustrative purposes only*

## OPTIONAL EXTRAS

Carbon vents/covers



Elevated compressor housings



Anti-flood valves



GRP kiosks



# TANK FEATURES



## ENSIGN:ULTRA

## SHALLOW ENSIGN:ULTRA

1

### Inlet with 'Forsheda seal'

Forsheda seal provides flexibility in the joint for easier installation.  
Optional risers to increase invert depth are available.

4

### Advanced compressor with alarm

Near silent compressor ensures minimal running, maintenance and servicing costs. Integral alarm detects low pressure in air line.

5

### Compressor housing (External or internal options)

The compressor can be housed internally or externally with no difference in cost. *External recommended to increase compressor life, and supplied as standard on 4PE, shallow and pumped outlet versions.*

6

### RCD / Electrical connection

The RCD box provides easier installation and provides a higher degree of safety.

7

### PVC pressure pipe / diffuser(s)

Provides a protective conduit for the air diffuser line. Can be easily removed for maintenance and cleaning.

8

### Bio-media

High specification bio-media (310m<sup>3</sup> per m<sup>2</sup>) and membrane diffusers ensure even circulation to eliminate 'dead spots'. The bio-media is contained by a stainless steel securing mesh to ensure no migration during handling or potential flooding.

9

### Stainless steel mesh

Retains media in aeration chamber during transportation and handling, and in the event of flooding.

11

### 32mm sludge return

Larger diameter sludge return prevents the possibility of blockages and improves system circulation. Provides higher effluent quality whilst balancing flow over a 24 hour period or periods of intermittent use.

12

### Unique Polylok tertiary filter (Ensign:Ultra unit only)

The Polylok tertiary filter reduces suspended solids and BOD by a further 40% helping to extend drainage field life.

13

### Outlet with 'Forsheda seal'

Forsheda seal provides flexibility in the joint for easier installation.  
Optional pumped outlets are available.

14

### Impermeable lid

Heavy duty lid/frame improves strength and durability whilst blending into the surrounding environment.

# SPECIFICATIONS

## Ensign:Ultra

## Shallow Ensign:Ultra

| Model<br>(Pop) | Length | Width<br>+/-100mm | Height | Inlet  |     | Outlet |     | Model<br>(Pop) | Length | Width<br>+/-100mm | Height | Inlet  |     | Outlet |     |
|----------------|--------|-------------------|--------|--------|-----|--------|-----|----------------|--------|-------------------|--------|--------|-----|--------|-----|
|                |        |                   |        | Invert | Ø   | Invert | Ø   |                |        |                   |        | Invert | Ø   | Invert | Ø   |
| 4              | 1600   | 1332              | 1575   | 540    | 110 | 600    | 110 | 6              | 2860   | 1912              | 1600   | 500    | 110 | 575    | 110 |
| 6              | 2602   | 1650              | 1935   | 550    | 110 | 625    | 110 | 8              | 2860   | 1912              | 1600   | 500    | 110 | 575    | 110 |
| 8              | 2602   | 1650              | 1935   | 550    | 110 | 625    | 110 | 10             | 2860   | 1912              | 1600   | 500    | 110 | 575    | 110 |
| 10             | 2602   | 1650              | 1935   | 550    | 110 | 625    | 110 | 12             | 2860   | 1912              | 1600   | 500    | 110 | 575    | 110 |
| 12             | 2860   | 1912              | 2139   | 550    | 110 | 625    | 110 | 16             | 3400   | 1912              | 1600   | 500    | 110 | 575    | 110 |
| 16             | 2860   | 1912              | 2284   | 720    | 110 | 800    | 110 | 20             | 4200   | 1912              | 1600   | 500    | 160 | 575    | 160 |
| 20             | 3650   | 1912              | 2284   | 720    | 160 | 800    | 160 | 25             | 4200   | 1912              | 1600   | 500    | 160 | 575    | 160 |
| 25             | 3650   | 1912              | 2284   | 770    | 160 | 850    | 160 | 30             | 5200   | 1912              | 1600   | 500    | 160 | 575    | 160 |
| 30             | 4200   | 1912              | 2284   | 770    | 160 | 850    | 160 | 35             | 5200   | 1912              | 1600   | 500    | 160 | 575    | 160 |
| 35             | 4200   | 1912              | 2284   | 770    | 160 | 850    | 160 |                |        |                   |        |        |     |        |     |
| 40             | 5200   | 1912              | 2284   | 770    | 160 | 850    | 160 |                |        |                   |        |        |     |        |     |
| 45             | 5200   | 1912              | 2284   | 770    | 160 | 850    | 160 |                |        |                   |        |        |     |        |     |
| 50             | 5200   | 1912              | 2284   | 770    | 160 | 850    | 160 |                |        |                   |        |        |     |        |     |

