



MECMETAL
CONCRETE EVOLUTION

CONCRETE INTELLIGENCE AND EFFICIENCY

Product machines
Production Lines
Accessories
Services



CONCRETE EVOLUTION

FROM FINLAND

State of the art production lines created with Finnish integrity

With smart technology combined with northern innovation, stamina, and efficient production, we are proud to be pioneers of the industry being the sole provider of fully electromechanical production lines for the manufacture of concrete products and alternative material-based products since 1996





Committed to developing and delivering top quality solutions

Mecmetal Ltd is a Finnish production line technology developer and manufacturer. Our journey started by specializing in completely electromechanical production line models for concrete blocks, insulated blocks, and paving stones. With a strong emphasis on R&D we have developed our production lines to make products from many other materials than just concrete, yet using the same manufacturing method.

MEC Evolution-20 production lines

Our production lines are based entirely on electromechanical operations. All new production lines are equipped with a new servo technology. The design of the production lines are based on decades of experience in tested, constantly evolving mechanical solutions and new solutions developed as a result of active development cooperation with customers, for the needs of efficient production.

Concrete intelligence and efficiency

The control system is concretely smart and extremely versatile, but still really user-friendly and easy to use. Improved servo gear motor technology guarantees precise and fast movements in all conditions and improves energy efficiency totally to a new level. The new web-based services are designed to support maximizing production efficiency and responding quickly to any need. New solutions also enable an extensive selection of predictive maintenance and real-time diagnostic services.

MEC Evolution-20 product machines electricity consumption is under half than on hydraulic solutions!

Concrete benefits in our solutions >>

MECMETAL IN A NUTSHELL

All our services and production lines are developed with heart and soul for our customer's success. From Inspection to Factory as a Service, there is a path that takes us deeper and deeper into the industry and competences. **We are here for our customers**, all the way from our mechanics to our CEO. **How can we help you?**



HIGH UTILIZATION RATE



EXTREMELY FAULT-TOLERANT



HOMOGENOUS & HIGH-QUALITY



SHORT DOWNTIMES



INTELLIGENT MAINTENANCE & DIAGNOSTICS



LONG LIFE CYCLE



COST-EFFECTIVE



ENERGY EFFICIENT



CO₂ FOOTPRINT MINIMIZED

SERVO TECHNOLOGY GENERATION

MEC 140 EVOLUTION-20

PRODUCT MACHINE

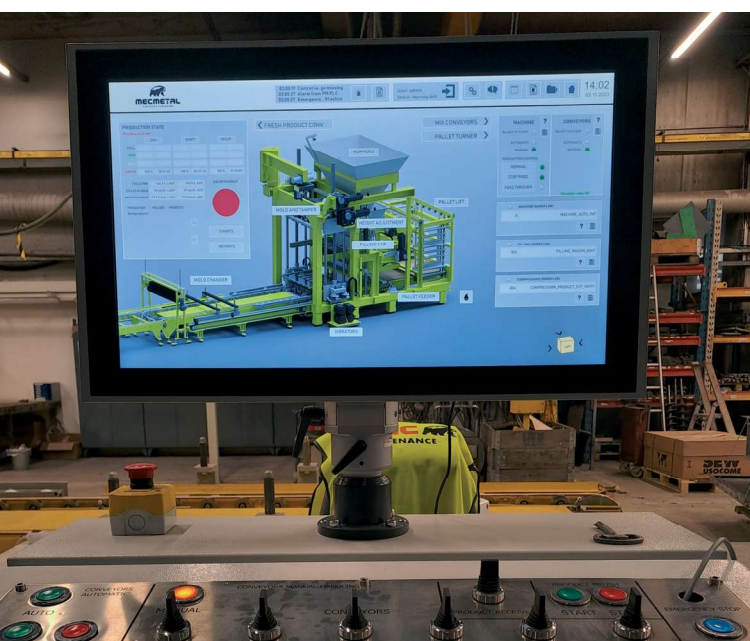


MEC 140 Evolution-20 is a concrete product machine based entirely on electromechanical operations. It is equipped with a new servo technology. The design of the machine is based on decades of experience in tested, constantly evolving mechanical solutions and new solutions developed as a result of active development cooperation with customers, for the needs of efficient production.

