

The last material is manufactured as cubes 0.65 mm. It is ~~designed~~ to be easy to recover from slimes, to give suspensions up to 2.0 ~~slimes~~ cause low pump wear. It is used in the MIIKE process in Japan.

Medium solids must be non-reactive, non-corrosive and non-toxic ~~they~~ should not slime. During use, the material is subject to abrasion ~~in pumps~~, to contamination with waste material and to dilution with wash ~~water~~, therefore a low cost recovery and regenerative process based upon ~~the~~ characteristics of the material, must be possible. The density of the ~~material~~ is important. The separating density (R) of the bath may be expressed as:

$$R = \frac{\text{total weight}}{\text{total volume}}$$

$$\text{or } R = \frac{W}{p + W(1-p)}$$

where W = S.G. of medium solid

P = fraction of solid medium in the pseudo liquid

Alternatively:

$$p = \frac{W(1 - \frac{1}{R})}{W - 1}$$

Obviously the higher the density of the solid the lower the ~~percentage~~ of solids and the lower the viscosity of the bath.

The apparent viscosity of the pseudo-liquid may be determined by means of a viscosimeter such as the Stormer. When automatic control is used the viscosity, bath turbulence and flocculation of medium should be ~~controlled~~ so that density can be controlled within the limits ± 0.01 . ~~Density~~ control may be by bubble tube, differential pressure cells (D.P.) or nucleonic devices.

PROPERTIES OF MAGNETITE MEDIA

The density of pure magnetite is 5.18 and for use in dense medium separators the value should not be less than 4.7. Pure magnetite is strongly magnetic and this physical property is a major reason for its use since it can be recovered and cleaned by magnetic separation. The saturation moment for magnetite is 92 e.m.u. per gram and this property may be used as a measure of purity. Values below 92 indicate the grade, e.g. a value of 65 would indicate $\frac{65}{92} \times \frac{100}{1}$ or 70.5 per cent. magnetite in the sample. The coercive force measurement for magnetite should be low, for example less than 50 oersteds. Higher values indicate that, due to particle orientation, the magnetite may not be recovered by magnetic