

HYDROTECH

Info Letter – Biofouling.

Biofouling: Some organism lives in some stage of their life cyclus on submerged surfaces. There is a great variety of species of zoological as well as botanic origin. Most predominant in saltwater are the phylae of molluscs, especially the bivalves (mussels). They tend to settle on surfaces with ambient food, as they are filter feeders, it means proper water current to pass them. Therefore pipes and fish farmers nets, boats etc are ideel locations.

Hydrotech have installed filters in the South African Abalone industry, many of these installations are on inlet water in order to secure optimal water quality. Filters deals with both contamination by inorganic origin as well as being a barriere against introduction of mussels into pipe systems:



Inlet filters to Abalone farm.



Downstream tanks with abalones.

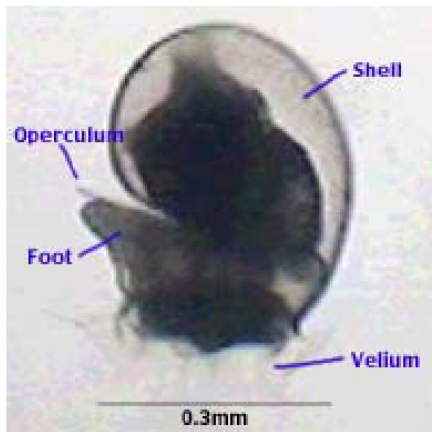
As can be seen from above foto, there are several 100' of meters of PVC pipes. Fouling of these small pipes was such a big problem that the farm needed several people just to clean pipes from especially mussel fouling.

After installation of filters, cleaning problems were reduced significantly. 60 micron is installed on these filters, however to ensure as near 100 % removal of larvae stages, as possible, 30 micron is recommended.



Growing abalones.

Abalones (several species) are primitive seasnails, they belong to same phylae as mussels. A typical trace of a common background of animals, are same type of early development ie the same larvae stages:



Larvae stages of molluscs, veliger larvae.

The spreading and thereby their ability of settling in an optimal environment, depends on their larvae stages, they are dispersed in the water and will eventually settle on a proper surface substrate. Above picture indicates a size of app 300 micron, however there are different species and theses larvae are quite flexible in structure, that is why Hydrotech recommends 30 microns, which still is an economic solution as this micron size can be sized at a high rate of filtration.