### Notes:

- > Larger population sewage treatment plants may be supplied as multiple tank configurations. For precise tank sizes and configurations, please contact Marsh Industries
- > All dimensions in mm

# TANK FEATURES



## ENSIGN:STANDARD

## SHALLOW ENSIGN:STANDARD

1

### Inlet with 'Forsheda seal'

Forsheda seal provides flexibility in the joint for easier installation.  
Optional risers to increase invert depth are available.

4

### Compressor with alarm

Low-energy compressor provides minimal running, maintenance and servicing costs. Integral alarm detects low pressure in air line.

5

### Compressor housing (External or internal options)

The compressor can be housed internally or externally with no difference in cost. *External recommended to increase compressor life, and supplied as standard on 4PE, shallow and pumped outlet versions.*

6

### Plug / socket connection

Standard electrical connection

7

### PVC pressure pipe for diffuser(s)

Provides a protective conduit for the air diffuser line. Can be easily removed for maintenance and cleaning.

8

### Bio-media

High specification bio-media (310m<sup>3</sup> per m<sup>2</sup>) and membrane diffusers ensure even circulation to eliminate 'dead spots'. The bio-media is contained by a stainless steel securing mesh to ensure no migration during handling or potential flooding.

9

### Stainless steel mesh

Retains media in aeration chamber during transportation and handling, and in the event of flooding.

11

### 32mm sludge return

Larger diameter sludge return prevents the possibility of blockages and improves system circulation. Provides higher effluent quality whilst balancing flow over a 24 hour period or periods of intermittent use.

12

### Polylok tertiary filter NOT supplied on Ensign:Standard range

13

### Outlet with 'Forsheda seal'

Forsheda seal provides flexibility in the joint for easier installation.  
Optional pumped outlets are available.

14

### Standard lid

Marsh lid protects inner components whilst blending into the surrounding environment.

