



# Floc Bloc - Application Guide

## Product Description

DamClear Floc Blocs are a simple, convenient method for applying flocculant polymers to water requiring clarification.

Floc Blocs consist of fine granules of powder grade flocculant dispersed in a solid, but readily water soluble polymer. The carrier polymer is non-toxic. As water flows over the Bloc, flocculant is released which reacts with sediment, causing solids to settle rapidly and leaving clear treated water.

## Which Product?

Three grades of Floc Blocs are available.

- **DamClear Floc Bloc AN1**  
Is generally best suited to sediments and clays, and to applications where water pH is around neutral (7-9) and where the salinity is relatively low (<400 conductivity).
- **DamClear Floc Bloc AN2**  
Is generally best suited to sediments and clays, and to applications where:
  - water pH is acidic (<6.5)
  - where the salinity is relatively high (>500 conductivity).
  - where chemical pretreatments such as Alum or PAC are applied prior to the Floc Blocs.
  - Saline water and dams contaminated with ground water
- **DamClear Floc Bloc CT1**  
Is generally best suited to biological sludge such as sewage and food wastewater treatment in dams, DAF's and settling tanks and for dewatering.

There are exceptions where DamClear AN1 and AN2 will work equally well but there are applications where only one of the two products will work satisfactorily.

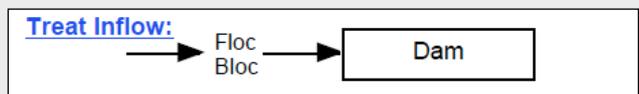
The main determinate for either product working on a particular application is the surface chemistry of the clays and solids dispersed in the water.

This is very difficult to characterise in the field, therefore it is much easier to undertake jar tests on a water sample to determine which product is the most effective. Jar tests can be completed within about 30 minutes. We recommend that for new applications, that both products be assessed by either jar tests or trials on the dam water.

## Application Instructions

### 1. Treatment of dam water inflow

Position Floc Blocs in a wire mesh cage at entry point to the dam or upstream from the dam, at a point of turbulence that will ensure contact with most of the water flow. A point of turbulence may need to be created if none exists. For large water flows 3-4 Floc Blocs may need to be placed in a wire mesh cage which is secured in place. The Floc Blocs should be positioned so that they are immersed in water during storm events, but not in contact with water when water is not flowing. This can be achieved by suspending a cage containing the Floc Blocs above the dry weather water level, but positioned low enough to be in contact with water during a storm event. Two application points in the drain leading to the dam can often be beneficial.



### 2. Treatment of a full dam

Water in a full or partially full dam may be clarified by recirculating water from one end of the dam to the other and placing Floc Blocs at the discharge point. A pump suitably sized to give a rapid turn over of the total dam volume should be used.

Floc Blocs are best applied in this application by discharging the return water into a tank of about 1,000 litres. Use a proportionately larger tank if the water flow rate is greater than 100 kL/h. The tank should be positioned near the dam at the return point so that treated water overflows from the tank back into the dam.



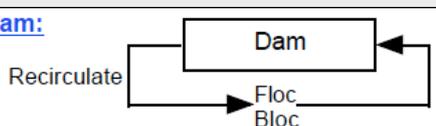
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### 2. Treatment of a full dam (continued)

Floc Blocs should be secured in a cage which is positioned in the tank. Tangential flow in the tank will further aid mixing and water clarification. The water should be recirculated at least long enough to turn the entire dam volume over once. Solids flocculation should be visible in the tank and water clarity will slowly improve across the entire dam as pumping continues. Flocculated solids will settle in the dam.

For long dams, 2 pumps may be required. The first pump discharges water into the tank where the Floc Blocs are positioned and the second pump transfer water from the tank to the far end of the dam.

#### Treat Full Dam:



### Answers to common questions ....

1. Floc Blocs should not be left in **still** water as they will swell to form a gel and will become less beneficial.
2. Simply placing a Floc Bloc in a dam will not clarify the water.
3. Floc Blocs should be removed from their plastic containers before use.
4. Applying Floc Blocs at 2 points in a water stream usually improves solids agglomeration (i.e. flocculation) and the treated water clarity.
5. Partially used Floc Blocs can be stored in their original packaging if required.
6. For small flow rates, the Floc Blocs can be broken into small chips and placed in a pipe or overflow weir.
7. DamClear Floc Blocs do not affect water pH or salinity.
8. Flocculation of sediment and suspended solids occurs almost immediately. A portion of the flocculant polymer may carry forward in the water to re-flocculate the solids. This is of benefit when natural turbulence is excessive as these conditions may degrade the flocs.

### Answers to common questions ....

9. Flocculation is affected by water temperature and water solids content. Cold water (< 8 °C) usually requires more mixing than warm water (>15°C). Low solids water requires more mixing than water with high solids content.
10. The active ingredient in Floc Blocs have been used for over 50 years in applications such as dam water clarification, drinking water purification, pollution minimisation, industrial wastewater treatment, mining, paper making and sewage treatment. The active ingredient is safe and is widely used to minimise pollution from many industrial and mining applications. It has a very low order of aquatic toxicity and when used according to Application Instructions is safe for most aquatic environments encountered in normal use.
11. Jar tests can be used to establish the best Floc Bloc grade for a particular application. Jar tests compare the rate of solids settlement, floc size and water clarity when equal quantities of Floc Bloc are added to equal volumes of water. Tests are typically undertaken with 500 mL samples of water in a measuring cylinder. A jar test procedure and test kits are available on request
12. Typical application rates are:  
0.5 - 10 mg/L, or  
0.5 kg - 10 kg per Megalitre of water.
13. Do not over dose. Avoid over dosing by only using the appropriate number of Floc Blocs suited to the volume of water for treatment.

On some occasions, where the clays are ultra-stable, DamClear Clarity Aid C maybe required to be used in conjunction with Floc Blocs for best results.

*We have products available for every type of water clarification situation. Visit our website for more information and for the DamClear Floc Bloc MSDS, [www.enviowarehouse.com.au](http://www.enviowarehouse.com.au)*