

Quadra, 74130 Contamine-sur-Arve, France

# The manufacture of wet-cast gravel boards: high-performance, state-of-the-art production plant

**With a large range of colours, formats, structures and finishes, the gravel boards market is growing in the modern landscaping industry. Maes Betonfabriek, based in Dessel, Belgium, is one of the main manufacturers of concrete fencing in the country. Founded in 1949 by Karel Maes, this family-owned company is currently managed by his sons, Luc and Dirk Maes, and the upcoming generation is already active in the company. With more than 50 years of experience, Maes Betonfabriek manufactures and markets a large range of concrete products.**

The strong suit of this company is the sustainability, variety and contemporary design of its products. With a daily production of about 200 tons of concrete, Maes Betonfabriek is equipped with four wet-cast production lines supplied by Quadra, the equipment manufacturer. The partnership between both companies began with the delivery of the first Difal machine in 2006. Faced with the technical and aesthetic requirements of the products and the growth of the business, Maes Betonfabriek quickly became interested in a modern, automated and efficient industrial solution, designed and manufactured by Quadra. Fully satisfied with the specific adjustment that was achieved and the optimal operation of the machine, Maes Betonfabriek extended its partnership in 2017 for the commissioning of the 4<sup>th</sup> production line. The experience and impressive know-how of the equipment manufacturer Quadra has been a valuable advantage.

## Production automation : high-class product, entirely reproducible within high output

The growth of the gravel boards in the landscaping industry has raised high expectations in terms of variety and aesthetics. The high quality and sustainability of the surface texture and the range of the colours are technical standards to consider during the manufacturing process.

Automated production of this kind of product enables a large variety of products while being completely reproducible.

The Difal 2200 plant allows the manufacture of a large range of wet-cast concrete products such as fencing, coping, window sills, etc. with a size of 2,000 x 500 x 35 mm. The plant is made up of one manufacturing station equipped with an automatic concrete dosing system, one curing and handling facility operating with a travelling crane, and automatic demoulding and palletizing stations.

Easy to operate, use and maintain, this machine only requires one operator to control the line and does not require any civil engineering during the set-up.

The average cycle time is 30 seconds, allowing production of about 500 to 800 fences of 2,000 mm x 500 mm per shift.

Driven by PLC (programmable logic controller), cycle launching is automated and carried out from the control desk by means of an easy-to-use module. The modern, comprehen-



Type of products manufactured by Maes Betonfabriek with the DIFAL 2200 plant



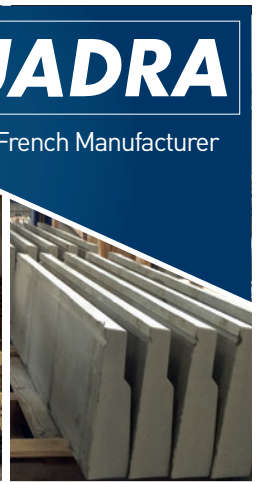
Automatic mould filling and dosing system



Automatic mould handling

sive control software, is entirely designed by Quadra, and enables adjustment of machine settings within manual or automatic mode. A backup system and automatic moulding settings recovery are programmed by type of manufactured product.

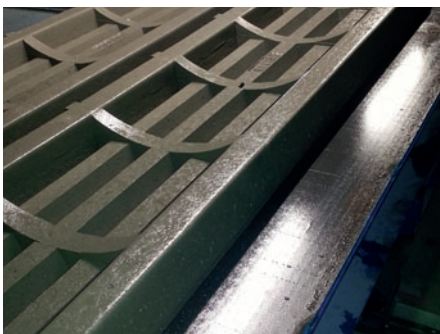
All the handling operations such as demoulding and storing are automated and occur during manufacturing. Any down time is prevented with optimised productivity. This plant benefits from a curing area operating by travelling crane. This system allows high efficiency and high productivity



**QUADRA**

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Storing by travelling crane

during mould handling. The travelling crane completes the mould handling from the manufacturing station to the curing area, from the curing area to the demoulding station and from the demoulding station to the manufacturing station.

The automated curing system enables retrieval and handling of moulds according to their curing state. The driest stored products are therefore automatically handled first.

The demoulding operation is done by vacuum aspiration for quick, precise product demoulding.

**Equipment Ateliers du Loir:  
a convincing technical solution**

The Atelier du Loir range of equipment is designed to offer high performance, while improving work conditions.

This stationary machine eliminates all moves during the manufacturing process. Fully automatic, the Difal eliminates



Demoulding operation

manual handling and demanding, time consuming operations such as mould handling, demoulding and palletising, and thus enables cost-effective manufacture of high-class products.

Quadra offers custom designed and manufactured equipment, adapted to production needs, forecast production rates, and type of manufactured products. As manufacturer, Quadra ensures the full realisation of this equipment from the study to the commissioning. Specialised in this kind of equipment range, Quadra is able to satisfy any kind of automation project in wet-cast or dry cast production, in Europe and worldwide, from existing equipment and processes. Production lines are customisable and may be evolutionary with some manual operations, and others semi-automatic or fully-automatic. ■

FURTHER INFORMATION



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