# SPECIFICATIONS

## Ensign:Standard

## Shallow Ensign:Standard

| Model | Length | Width    | Height | Inlet  |     | Outlet |     | Model | Length | Width    | Height | Inlet  |     | Outlet |     |
|-------|--------|----------|--------|--------|-----|--------|-----|-------|--------|----------|--------|--------|-----|--------|-----|
| (Pop) |        | +/-100mm |        | Invert | Ø   | Invert | Ø   | (Pop) |        | +/-100mm |        | Invert | Ø   | Invert | Ø   |
| 4     | 1600   | 1332     | 1575   | 540    | 110 | 600    | 110 | 6     | 2860   | 1912     | 1600   | 500    | 110 | 575    | 110 |
| 6     | 2602   | 1650     | 1935   | 550    | 110 | 625    | 110 | 8     | 2860   | 1912     | 1600   | 500    | 110 | 575    | 110 |
| 8     | 2602   | 1650     | 1935   | 550    | 110 | 625    | 110 | 10    | 2860   | 1912     | 1600   | 500    | 110 | 575    | 110 |
| 10    | 2602   | 1650     | 1935   | 550    | 110 | 625    | 110 | 12    | 2860   | 1912     | 1600   | 500    | 110 | 575    | 110 |
| 12    | 2860   | 1912     | 2139   | 550    | 110 | 625    | 110 | 16    | 3400   | 1912     | 1600   | 500    | 110 | 575    | 110 |
| 16    | 2860   | 1912     | 2284   | 720    | 110 | 800    | 110 | 20    | 4200   | 1912     | 1600   | 500    | 160 | 575    | 160 |
| 20    | 3650   | 1912     | 2284   | 720    | 160 | 800    | 160 | 25    | 4200   | 1912     | 1600   | 500    | 160 | 575    | 160 |
| 25    | 3650   | 1912     | 2284   | 770    | 160 | 850    | 160 | 30    | 5200   | 1912     | 1600   | 500    | 160 | 575    | 160 |
| 30    | 4200   | 1912     | 2284   | 770    | 160 | 850    | 160 | 35    | 5200   | 1912     | 1600   | 500    | 160 | 575    | 160 |
| 35    | 4200   | 1912     | 2284   | 770    | 160 | 850    | 160 |       |        |          |        |        |     |        |     |
| 40    | 5200   | 1912     | 2284   | 770    | 160 | 850    | 160 |       |        |          |        |        |     |        |     |
| 45    | 5200   | 1912     | 2284   | 770    | 160 | 850    | 160 |       |        |          |        |        |     |        |     |
| 50    | 5200   | 1912     | 2284   | 770    | 160 | 850    | 160 |       |        |          |        |        |     |        |     |



## PACKAGE SEWAGE TREATMENT PLANTS

Package Sewage Treatment Plant's (or PSTP's) are often a suitable option where groundwater in the surrounding environment is vulnerable, drainage field percolation values are restrictive, or direct discharge to a drainage field/watercourse or surface water sewer is the preferred discharge method.

### HOW DO THEY WORK?

In addition to anaerobic digestion taking place in the primary settlement chamber **1**, the Ensign:Ultra unit allows the clarified water to pass into a second 'aeration' chamber **2** where it is treated to remove the dissolved constituents. Here aerobic bacteria, supported by diffused air and mobile media, ensures full treatment is achieved before the treated effluent and 'sloughed off' bacteria flows to a final settlement chamber **3**. The final effluent is then discharged to the drainage field or watercourse via a Polylok filter.

#### Notes:

- > PSTP's should be sized using the latest version of British Water Flows & Loads which provides detailed information on sewage production figures and sizing calculations
- > Regulatory authorities for the control of pollution in the UK normally require treatment plants conforming to BSEN12566:3 to be demonstrated as capable of producing a minimum effluent discharge quality of 20:30:20 (Biochemical Oxygen Demand; Suspended Solids: Ammoniacal Nitrogen in mg/ltr), although in certain areas more stringent site-specific qualities may be required
- > No surface water should enter the system as this can reduce the system's capacity and cause solids to be flushed out which may prematurely block drainage field or cause pollution
- > As with septic tanks sludge should be removed annually or in line with manufacturers instructions

# MARSH INDUSTRIES

Based in Northamptonshire with extended facilities in Somerset, Marsh Industries is a leading manufacturer of off-mains drainage products, oil separators and rainwater harvesting systems for both UK and overseas markets.

Marsh supplies sewage treatment plant and off-mains drainage products for domestic, commercial and industrial applications as well as offering engineering design and technical support.

With one of the largest merchant distributor networks available in Europe, clients ask for Marsh products and services because they know the company delivers from a solid foundation of knowledge, customer support, product quality and proven performance.

Architects, specifiers and installers within the construction sectors seek alliances and partnership with Marsh because its core products and services bring further added value to their own brands.

## MATERIALS AND MANUFACTURING

A significant differentiator at Marsh Industries, as a privately owned company, is the ability to invest in continuous research and development programmes. This not only translates into an unrivalled range of innovative products and materials but also the depth of experience available from the company's design engineering team.

