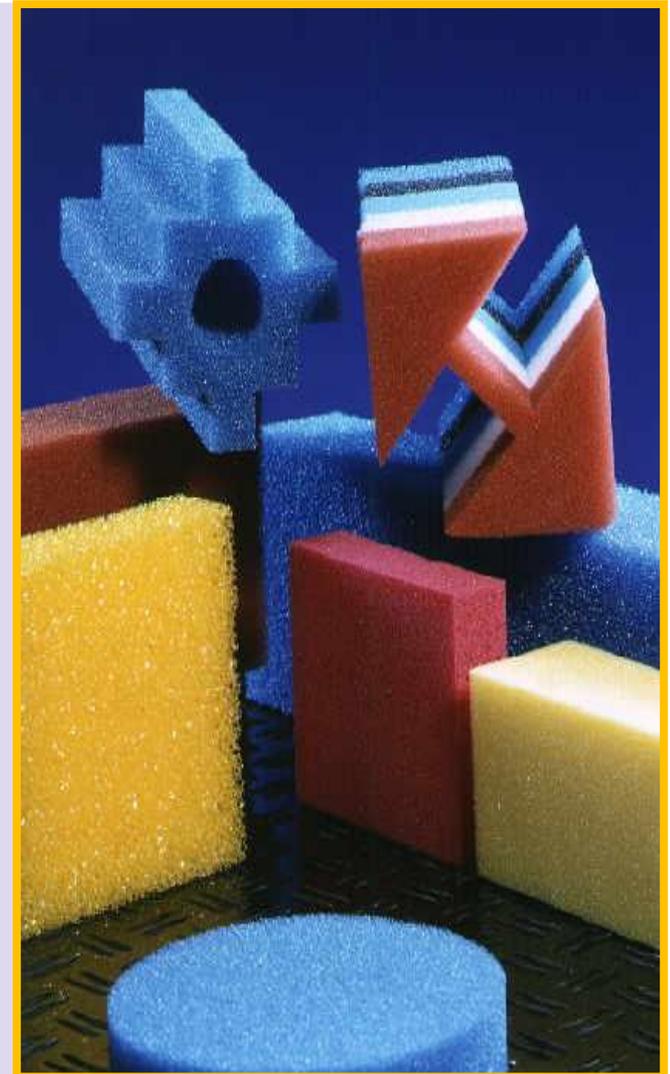


Our many years of experience in the filtration technology sector provide the basis for our expertise in the field of technical foams.

We offer a broad range of open-cell and closed-cell polyurethane foams in various colours and in all common densities.



Foams used in filtration applications must have an open pore structure providing paths which permit the gas or liquid filtered to pass through the foam and thoroughly permeate its inner surface.

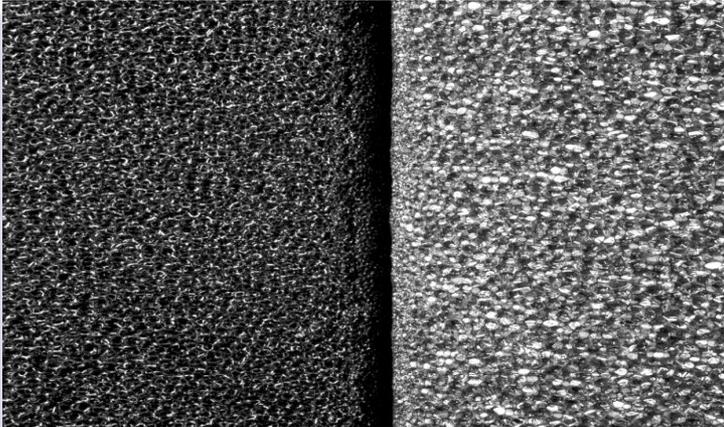
Open-cell structures in foams are achieved by a secondary treatment known as reticulation. This process utilizes high-temperature treatment to eliminate the thin membranes separating the individual cells in the foam.

**EMW has a state-of-the-art reticulation facility comprising several reactors**



Drawing on our extensive know-how and many years of experience in reticulation, we are able to reticulate a wide variety PU foams in accordance with customers' exact requirements.

# PORET® Technical Foams



*An open pore structure on the left compared with a closed pore structure on the right*

A special process known as reticulation is used after fabrication to open the pores of the foam. Various reactor configurations are available for fabrication of uniform open-cell pore structures with controlled pore spacings of between PPI 10 and PPI 80 (PPI = Pores per Inch).

Our foams are available in a wide range of sizes, shapes and colours in accordance with your specific requirements. They are available as bun stock, slabs, rolled sheet, cut-to-size sections, punched or moulded parts, etc.

