



MARLEY ROOFING

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INNOVATION TECHNOLOGY

originating in Italy

Innovative solutions and creative ideas have for many years not only provided more wealth generation to

Vortex Hydra customers but have also made the customers lives a lot easier with regard to operational methods and systems.





ADD automatic plastic wrapping or plastic shrink wrap machinery

INTRODUCE a high quality packaging unit such as an automatic robotic machine for:



handling

Soft product handling



flexibility

Integral flexibility enabling different timber pallet loading configurations



automatic placement

Automatic placement of vertical cardboard/plastic divider boards between strapped bundles



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WITH 50 VERY SUCCESSFUL YEARS OF INNOVATION NOW BEHIND US VORTEX HYDRA NOW LOOKS FORWARD TO THE NEXT 50 YEARS – AS AN ITALIAN COMPANY WITH A PROVEN TRACK RECORD OF CREATING INNOVATIVE SOLUTIONS VH STILL HAS LOTS OF NEW IDEAS TO BRING TO FRUITION IN COMING YEARS.

VH is very active in many different sectors of the construction industry. Today the company is not only recognized for its worldwide leadership in the specialist field of concrete roof tile manufacturing machinery but also for the enormous contribution it makes to the international hydraulic works industry as a supplier of heavy duty customized valves and gates. In recent years, VH have also pioneered the automation of wet cast concrete production systems.

VH originated 50 years ago in 1967 when a group of young qualified engineers combined their forces to become active in the design and manufacture of industrial automation solutions. They became design specialists for production technologies which included the development of automation for clay products, prefabricated production plants and mechanical water control solutions for dams, rivers, and waterways.

Without any doubt whatsoever the skilled technical staff of VH have proven over many years that they can analyze and resolve technical problems and challenges face on. The comprehensive range of Vortex Hydra machinery is recognized worldwide for both its high quality and strength with many machines still in operation 45 years later.

It was in 1974, that VH built its own facility for the manufacture and production of its own engineering products in Ferrara, Italy.

The construction sector is a very important industry for the company's activities whereupon VH offer their customers selected solutions from a very comprehensive range of semi and fully automatic roof tile manufacturing plants ranging from 500 to 80,000 high quality roof tiles per day and when required the customization of different systems to suit the customer's particular production needs. In addition to supplying plant and equipment VH also offer their customers a choice from a very wide range of different roof tile profiles that includes roof fittings and accessories. Furthermore, VH has the design expertise to custom develop new tile profiles when required including lightweight roof tile solutions.

The innovative 'patented' successful ROTARY RACK tile production system has given endless number of customers the competitive edge over other tile manufacturing organizations by the optimization of an efficient product handling and heated curing system. The ROTARY RACK system is a fully automatic revolving steel rack that allows newly produced wet manufactured tiles to be evenly cured over a minimum pre-set period resulting in the early release of aluminum pallets back into the manufacturing process for re-use.

VH is very active in the hydraulic works industry as a manufacturer and supplier of large heavy valves to control water flows and gates used in the construction of dams and waterways. VH has operated as a partner on many different international dam construction projects.

VH continually invests in finding solutions that are both rational and manageable within the construction industry with emphasis placed on simplification and the ease of implementation. The approach will be futuristic with the objective of solutions created to last for many decades.

One of the newer business concepts devised by VH is that of wet cast production for the re-production of a natural stone finish on a manufactured concrete cladding stone by the employment of special rubber moulds. In this regard VH have recently developed a new patented technology named the Brush Demoulding System®. This system significantly increases the level of plant automation and enables the finished product to be automatically removed from its rubber mould so minimizing labour involvement. Other advantages gained are the control of the product quality, a higher level of safety and a reduction in heavy manual tasks for the operators.

With regard to the introduction of digital controls VH is developing its own IT management software solutions. The machinery comes complete with 0 & M manuals that give a summary of the machinery settings, replacement spare parts, maintenance times involving operators, quality control and also considerations for the health of personnel– this is an additional service VH offers its customers over other machinery suppliers. It is for increasingly important for customers to plan ahead with regard to their annual spare parts requirements so as to ensure continuous production, their scheduled maintenance needs and to reach the required product quality.

VH although originally active in Italy has today a substantial customer base all around the world including Europe, Africa, Asia and the Americas. In addition to its head office in Ferrara, northern Italy, the company also operates from different bases in Australia, Brazil, China and the United Kingdom. The firm has a total of 60 employees and achieves an annual turnover of over 14 million EUR.

For the future, Vortex Hydra is looking for sales representation in Africa, Asia and South America.

VH first entered a business relationship with Marley, RSA over 20 years ago when they supplied a small extruder to produce customised rake tiles. In subsequent years the relationship grew with Marley RSA entrusting VH to become more active with the various upgrades to all their roof tile production facilities throughout South Africa over the following 10 year period. Marley's objective was to improve production efficiency whilst at the same time reducing operational and maintenance costs.

VH rose to the challenge and successfully provided Marley, RSA with the following production plants over that period of time:

In the year 2006 VH supplied and installed the following production plants and equipment in the Ekangala factory:

- 1no. Fully automatic 120 tpm 'Rotary 45' production plant for the manufacture of 'Seawave 5' roof tiles.
- 1no. 'Rotary 12' 40 tpm production plant for the manufacture of trim tiles.
- 1no. 120 tpm extrusion machine with 60,000 aluminum pallets to replace the previous supplier's aging equipment.

