



Revolution in metal door production:

A quantum leap at Fireblock

In the heart of Ireland, Fireblock, a visionary manufacturer of fire and explosion resistant doors and windows, has achieved a remarkable breakthrough in metal fabrication. By implementing advanced technologies, the company has managed to increase productivity fivefold while establishing new quality standards.

Technological pioneering work:

Fireblock's commitment to innovation and quality is illustrated by the statements of General Manager Pat Collins. „Our mission was not only to increase efficiency, but also to improve the precision and ergonomic efficiency of the process,“ he explains. To achieve this, Fireblock integrated a fully automatic RAS Multibend-

Center bending center into our production line to bend its door panels. The machine has a bending length of 2560 mm and is completed with a 2-place gantry loading system, which alternately feeds a sheet metal blank for the cover and the box of the door leaf to the bending cell. The second RAS machine automatically bends the elements of the door frames: the RAS ProfileCenter.

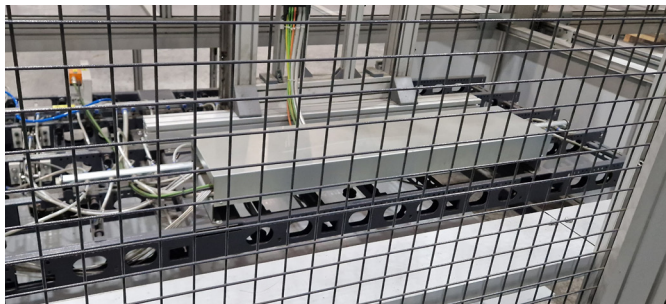
Precision in every detail:

The RAS machines impress with their speed, precision and repeat accuracy. „Every element we produce corresponds exactly to the given specifications. With fire protection products, this level of accuracy is essential,“ emphasizes Collins. This precision has enabled Fireblock to virtually eliminate rejects and rework and achieve a significant increase in quality.



Automation as the key to success:

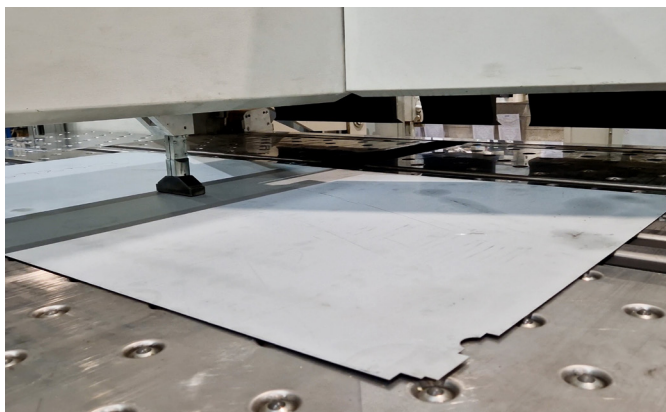
The automatic 2-place gantry loading system has revolutionized the production processes at Fireblock. By automating the entire loading process for the heavy and unwieldy sheet metal blanks, the Multibend-Center has raised the throughput speed and repeat accuracy in the production of door panels to a whole new level. A laser scanner in the suction frame of the gantry loading system reads all production-related information via a QR code attached to the blank. The Multibend Center then automatically loads the appropriate bending program and feeds the sheet metal



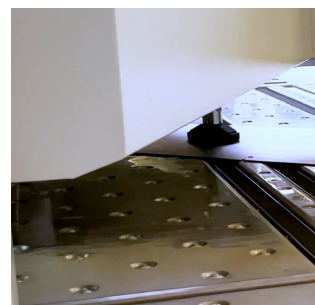
blank to the bending center. The exact position of the blank is measured on the material transfer table and then transferred to a high-precision manipulator, which guides the bent part through the bending process. If a sheet metal blank needs to be fed into the process by hand at short notice, the operator can do this at any time by handing it over to the transfer table. This creates maximum flexibility without any loss of speed.

Speed meets ergonomics:

The RAS Multibend-Center is characterized by its high speed and efficiency. Not only are the pure bending processes carried out in record time, but the tool change is also lightning fast and automatic. This is the task of the tool changer, which positions the tool



segments with maximum precision. Due to the complex bending geometries, it is even common for a tool change to take place during the bending process on a door leaf. Many bending geometries would therefore be inconceivable without automatic tool changes. This enables Fireblock to produce sheet metal components in record time without having to compromise on quality. It used to take two employees and ten minutes to produce a door panel on press brakes. The machine operators had to be well attuned to each other and lift and guide the large and heavy blank for each bend. Today, a single machine operator looks after the bending center without actively intervening in the bending process. This means that a bending cycle can be completed precisely and repeatably in just two minutes without any physi-





cally strenuous work. This not only brings considerable cost benefits, but also protects the health of the employees. This ergonomic improvement has significantly added to the manufacturing efficiencies at Fireblock.

Use synergy effects:

Through the combined use of the RAS ProfileCenter, Fireblock also achieves significant improvements in precision and speed in the production of door frames. Where it used to take several employees 15 minutes to produce a metal door frame, this can now be done in four minutes with just one employee. In addition to the increase in efficiency, the automatic bending of the frames also brought a leap in quality, particularly in the further processing of the frame elements. The side sections are inserted with the top section in prefabricated templates and can be welded together to form a complete door frame without any preparatory work. The Multibend-Center is not only used for door panels it also bends sheet metal parts from the Fireblock range and also associated companies. This production synergy has not only increased the capacity utilization of the bending center. With its unbeatable flexibility and maxi-

mum precision from production part one, the Multibend-Center is an ideal match for the requirements profile of the Fireblock product range components. With automatic loading via two loading stations, the production process has already reached a high level. A further increase in productivity would be possible with automation on the outfeed side of the finished bent parts.

An outlook for the future:

To this end, Fireblock is planning further optimizations at the Multibend-Center, particularly in the area of parts dispensing. The use of an unloading robot and a pallet station promise even greater efficiency. The RAS bending experts are looking forward to supporting these forward-looking developments.

Conclusion:

The implementation of RAS technologies has catapulted Fireblock to the forefront of the metal fabrication industry. The combination of increased productivity, improved quality and ergonomic working conditions has not only strengthened Fireblock's competitiveness, but also cemented the company's role as a pioneer in the industry. This investment in the advanced technologies of the RAS Multibend-Center and the RAS ProfileCenter has paid off in many ways, making Fireblock a world leaders in their segment.