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TECHNICAL PROPERTIES

- Fully automatic
- Smart features
- Sturdy industrial design
- Electro-mechanical operation, based on servo technology
- Precise guides and gears
- Automatic central lubrication system
- Directed vibration, with portable frequency and power adjustments
- Wide variety of stepless adjustments for all movements
- Express mold attachment and mold change automation
- Bottom face profiles possible

DIMENSIONS

Production pallet size options / mm W: ≤ 1400 L: 650-1400	Product area options / mm W: ≤ 1320 L: 600-1350	Max. product height / mm 50-400 Custom heights on demand
Connection power / kW < 80	Main switch / A < 200	Need for compressed air l/min 200
Total weight approx. / kg 10 000 – 16 000	Main dimensions / mm W: 3220 L: 4000-6000 H: 3300-3600	

ADVANTAGES

 HIGH UTILIZATION RATE	 EXTREMELY FAULT-TOLERANT	 HOMOGENOUS & HIGH-QUALITY
 SHORT DOWNTIMES	 INTELLIGENT MAINTENANCE & DIAGNOSTICS	 LONG LIFE CYCLE
 COST-EFFECTIVE	 ENERGY EFFICIENT	 CO₂ FOOTPRINT MINIMIZED

MORE DETAILS AND FEATURES

High utilization rate

- Operational reliability
- Fast mold changes
- Little need for manual maintenance
- Problems are easy to solve for the user

The manufactured products are very homogenous and high-quality

- Fast and precise movement
- Real time quality parameter monitoring and feedback that guides the user

Energy efficient

- Motors only consume energy during the movements
- Braking energy is possible to be used in next movement
- Main switch < 200A
- Realised energy consumption is being monitored realtime
- Energy consumption can be optimised

Affordable and predictable maintenance costs

- Top quality materials and components
- Accurate real time diagnostics and fault diagnostics

Extremely fault-tolerant

- Sturdy industrial PC designed for 24/7 use
- No moving parts, no blowers
- Flash drive that is easy to recover / replace
- Automation components are high quality and designed for rough conditions
- Automation components are placed in the control room in their own compact device cabinet away from dust and vibration
- Dust-proof electric cabinets with integrated cooling
- Duplicated fieldbus
- Automatic backup of the control system's programs, parameters and recipes

Short downtimes

- Comprehensive and practical support services
- Fast and easy availability of consumables and spare parts
- Easy installation of modular components