The company has also invested heavily in plant and machinery at its Northampton and Bridgwater facilities to ensure its ability to adapt to new market initiatives and trends.

With this in mind Marsh uses only the highest quality parts and materials to provide complete assurance in every aspect of product build quality. All products are fully type-tested and certified to ensure compliance with relevant environmental permitting programmes and Building Regulations.

Tanks and chambers are typically made from the following materials:

### Virgin unfilled resin (no 'fillers' such as chalk)

Provides consistent wall thickness to ensure superior structural strength and durability. This also enables the tank to be significantly lighter for on-site handling/positioning and better suited to withstand greater hydrostatic pressures when in use.

### ISO gel-coat / flo-coat

Protecting the fibres in the laminates reduces UV degradation whilst improving water and chemical resistance. This inherent integrity allows Marsh to offer an unrivalled 50 year design life, backed by a 25 year structural guarantee.

## OTHER PRODUCTS IN THE MARSH RANGE

- > Commercial/industrial sewage treatment plants
- > Pump chambers
- > Septic tanks
- > Cesspools
- > Grease traps
- > Oil separators
- > Domestic and commercial rainwater harvesting systems



01933 654582 | [sales@marshindustries.co.uk](mailto:sales@marshindustries.co.uk) | [www.marshindustries.co.uk](http://www.marshindustries.co.uk)  
**MARSH INDUSTRIES UK LEADERS IN OFF-MAINS DRAINAGE AND RAINWATER HARVESTING**



# P R O T O C O L

## O N P R O D U C T T Y P E T E S T I N G



Czech

**Registration No. 1017 – CPD – 05.686.914**

Issued in compliance with Article 5 Section 1 Clause b) of Government Order No. 190/2002 Coll. and in compliance with Council Directive No. 89/106/EEC of 21<sup>st</sup> December, 1988, on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products, amended by Council Directive 93/68/EEC, by the Notified Body No. 1017.

### Domestic Wastewater Treatment Plant

Type range: **Marsh Uni Ensign**

Types: 6PE, 10PE, 12PE, 16PE, 20PE, 25PE, 30PE, 35PE, 40PE, 45PE, 50PE

**EN 12566-3:2005+A1:2009**

### MARSH INDUSTRIES LIMITED

Units 3-13, Little Addington Business Park, Irthlingborough Road, Little Addington,  
Kettering NN14 4AS UNITED KINGDOM  
VAT Ident. No.: GB866868943

Place of the production: See above

TÜV SÜD Czech s.r.o. performed the initial testing of the respective product characteristics described in Annex ZA of the standard

**EN 12566-3:2005+A1:2009**

The testing results are presented in the Evaluation Report Reg.No. 05.686.242 from 20-04-2012, which consists of 3 pages and forms an inseparable part of this Product Type Testing Protocol.

|                                                                                 |                                                                                                      |                                                |                                                                                             |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------|
| Treatment efficiency on organic daily loading<br>BOD <sub>5</sub> = 0,49 kg/day | BOD <sub>5</sub><br>COD <sub>CR</sub><br>TSS<br>N-NH <sub>4</sub> <sup>+</sup><br>P <sub>total</sub> | 97,4 %<br>91,0 %<br>94,1 %<br>81,0 %<br>42,0 % | 11,5 mg O <sub>2</sub> /l<br>71,5 mg O <sub>2</sub> /l<br>19,2 mg/l<br>8,4 mg/l<br>5,7 mg/l |
| Watertightness                                                                  | Passed                                                                                               |                                                |                                                                                             |
| Structural behaviour                                                            | Passed                                                                                               |                                                |                                                                                             |
| Durability                                                                      | Passed                                                                                               |                                                |                                                                                             |

In Prague, 03.05.2012



On behalf of the Notified Body 1017