

Performance Of A Filter Medium

The investigator who determines the pore-size distribution via a filtration test fools himself for many reasons.

The filtration efficiencies of different-size particles depend on a long list of variables, such as the natures of the mix of fluid, particles and temperature. Other variable include the thickness of the medium, and the fluid-flow rate.

And, strangely enough, two different schools each teach two different ways of reporting filtration efficiency vs. particle diameter. Yet many writers fail to know the differences and believe the two terms (and some times three terms) reflect the same measurement

The life or capacity of a filter medium refers to the volume of a stream than can be fed before the medium loses permeability. Many years ago writers expressed loss in permeability with time via four different mathematical expressions, ranging from the desirable cake filtration to quick-blinding of the pores.

Yet, current writers, when reporting loss of permeability with time, simply provide a linear-linear plot of loss with time. They should have just provided a tabulation to save valuable page space. The knowledgeable writer will plot data on log/log paper from which he can readily see, from curves of reference, where his data fell, between the two extremes of cake filtration and quick blinding