

Building Regulations

On 1 April 2002 Part H of the Building Regulations came into force. This standard indicates that "package treatment systems should be type tested in accordance with BS EN 12566-3 (scheduled for publication May 2003, superseding BS 7781) or otherwise tested by an approved body".

No accredited body has been established in the UK to test to either standard. However, ANSI (American National Standards Institute) testing is carried out by the approved environmental test agency, NSF International and has tested and approved the Diamond treatment plant.

ANSI is recognised by British Standards Institute and NSF International is associated with the UK's Water Research Council (WRC). Both have comprehensive websites for further reference.

The ANSI/NSF Standard 40 has a similar testing protocol to BS 7781. For a copy of the most recent ANSI/NSF Standard 40 report and a sample CE certificate, please contact WPL.

Other available information:

CIRIA Guide to Sewage Treatment

In addition CIRIA offers over 50 documents of research including sewerage, water treatment and distribution and urban drainage

WPL Guide to Do's and Don'ts for Diamond treatment plants
HiPAF treatment plants

WPL product guides are also available on request

Who to contact for more help

England & Wales
Environment Agency
www.environment-agency.gov.uk
0845 9333111

Scotland: SEPA
www.sepa.org.uk
01786 457700

Northern Ireland: DoE NI
www.nireland.gov.uk/env.htm
028 9054 0540

NHBC www.nhbc.co.uk
01494 434477

Construction Industry Research & Information Association (CIRIA)
1/2 Castle Lane, Westminster, London SW1E 6DR
www.ciria.org.uk

WRC
www.wrcplc.co.uk
01793 865000

Local Authority Building Control Offices can be found at www.labc-services.co.uk



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So you need to know
about sizing sewage
treatment plants....

What you should ask when enquiring about a sewage treatment plant



Keywords: Sewage, Treatment, sizing, Building, regulations, design, HiPAF, site, consent, quoted, smell, odour, maintain, tanker, flow

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Questions on designing for Sewage Treatment

The questions and answers in this brochure should be read in conjunction with those in WPL's 'So you want to know about sewage treatment?' brochure

What information is required to size my plant correctly?

Most essential are the levels and types of use, preferably in the form of hydraulic flow (water used/treated). Provide these in cubic metres and the biological load in kilograms per day. For example, the number of residents on a housing estate or for a public house, the number of customers and staff. A full list of uses and loads is available from WPL. The consent to discharge



A modular HiPAF sewage treatment plant

standard from the Environment Agency is also essential. Other details, for instance, population served and their activities, plus any special requirements such as inverts, orientation and invert levels are also useful at the quotation stage.

Is a HiPAF unit the same as a septic tank?

No. WPL's HiPAF is a complete biological treatment system in one factory assembled unit. It consists of primary settlement, secondary

biological treatment and humus settlement, with a biozone; a fixed film submerged aerated filter to which air is provided by a fully accessible compressor. Septic tanks provide primary settlement only. Treated effluent from a HiPAF is to a much higher standard than that from a septic tank.

What does SAF mean?

Submerged Aerated Filter, ie., a treatment plant that is installed below ground leaving only its lid or lids visible. WPL's HiPAF is a SAF and was the first of its kind to be introduced.

What is the difference between a HiPAF and WPL's Diamond?

The HiPAF system works by treating effluent in three main stages. The Diamond system consists of two treatment chambers within a single tank. The central aeration chamber - a circular tank with a sloped open base - uses an activated sludge system.

Where should I site my plant?

Sewage treatment plants should be installed in such a position as to enable the discharge of effluent to a soakaway, ditch or stream. They should be sited away from the property but close enough to electrical supplies and to allow tanker access. Don't forget that discharges are subject to consent from the Environment Agency or other such persons who are authorised to determine such discharges.

What consent standards will the plant meet?

WPL's plant will meet a range of standards from a basic 20 mg/l Biochemical Oxygen Demand (BOD) and 30 mg/l Suspended Solids (SS) (HiPAF), to 10



A single tank HiPAF — installed for a Water plc

mg/l BOD & SS with a WPL sand filter. Ammoniacal Nitrogen levels below 5 mg/l can also be achieved, as well as the removal of phosphate.

I have already been quoted for a plant but now

have been advised that the consent has changed. What do I do now?

Advise your supplier of the new consent standard required, so that the plant can be resized and costs recalculated.

Does WPL supply and install its plants?

No, it installs through specialist contractors and has a number of partners nationwide. As well as general application advice, these installers can advise on all planning and EA issues.

Will it smell?

In general terms, no. However, it may create some odour if it's not vented or installed correctly.

Do I need to maintain it?

Yes, the unit will require some maintenance which can be carried out by a service company. In addition, HiPAF's may require a regular desludge routine. This can vary from between 60 and 90 days.

How close will a tanker have to park to gain access to the plant?

Most tankers carry up to 45 metres of hose; they can park within 30 metres of the tank and then have some 15 metres to use for desludging from the tank. Typically, 10 metres is desirable between tanks and tanker.

What sort of flow rates can I expect?

Flow rates (water treated per day) are calculated according to the usage of the plant. It is the contaminants in the waste water usually size it, rather than the flow rates. In some situations, e.g. commercial laundry and hotels, flows may size the plant.

I want to place an order. How long before my plant is delivered?

Typically, between six to eight weeks of the order being placed. Much will depend on the time of year, current order book status and the size and type of plant being ordered.