



WWM leads the world in sludge rheology!

Cutting edge tools, for predicting sludge rheological properties and calculating pipe system losses.

The development of new sewage and sludge processes, especially polymer-thickened types, has resulted in a growing number of novel sludge types whose rheological properties cannot be accurately predicted using the existing approach (based on TR185).

As current design approaches are based on TR185, which is now almost 25yrs old, there have been some very costly mistakes including equipment failures and additional capital & operating costs from over-design.

Consequently, WWM members decided it was imperative to have an up to date, accurate and comprehensive method of predicting the rheology of modern sludges. This led to BHR Group's development of The Sludge Rheology Database (SRDB) and the Sludge System Losses Tool (SLOT).

The Sludge Rheology Database (SRDB)

It is vital to know how the sludge being processed flows in order to design, size or evaluate equipment for sludge pumping, transportation, handling, mixing, thickening, de-watering, heating or other processing.

The SRDB has been established from a combination of existing data, sludge samples from WWM members together with BHR Group technical expertise and is the most up to date, comprehensive and accurate tool of it's kind.

SRDB covers both potable and wastewater applications and covers a range of sludge types including primary, polymer-conditioned and hydrolysed sludges etc.

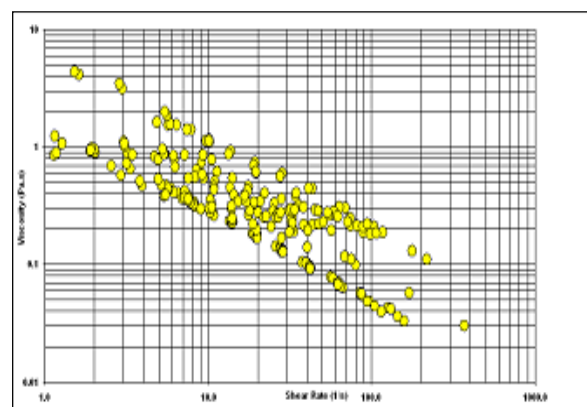
The predictive rheology correlations contained within the SRDB are unrivalled in the prediction of sludge rheology.



Further development

Further developments of SRDB tabled for WWM7 include integration into other software tools.

On the agenda are tools for Sludge Blending Tanks and Anaerobic Digester Mixing Systems.





SLOT offers an unrivalled, rigorous and user-friendly method to calculate system losses for non-Newtonian sludges.

The Sludge System Losses Tool (SLOT)

Thick sludge pumping within wastewater treatment works and over longer distances has become increasingly important due to increasing volumes, concentrations and types of sludges being produced. The ability to quickly and accurately calculate system losses is essential for the selection, evaluation and optimisation of sludge pumping and processing equipment.

The Sludge System Losses Tool (SLOT) is based on cutting edge calculation procedures and loss coefficients. It provides the most accurate assessment of system losses, for non-Newtonian sludges, currently available. It covers a wide range of pipe fittings and is presented in an easy to use format.

Benefits of applying SLOT

- Capital cost savings through improved equipment selection & system design.
- Operating cost savings through lower energy cost (incl. reduced Carbon footprint).
- Lower labour costs.
- Higher process throughput.
- Reduced risk of failure through poor design.



Proposed development of SLOT

Further developments of SLOT capabilities are currently tabled for WWM 7. These include:

- Expansion of fittings database.
- Manifold & branch losses.
- Dynamic flows and pump start-up.
- Gassing sludges.

Further information

BHR Group held the first Open Day event to promote the 7th phase of their Water and Wastewater Modelling (WWM) research programme. Particular attention was paid to showcasing the groundbreaking Sludge Rheology Database (SRDB) and System Losses Tool (SLOT) together with presentation of the advantages and benefits of both databases.

To obtain the video, proposal and presentations of the event please contact:
Emile Thomas (Tel: 01234 756567 / Email: ethomas@bhrgroup.co.uk)

U-42

Office contact information:

Telephone: +44 (0) 1234 750 422
Facsimile: +44 (0) 1234 750 074
Email: contactus@bhrgroup.co.uk
Website: www.bhrgroup.com

The Fluid Engineering Centre
Cranfield, Bedfordshire
MK43 0AJ
United Kingdom



Global Experts in Fluid Engineering