SERVO TECHNOLOGY GENERATION

MEC FC EVOLUTION-20

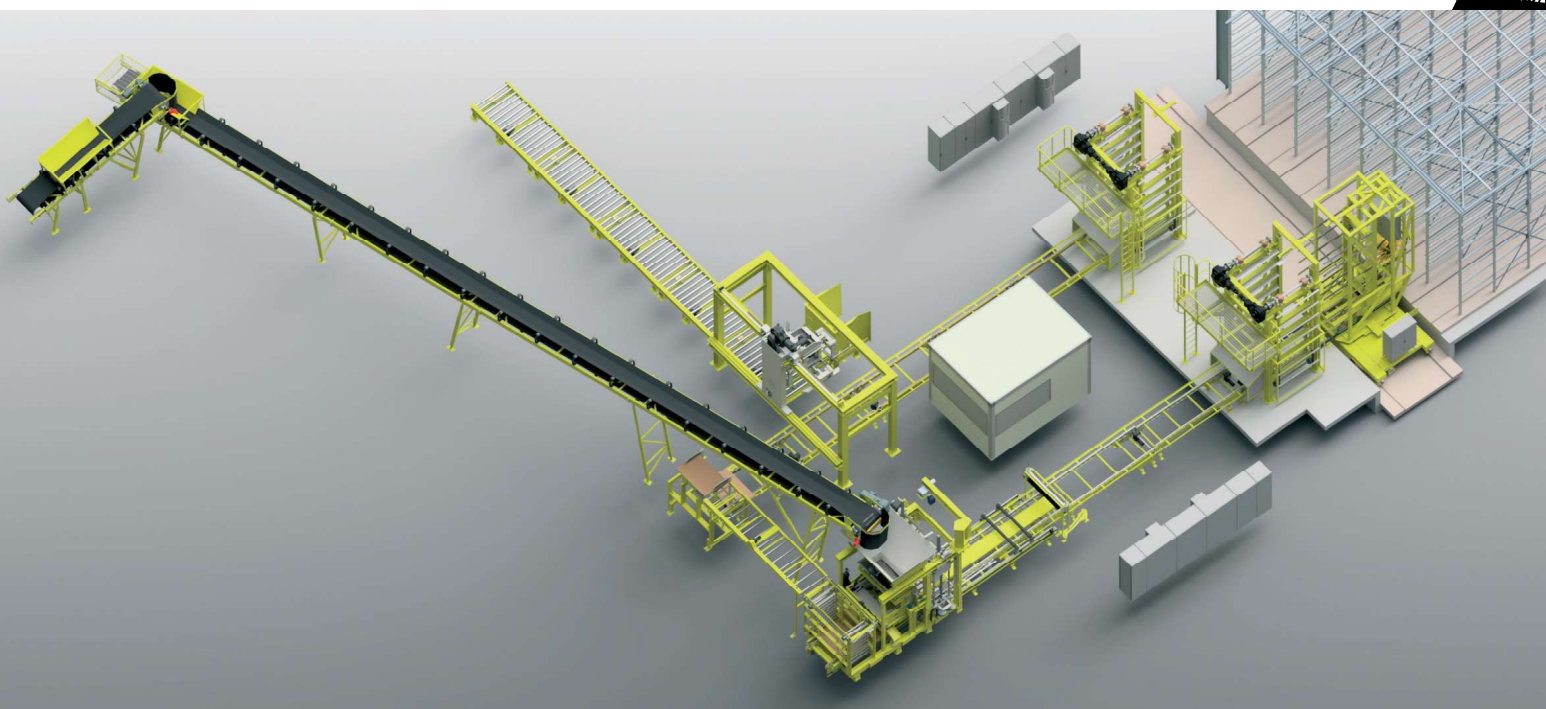
FULLY AUTOMATIC FINGER CAR HANDLING SYSTEM

The MEC FC Evolution-20 finger car handling system is fully automatic and optimal for large production volumes. Production line is equipped with MEC Evolution-20 product machine, has a curing chamber storage system and packing line. The best solution for tall production facilities. Finger car handling system is good for all general concrete products, but especially recommended for tall products.

Turn-key service with various accessories

The control system is concretely smart and extremely versatile, but still really **user-friendly** and easy to use. Improved servo gear motor technology guarantees **precise and fast movements in** all conditions and **improves energy efficiency** totally to a new level.

The new web-based services are designed to support **maximizing production efficiency** and responding quickly to any need. New solutions also enable an extensive selection of predictive maintenance and real-time diagnostic services.



TECHNICAL PROPERTIES

- Fully automatic
- Smart features
- Sturdy industrial design
- Electro-mechanical operation, based on servo technology
- Wide variety of stepless adjustments for all movements

