

Sanding automation and adapting to change

By Bob Kory

Remaining competitive always inspires us to search for improvements but there are other circumstances that also make us wonder how reliable and effective a production system could be if new technology were implemented.

Bottle necks are all too common and their causes will vary but dealing with them as soon as possible is ultimately the best policy. Some changes are left late and may be long overdue but as soon as they are implemented make positive benefits especially when faced with continually rising costs. Ironically, just as the current high Australian dollar does increase competitive pressures from imports it also represents an opportunity to introduce technology at competitive rates.

Discovering suitable sanding technology and making the right choice for a usually labour intensive finishing system is the key and, while requiring a new set of skills, will become comfortable after training and practice.

Starting points will vary considerably depending on scale, and can start from a manual system and then progress right through to robotic solutions as a production system is constantly reassessed.

most important for quality results, can then move forward from there. However, the machining quality of MDF can be challenging, varying from mill to mill and batch to batch and, if that results in ordinary machining and is passed onto the finishing section, then the best solution is to have enough edge sanding stations available. This provides the opportunity to switch on a full complement of sanding heads to make the necessary corrections all in one pass to cope with the worst case scenario. In which case, size tolerance may have to be adjusted. It's also easy using this equipment to cope with variations in paint application, but paint application improves and can also be perfected once consistent preparation sanding is achieved with automation.



Allen Gray with a programmable seven head Southern Contours edge sander with controlled feed and sanding pressure. The custom built head selection allows greater scope for perfection and productivity improvements.



Edge sanding an edge with a two head edge sander:



Allen and Paul Gray at the family business – Marquis Bathroom Products, edge sanding with a single head Flex Trim Brush sander.



A Flex Trim 3D brush sanding robot (up to six axis) on a high capacity production line in Denmark.



Raw MDF and painted parts before and after edge sanding through the nine head Southern Contours edge sander

Processing raw materials requires excellent calibration whether it be solid timber, which can have issues, or MDF substrate. Preparation sanding, which is

There are very good reasons to change. Can you imagine the beauty of having nine edge sanding specialists available (a nine head machine) ready, willing and

able every day, each with specific sanding skills to tackle a job after the initial head selection is made and set up and abrasive replacement cycle established. Parts can then simply be fed through four times in the case of a door; and each individual head does its particular sanding to perfection on every edge as it passes through, time after time.

Entry level can start with a single head machine and goes up to a 10 head machine. These have been customised in by us based on the Australian and international experience of Flex Trim and the needs of the Australian finishing industry. Recycling parts with this automation is also possible by efficiently removing old coatings with the correct Abranet grits and abrasive turnover:



Face sanding is the next area of opportunity for automation and there are various complementary surface sanding processes, which follow on after belt sanding and edge sanding is completed. Budgets will vary and so will sanding results and feed speeds so identifying the best solution is important.

Some of the above solutions for sanding will be on show with demonstrations available at the AWISA exhibition on stand 4232.



Dust free surface calibration orbital sanding with a Mirka Ceros compact electric sander

Profiled MDF doors being sanded and deburred through a MC nine disc brush sander:



Automated calibration orbital sanding with a Gottschild sander, which also has automated panel size recognition.



Left & top right: Profiled components being smooth sanded in four directions through a six head Unisander.