Our **PORET®** product family comprises two principal foam materials:

## ***Polyether and Polyester polyurethane foams***

These two types of foams differ in their hydrolysis resistance. **Polyester** foams are limited to applications which do not involve contact with water.

**Polyether** foams on the other hand are much more resistant to hydrolysis and other forms of chemical or environmental attack. Accordingly our polyether foam products are used with great success in fish keeping and biological water treatment applications.

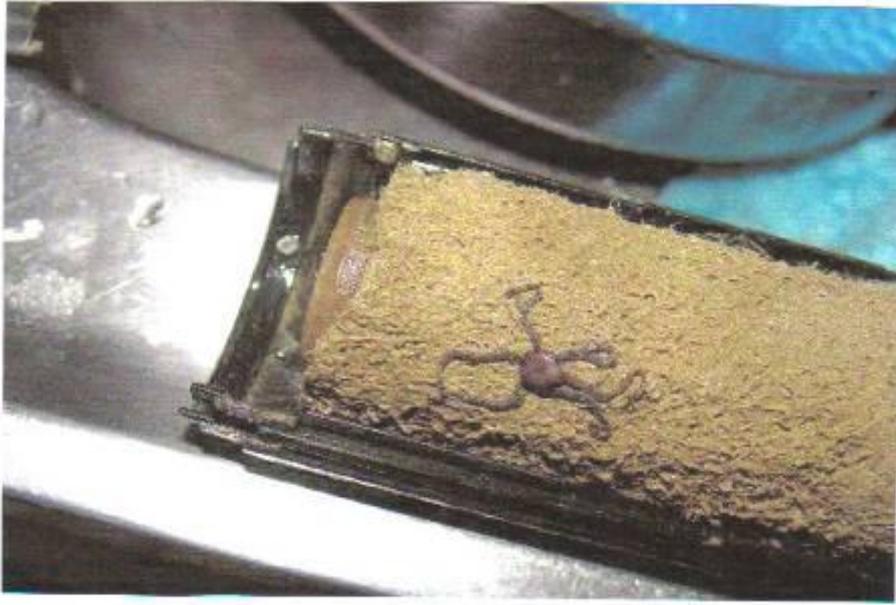
A filter makes sure, that arising contamination from fish poop, food scraps and decaying leaves from plants can be degraded. For biological filtering it is essential that enough bacteria is able to settle inside the filter media.

Therefore suitable are our **polyether – sheets of filter foam**, which offer bacteria a high surface area for colonisation.

In the stage of creation of a new pond or fish tank it should be taken into consideration that biological filtering only starts to work after a period of several weeks, when enough bacteria have settled inside the filter media. The filter media itself only should be rarely cleaned (depending on stocking rate and contamination) and even then only carefully doused with lukewarm water to ensure the efficiency of the filter.

Besides the just mentioned filter media polyether – filter foam, also the temporary use of filtering with carbon is possible. EMW´s water activated carbon absorbs chemical contamination and cleanse water this way. However, this type of filter should only be used short-term, as contamination will be released back into water after a while.

# Biological Filtration



As „biology“ inside the filter takes care of the cleaning process in the water, it is called biological filtering. Several millions of microorganisms as i.e. bacteria, paramecium, amoeba et cetera nourish from organic substances dissolved in water and by this convert or eliminate them from cycle of matter.

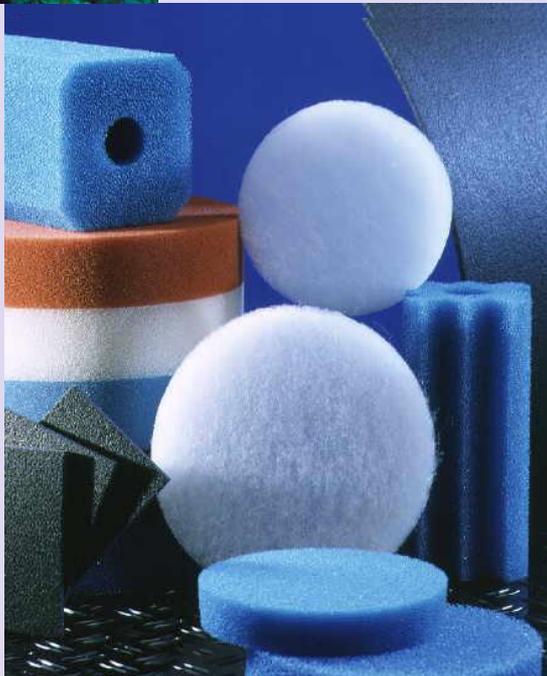
Only by means of those microorganisms, which are also appropriate for wastewater treatment, successful operation of a biological filter can be assured.

