



# Discovering the missing link

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To help discover the missing link that could potentially replace a labour intensive bottle neck in a finishing process, **you first need to invest some "precious time" to take a fresh look** around at what is available currently to help you maintain your business into the future. Improving quality has always been a successful strategy.

It is comforting to know that the newly developed sanding systems manufactured by Flex Trim of Denmark, have been addressing the problems facing European finishers of rising local costs to produce goods against cheap imports for over 10 years. This is no different to what we face here in Australia

Cutting and shaping wood based work pieces, has seen enormous improvements in efficiency with time reduction. Also the end of the finishing process where finishes may be applied by pulling a trigger on a spray gun and then is further aided by specially developed heated booths for curing is also relatively fast, but preparing the work piece for the finishing process from my observations still takes the lions share of the available time out in the field. At first glance to some, it

may look impossible to make changes in the preparation area using automated means and there have been many attempts. However for those who have invested in the time to look at current fine sanding processes offered by Flex Trim and seen the test results and then applied Flex Trim in their own process have discovered to their delight, the benefits. Of course Flex Trim does not claim to have a 100% solution for absolutely every application, but **in some cases may solve up to 95% which only leaves 5% to be finished by hand**, for example in a zero square corner. But that is still a great advantage in a process.

It should also be noted that **every solution is not exactly the same** because of changes in materials and the quality of the machining. Flex Trim cannot convert poor quality materials like MDF substrate into the ideal material. In fact, shipments of board have been known to be returned to the mill because it does not meet acceptable standards and poor machining or calibration also cannot be miraculously repaired by Flex Trim, it is designed to improve quality and efficiency for labour intensive fine finishing. Some descriptions of recent installations out in the field are described for your interest.

### First Retro Fit

Early this year we completed the first Retro Fit, in Australia, of a used edgebander into a six (6) headed edge sander utilising Flex Trim sanding heads. It is very important to note that in a retro the feed track must be in very good condition to justify the retro



View from the rear of the retro edge sander.

fitting. The machine was stripped of all the working stations and then the new head arrangement refitted using Flex Trim sanding principles passed on from Poul Jespersen and his team in Denmark.

On completion the end result was a machine that could edge sand at a feed rate of up to 20 meters per minute. The first head (Position No.1) was the original belt sanding head. It was fitted in the No. 1 position in case there was a quality problem from the machining area and can if required re-calibrate the flat edge if necessary.

This was followed by the next four heads (positions No. 2+3+4+5), which are adjustable low speed and constant torque is critical, with forward or reverse capability. The motors were fitted with Flex Trim 180mm disc heads, the first pair were running clockwise and counter clockwise with a coarse grit and this is followed by the second pair, again running clockwise and counter clockwise but with a fine grit of sandpaper.

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Top view over the four disc heads.

Dialling in the heads for each particular job, was achieved by selecting the cuts, in the Flex Trim abrasive strips, the brush length, the RPM and pressure. The last head (No.6) was a 100mm drum sander, mounted on the universal stand and could be angled for sanding moulded edges.

**Cuts out repetitive hand sanding tasks**

After viewing the completed Retro edge sander, Vince Ziino, production Manager from the Schiavello group located at Tullamarine Victoria, wanted to give it a try in his panel finishing section to sand prior to powder coating. Panels were coming in with, four **off the**

**tool square cut edges and were automatically sanded and arised,** including all the edge face perimeters, both long and short. This ensures the finish coat has the critical thickness at these points. **No pre-shaping of the sanding strips is required** because the unique Flex Trim Sanding Disc or drum conforms to the shape of the work piece. The initial results for this task were very successful, confirmed by the fact there was consistent quality throughout a day, the doubling of output per day with two operators rather than three, and the relief of staff who were previously carrying out this repetitive task with a palm sander.

**Calibration problems addressed**

Vision form's Kevin Koch, located in Mildura also had tried many different approaches to solve his particular calibration problem of over cuts or under cuts resulting in unacceptable steps in bull nose or other profiles used for post forming. After taking time out to see the demonstration of the Flex Trim 180mm sanding disc to blend curves into a flat surface, was very confident – and supported by his engineering skills, to retro fit his existing edge sanding equipment with the 180mm sanding discs. He was delighted to also finally **improve quality and enjoy the labour savings** and improve delivery times.

