

Briefly introduction of flotation process



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Flotation machine is applicable for the separation of nonferrous metal and ferrous metal. It is also used for separating nonmetal, such as fluorite and talcum. The impellers are driven through V- belt transmission, which brings centrifugal effect to form the negative pressure. On the one hand, the flotation machine inhales sufficient air to mix with ore slurry; on the other hand it stirs ore slurry and mix with medication to form the mineralized froth. By adjusting the height of flashboard to control the liquid level and make the useful froth scraped by loam board. (1) Selective flotation flow sheet.

The process can recover useful minerals according to the difference of mineral floatability. For example, in the mixed flotation of Cu, Pb, Zn, S, we can select Pb and restrict Zn first, and then activate and select Zn. It is suitable for coarse grain and rich ore. (2) Collective flotation flow sheet. Which is also called mixed flotation process. It first emerges all useful ore together, and then separates them gradually. This is a common polymetallic sulphide ore flotation process and applicable to the raw ore of low grade, mineral density symbiosis, and similar floatability.

Under whose effect, useful minerals are disseminated collectively, and we can get mixed concentrate and waste tailings by rough grinding. Compared with Selective flotation flow sheet, the process has the advantages of saving floating grinding equipment, reducing power consumption, saving medicine and infrastructure investment. But they are not prominent in treating rich ore. Disadvantages are the subsequent separation difficulty if given excessive catching agent in flotation, poor selection index if nature of the ore is complex and changeful. (3) Partial mix-flotation.

It first floats certain kinds of useful minerals, restrain other minerals, then activate and float restraint minerals. The earlier mixed concentrate has to be floated again, and then we get the qualified concentrate. However, we it shouldn't be adopted when the floatability are not similar. (4) Isolability flowsheet. When a same mineral contain different floatability parts, we can use such process. Selection is according to floatability. In the flotation of main mineral, we can float the other parts of identical floatability first, and form mixed concentrate, then separate.