

India's first modern pan automation project with crystal monitoring system

A farsighted decision by Balrampur Chini Mills

In order to get rid of the semi automatic pan automation systems which apart from their name add no value to the pan operation and the pans still require to operate manually, Balrampur Chini Mills (BCM) management took a farsighted decision to implement a modern pan automation system in one of its units as a pilot project. For this project, one 80 t, A masseците batch pan was selected at their Akbarpur unit.

After proper engineering and customization to make the automation system suitable for the operational requirements, I PRO INDIA implemented the *pan^{plus}* automation system. It is India's the first modern pan automation system based on intelligent algorithms to control the entire pan operation automatically without human interference. To start the system, only a couple of parameters are required to enter e.g., strike type, final dropping brix and level. Afterwards, pan operation is fully automatic until the pan discharges and gets ready for the next strike.

This system also included an optical crystal monitoring system to monitor and analyse the crystallization development and it provides important information like CV, MA, crystal growth, crystal size distribution, fines development etc.

The process improvements achieved are also very encouraging.

- Strike time reduction by 18 %
- No movement water required
- Exhaustion improvement by 0.7 units

After the success of pilot project, BCM implemented the *pan^{plus}* automation system at their Mankapur unit on all the product pans.

