

WORLD PRODUCTIVITY RECORD

for the new PEDRINI "modulmarble" line.

The new finishing line for 1-cm thick tiles with width from 300 to 610 mm, on the 300-mm width, operates at a speed of **12 m/min** with a productive capacity close to **200 sq.m/h**, equal to over 1,500 sq.m for each 8-hour working shift.

The system has been realized for MARGRAF in Chiampo (VI); it has been mounted in March 2006 and has reached its standard operation within a few weeks.

Its length of about 150 m enables it to process all marble and limestones nowadays available on the market.

MARGRAF, showing a great far-sightedness, has been inspired by the typical processes of the ceramic production, organizing its own one through the PEDRINI technology and feeding the finishing line with single-sized semi-finished pieces, carefully positioned on a pallet plane and thus easy to control by automatic systems.

These thickness-calibrated semi-finished pieces feature a width very close to the rated dimension and are longer by 3 cm than the finished product.

The finishing line processes the semi-finished pieces, solving the problems linked with the production speed and meeting the required quality standards.



The semi-finished pieces come from a splitting machine with thickness of about 11 mm, then are gauged and pre-polished by the first Pedrini unit to a thickness of 10.2 mm.

To reach this extremely high operating speed of **12 m/min**, this unit removes material up to 3,000,000 mm³/min. A great power is thus applied on each semi-finished piece, without any risk of breakage thanks to the use of rollers with high diamond concentration and working sloped to the movement direction, thus distributing the removal effort on a longer section of the semi-finished piece.

Further, the processed width can be quickly changed by modifying the roller sloping.

The great innovation is not only this speed, never reached before, rather also the high flexibility of the line in controlling different sizes, without reducing the overall performance.

The following masticating, if necessary, is automatically performed by a system of distributors applying the resin evenly on the pre-polished surface. A high capacity oven then solidifies the resin.

Polishing is easy thanks to the special patented ROTOR spindles, already used for years by PEDRINI on the polishing machines.

These spindles operate with such a high sensitivity to ensure the top surface finishing, independently of the processed material and of the processing speed.

Grinding and chamfering steps on the sides parallel to the movement direction prepare the semi-finished pieces for the cross cutting/squaring, with well parallel reference sides already cleaned from possible resin residues.

A special technology has been used for the cross-cutting on the finished length, that for 330-mm long semi-finished pieces involves processing 36 pcs./min. This technology has efficiently solved the problems of this process step.

A squarer aligns the semi-finished pieces perfectly orthogonal to the disk cutting direction, while an individual fast locking system prevents them from moving during the cross cut.

The cross cutting/squaring machine crossly cuts 20 semi-finished pieces each time in 33 sec, so as to ensure keeping the operating speed of 12 m/min.

The last unit chamfers the 2 cross-cut sides and the tiles, that have now completed their productive cycle, are transferred to the individual electronic control station to have their dimensions and orthogonality checked, to ensure the required quality level.