In 2007 the proven high efficiency of VH plants supplied in the previous year led the way for Marley RSA to make further investment in the following additional VH plants:

- 1no. Fully automatic 120 tpm production plant for the Cape Town factory
- 2no. Automatic packing machines each of which was to operate with other suppliers' existing production machinery at both the Ekanga and Olifantsfontein factories.

In 2008 VH supplied and installed:

• 1no. Automatic 120 tpm racker/deracker machine at the Olifantsfontein factory.

In 2009 VH supplied:

- Substantial quantity of steel curing racks to be used with another supplier's existing machinery.
- Various supplies of aluminium pallets to integrate with and/or replace existing aluminium pallets already being used on existing production lines.

Over the next four years Marley RSA reduced their investments in new capital plant and equipment although throughout this period they became a major customer in the purchase of VH spare and wear parts.

Between 2014 and 2017 Marley re-commenced their investment programme with the acquisition of the following VH plant and equipment for their South Africa operations.

- 1 no. 120 tpm Extrusion machine together with new aluminium pallets to replace a previous supplier's aging plant in the Durban factory.
- 4 no. Automatic 120 tpm robotic palletising systems for their Ekangala, Cape Town and Durban factories.
- 1 no. 120 tpm extrusion machine together with aluminium pallets to replace a previous supplier's aging equipment at the Olifantsfontein factory.
- 1no. Automatic 40 tpm trim tile packing machine to be used with the Rotary 12 plant at the Ekangala factory.
- 2no. Semi-automatic 15 tpm ridge and rake tile production plants for the Cape Town and Durban factories.
- Various aluminium pallets supplies

In summary we are proud to announce that all Marley roof tile manufacturing factories throughout South Africa plants are either fully or partially equipped with Vortex Hydra systems. In addition to this, VH also supplies plant and parts to other Marley factories operating in other countries such as the United Kingdom.

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this is a company that has set the bar for the industry, and rather than resting on their rightly earned laurels they instead seek out new challenges every year.

The latest challenge they have taken on is the affordable housing market, one they see as ripe for growth, and Marley Roofing is meeting this challenge by pioneering a total roofing solution that will pave the way for dramatic improvements in the quality of low cost housing roof tiles. But that's just the latest milestone in the Marley Roofing journey, and they are always looking for the next one.

BACK TO THE FUTURE

Another reason that Marley Roofing is able to do this is the clear corporate vision the company has. Everything they do works towards their goal of being the preferred supplier of quality roof tiles, as they put it "dynamically preserving the future". They do this by upholding principals of sustainable development in such a way that benefits the company, its employees, their community and the environment. They work to provide quality roof tiles and an inherent commitment to the environment while offering excellent service to key market sectors across Greater Africa. Their mission is upheld by a rock solid foundation of values that include integrity, respect, reliability, trust, commitment, excellence, innovation and sustainability.

However, while the company is decidedly forward looking in its approach, it's impossible to deny they have a long and proud history. Marley started producing roof tiles in May 1971, shortly after investing in a fully automated factory in Olifanstfontein, Gauteng. That plant would produce the Mendip and Ludlow concrete tile profiles. From the very beginning Marley Roofing was recognised for its quality products and customer service, and soon the company was facing rapidly growing demand for its products.

From this fine start the company grew and moved from strength to strength to become the leading manufacturer of sustainable concrete roof tiles in the South African market and beyond. The rooftops across the country are protected by Marley's wide range of roof tiles, all of them blending performance-proven

> properties while also, importantly, looking really good. Throughout its history

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A HISTORY OF MILESTONES

In their first fifteen years of operation, Marley Roofing established three fully automated plants, not only in Olifantsfontein, but also in Ekandustria. By 1990 they had entered the market in KwaZulu-Natal, and over the next ten years they would develop their modern slate tile and designer range while computerising their stock control and mechanical handling.

By the turn of the century they were joining the Etex Group, and around this time a flurry of awards came their way, with the company becoming the trophy winner for the CMA National Award in 1998, 2000, 2002, 2006, 2008, and 2010. During this period they also developed their state of



KwaZulu-Natal factory, while introducing a new tile plant and Double Roman "Plus" concrete tile for their Marley Ekandustria factory. In 2008 they opened up yet another factory in Cape Town to service the Western Cape.

QUALITY YOU CAN RELY ON

plants use appropriate risk-based environmental

and occupational health and safety management systems which they

have developed and implemented

Quality is a bit of buzzword, but for Marley Roofing it's more than that. The foundation of their strategy for survival and future growth is their ability to ensure high quality standards, which they do by implementing the very best in manufacturing practices across all their activities. This is why they have implemented the ISO 9001 Quality Management System alongside SANS 542 requirements for concrete roofing tile manufacturers.

This sense of social responsibility is also reflected in their black economic empowerment objectives, enabling the company to contribute to South African society. That's how they have achieved a BEE

to maintain standards well above those in the rest of the industry.

rating based on their efforts in all areas of employment, equity, skills development procurement, enterprise development and corporate social investment to become independently verified by NERA as a Level 5 B-BBEE (Broad-Based Black Economic Empowerment) Contributor with an 80% B-BBEE Procurement Recognition. They may provide tiles for roofs, but Marley Roofing hasn't finished showing the industry that the sky is the limit. Quality is also reflected in their commitment to protect the environment and the health and safety of their associates, staff, customers and the communities where they operate. Their

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