**Builders insight an asset to operation**

I have found **in most successful outcomes there is always an underlying strategy to improve quality,** and the Australian Moulding Company located in Bayswater Victoria, is no exception. However Hugh Gilchrist, director of the company, also has some other advantages, as a builder with his insight into getting things done, is unique and definitely an asset to his operation.

Hugh had identified that supplying raw mouldings, most of which are MDF, was a thing of the past, because pre-finishing the moulding, whether it be skirting or

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Panels being fed through the machine.



The two discs at work on the edges of the moulding.

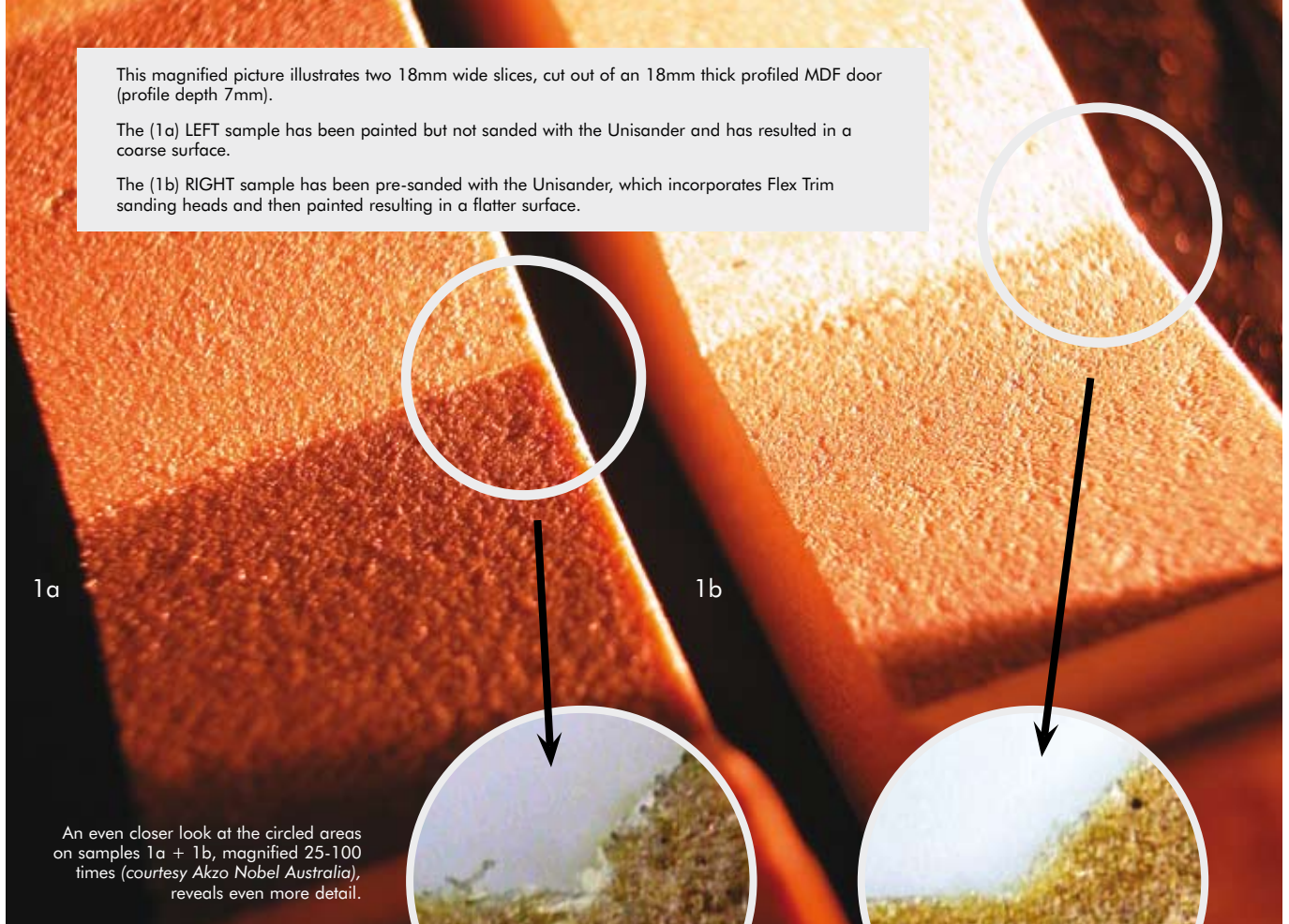


The 300mm drum at work on the face of the moulding.