Bacteria and microorganisms we can find on all surfaces in our fish tanks resp. aquariums. From here the filter media with its highly extended surface area in a new filter is taken into possession. The slippery, brown materials inside a used filter are not the filtrated substances, but masses of bacteria same as botanical nutriments which became insolvable due to filtration efficiency.

The in water dissolved organic substances as for example proteins, fats and carbohydrates provide a basis as nourishment for microorganisms and are going to be converted into carbon dioxide and nitrate.



These viscoelastic polyether foams exhibit outstanding resistance to acids and bases. They are also more resistant to hydrolysis and other forms of chemical attack than is the case with polyester foams.



### ***Characteristics:***

- Outstanding resistance, even to ozone and oxygen
- Provides reliable service at temperatures up to 90°C
- Manufactured in CFC-free foaming process
- Contains no plasticizers
- Washable

# Fishkeeping / Aquafarm Filters



Our filter material is available as rolled sheet, panels, cut-to-size sections, punched, perforated and/or moulded parts in all required dimensions, pore sizes (PPI 10 - 45) and area weights

Highly active bacteria cultures are required for efficient cleaning of water in aquariums and fish ponds. To provide effective biodegradation, the different cultures used must be provided an optimum living environment.

Our fishkeeping and aquafarm filters set new standards in physical filtration and biological degradation. Made from specialty polyether foam materials with enormous internal surface area, they ensure an optimum living environment for bacteria.

Due to their special design, they harbour much higher populations of degradation-active cultures than do other filter materials.

These polyether filter foams are fully resistant to water. They are available in all common colours and pore sizes.

# BioSafe Filter Systems



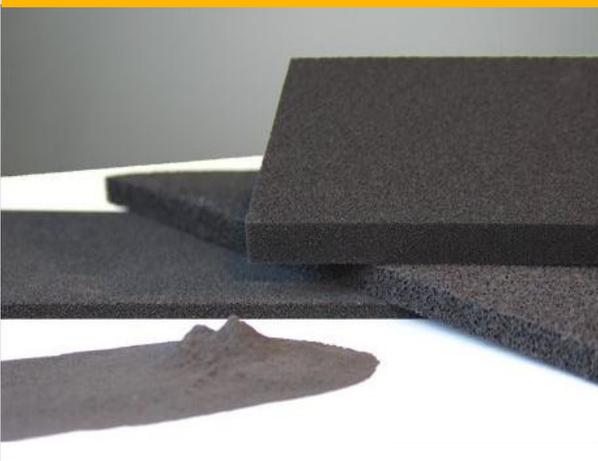
The BioSafe filter system, available with "T" ridges on one or both sides, provides highly effective removal of harmful substances from ponds of all types.

The special configuration of the ridges offers substantially increased surface area and therefore higher capacity for removal of dirt and other foreign substances from the tank or pond water.

The enormous surface area provided accommodates much higher bacteria populations than do conventional filter materials. BioSafe ensures uninterrupted availability of the bacteria cultures, an important prerequisite for reliable and efficient degradation of undesirable organic substances.

The channels formed by the "T" ridges ensure free and uniform flow of the water treated. This prevents growth of putrefactive bacteria caused by localized lack of oxygen as is often found in conventional filters.

- Provide gentle physical and biological water treatment
- Provide larger surface area than other filter media
- High efficiency due to continuous healthy growth of degradation-active bacteria cultures
- Cleaning is required at less frequent intervals
- Easy to maintain



EMW water activated carbon is used in ponds and home aquariums for filtration and removal of impurities.

Water activated carbon is an impregnated open-cell filter foam. The impregnation maximizes the effective surface area of the filter medium without increasing its volume.

The result: highly effective cleaning of pond and aquarium water.

# CERTIFICATE

## ISO 9001:2008



hereby certifies that the company



**EMW filtertechnik GmbH**

**business field:**

Development, production and sale of filter media, filtration systems, joint sealing tapes and technical foam products and water treatment systems

**location:**

Werner-von-Siemens-Straße 9 \* D-65582 Diez

has successfully implemented the above mentioned quality management system according to the standard (11/2008) and applies it effectively. The conformity was inspected during the certification audit documented in audit report no. A09111301. This certificate is only valid in connection with the successful performance of the surveillance audits.

This certificate is valid from: 22.12.2009  
 This certificate is valid until: 17.10.2012  
 Last audit day: 14.12.2009

Date of the first certification: 05.03.1997  
 Certificate registration no.: 100397144/4  
 duplicate



DEKRA Certification GmbH  
Stuttgart, 22.12.2009



QMS-TGA-ZM-05-91-00

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# EMW filtertechnik

*A leading filtration technology supplier*



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