



# case study

## Avana Bakeries – smoother cake mix production with John R Boone Mixers

John R Boone Limited, of Congleton, have supplied mixing equipment to Avana Bakeries. The new equipment is a horizontal helical blade mixer, featuring a unique combination of rapid, gentle mixing with a tipping action to provide complete discharge of the unit into mobile containers.



Avana, part of Premier Foods, is a major manufacturer of cakes, puddings and desserts, supplied from their large site near Newport, South Wales to major retailers all over the UK.

The challenge for John R Boone was to provide a Mixing system which could mix everything from wet cake mix to sugar-paste quickly, give an even, homogenous blend, while at the same time providing a very gentle mixing action. Some of the mix materials, for example glace cherries, are relatively fragile and must not be damaged by the mixer.

Sugar paste on the other hand has to be produced in a wide range of viscosities to both cover cakes evenly and produce decorative figures to stand on the cake.

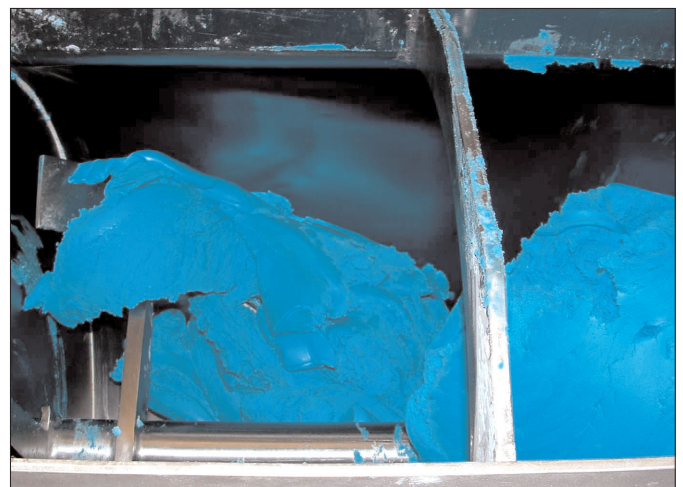
Following extensive tests at Avana's Newport site and detailed discussions with the production and engineering team Boone's solution was to provide a horizontal helical blade mixer (HHBM), the mixer blade (agitator) consisting of a double "interrupted" helix designed to lift the product equally inwardly, outwardly and obliquely in a criss-cross flow within the mixing trough. The HHBM design has a short aspect ratio, i.e. is "short and tall", which helps to provide a very good

end-to-end mixing action in a short time. A key, patented, feature of the HHBM is the way that the agitator arms are connected to the shaft of the mixer, with blades then mounted on the ends of the arms. In this way, adherence of the mix to the blades and arms is minimised, aiding discharge and cleaning.

The mixer also features a "rotating trough" discharge, where the mixer body (the "trough") rotates upwards to provide a comfortable loading height and down to discharge into mobile containers. In addition the mixer can also be supplied with a heating or cooling jacket and an agitator which can be easily removed for cleaning or to be changed for an alternative configuration.

The fully integrated Mixer Control system provides variable mixing intensity and flexible recipe management with an IP67 Inverter drive and touch screen input (HMI) to give 50 programmable recipes with up to five mixing steps (10 Timers) in any blend.

As is often the case once the operators have had time to use the system better ways of working have been proposed and now adopted with additions to the control software being easily retro fitted to the existing mixers.



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