This magnified picture illustrates two 18mm wide slices, cut out of an 18mm thick profiled MDF door (profile depth 7mm).

The (1a) LEFT sample has been painted but not sanded with the Unisander and has resulted in a coarse surface.

The (1b) RIGHT sample has been pre-sanded with the Unisander, which incorporates Flex Trim sanding heads and then painted resulting in a flatter surface.



1a

1b

An even closer look at the circled areas on samples 1a + 1b, magnified 25-100 times (courtesy Akzo Nobel Australia), reveals even more detail.

architrave etc. **a factory process would be far easier and quicker** and cost effective than passing it on to a painter to finish by hand after it had been fixed on site. So he has set up state of the art moulding and automatic finishing capable of running at 50 meters per minute plus. Hugh had not found a satisfactory sanding solution to complete his cycle, until he saw the results of a sample moulding he brought, sanded through the automated sander with Flex Trim and then finally by passing a piece of his moulding manually through our 630/630 sander. He was very impressed and was prepared to invest in a test rig with a Flex trim 180mm diameter overhead drum and two 180mm disc sanders.

Within a week not only had he set up a sanding section but also paid attention to the dust removal requirements by building an enclosure around the sanding station which works very efficiently. He was very happy with the initial results and found that he could now process

with consistent quality, raw sanding and post sanding (after Painting) at 9 meters per minute with this set up, output changed from 300 lengths (5.4 meters) per day with 3 people to 900 lengths per day with 2 people. **There was a noticeable reduction in the consumption of paint with an increase in output.** This is achieved because the fibre is cut back to the calibrated surface and the paint does not have to fill in between the valleys of fibre that is left standing.

Hugh's attention to detail and vision at AMC is also evident in his investment in Briquetting his saw dust, which will be recycled for generating energy, for drying at a later stage. However Hugh is now very confident to order his automated sanding system (4 heads) from his chosen

supplier based on the results of his test rig. This will have 6 Flex Trim overhead sanding drums, 4 Flex Trim edge sanding discs left side and 4 Flex Trim edge sanding discs on the right hand side. Hugh found the missing link was a "Flex Trim sanding solution" for his process and will be

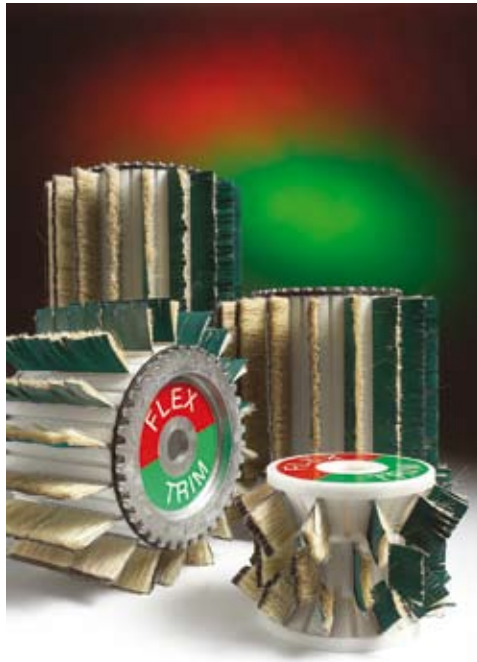
capable of running at 50 meters per minute plus while maintaining quality results as Hugh had envisioned.

1a) The circled area on left sample, illustrates the jagged perimeter, (peaks and valleys) across the perimeter of the profile and the extra paint needed to saturate the fibre and fill in the voids.

1b) The circled area on right sample illustrates the cleaner lines of the Flex Trim sanded profile and the more even and economically painted surface.



Moulding after sanding and painting.



Quality • not only on the surface



Sanding Heads for:

- Edge Sanding • Moulding Sanding
- Profile Sanding • Flat Sanding

