

Case Study - Swirl-Flo® Process

The Swirl-Flo® Process provides significant construction cost savings over conventional settlement tanks at Kinnegar WWTW.

In 2000 two 16 metre diameter Swirl-Flo® Separators were installed at Kinnegar STW in Belfast. These are the largest Swirl-Flo® Separators installed to date and were used in place of two traditional circular primary settlement tanks which would each have been 32 m diameter. As such they were designed to achieve the same performance in only 25% of the cross-sectional area.

The peak design inflow rate was 443 l/s per unit with regard to performance but 466 l/s with regard to hydraulic capacity.

Each unit consists of specialist internal components, manufactured in grade 304 stainless steel, supplied by Hydro International placed within concrete shafts supplied by others.

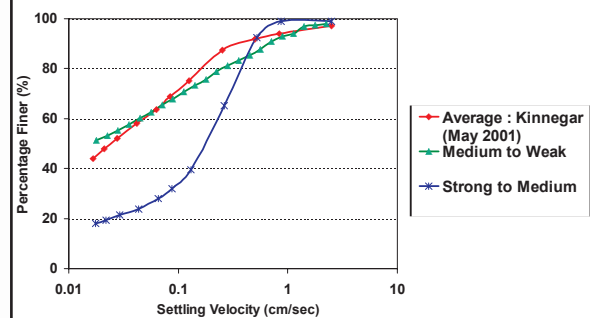
The internal components are designed to stabilise the flow patterns within the device and enhance settlement performance.

Settled material is collected within a central hopper, aided by sludge scrapers, and periodically removed via a pump. Scum is collected at the top of the unit and is drawn off using automated penstocks.



Settling Velocity Distributions

.. Comparison with other sewage ..



Example of Wastestream Settleability Data

