

## Cement Mixes

For the manufacture of various cements including

- Portland cement
- Portland blast furnace cement
- Portland pozzolanic cement
- Portland fly ash cement
- Portland oil shale cement
- Portland limestone cement
- Portland fly ash cement with slag
- Slag cement

from diverse raw materials, various techniques are used from the field of dry mixture technology.

The required homogeneity specified by DIN 1164 (EN 197-1) for the various cement components is reached repeatedly and with highest levels of mix quality with the batch operating AVA Turbulent Mixer Type HTC and the continuously operating AVA Turbulent Mixer Type HTK.

**The decision regarding whether to manufacture the cement mixture in batch operation or as a continuous process depends primarily on the following factors:**

- The number of components to be mixed
- Frequency of formula change
- Automation requirements
- Desired throughput capacity

Continuous operation is primarily used where the formula generally remains unchanged for several days or weeks. The requirement for this is that not more than four components are to be mixed. If this is the case, then a pre-mix of minor components is necessary. The degree of automation for the entire plant is generally high, as all of the processes run continuously.

**AVA continuous mixer**



**AVA batch mixer**



If there are frequent changes in formula or colour, the usage of the AVA batch mixer is recommended, as experience shows that generally more than four components are used and several formula changes are undertaken per day. The degree of automation is variable, as even the smallest quantities of components can be charged into the mixer by means of a manual hopper

The challenge for the mixer is to produce a homogenous mixture with batch cycle times (loading / mixing / discharge) between 2 and 5 minutes with an extremely small variation coefficient.

Choppers can be integrated into the side of the mixer drum in order to support the main agitator. These high-speed choppers ensure for additional dispersing of small components, especially for colour pigments, and for preventing agglomerates.

As the raw materials used in the production of cement mixes are very abrasive and cause extremely high wear, the paddles of the AVA mixing blade and the knife blades of the chopper are equipped with a tungsten carbide coating in order to considerably increase durability.

Special discharge flaps are used which open along the entire length of the mixer, serving to reduce discharge times and enabling a largely complete emptying of the batch mixer to be achieved, amounting to > 99.5% discharge.

#### **The main advantages for the customer at a glance:**

- 100% reproducible mixing quality
- High durability
- Choice of batch or continuous operation
- Higher useful volume
- Excellent discharge
- Short batch cycle times