DIMENSIONS

Layout dimensions are determined by customer-specific needs

ADVANTAGES



SERVO TECHNOLOGY GENERATION

MEC CRANE EVOLUTION-20

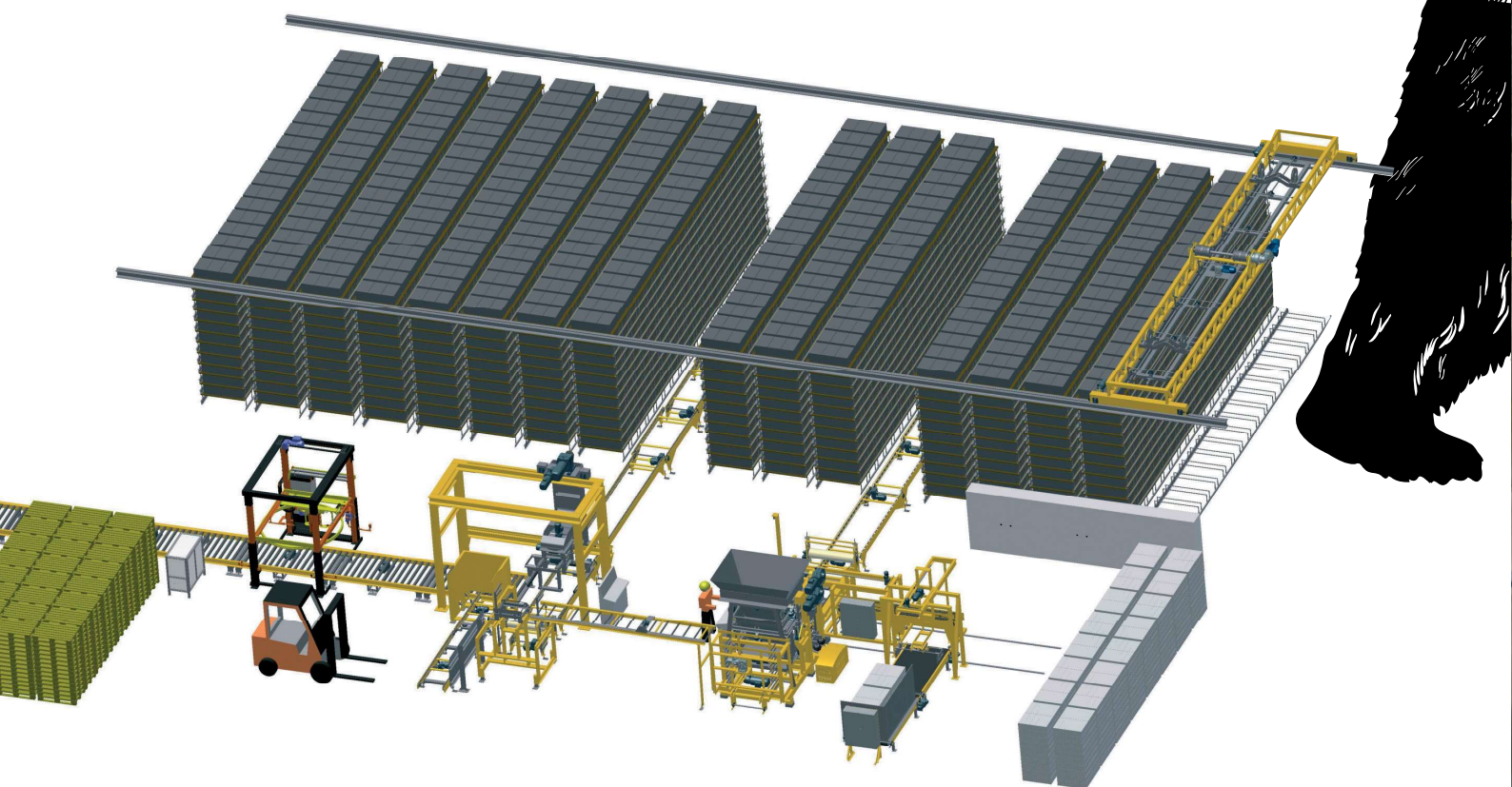
FULLY AUTOMATIC CRANE HANDLING SYSTEM

MEC Crane Evolution-20 includes a fully automatic Evolution-20 product machine, a fully automatic handling line with crane handling, curing chamber and automatic packaging line. The production pallets with the products are lifted with a crane as a long line and stacked to strengthen one on top of the other in cages or without cages. MEC Crane production line is perfect for spaces that are low.

Concrete intelligence and efficiency

The control system is concretely smart and extremely versatile, but still really **user-friendly** and easy to use. Improved servo gear motor technology guarantees **precise and fast movements** in all conditions and **improves energy efficiency** totally to a new level.

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TECHNICAL PROPERTIES

- Fully automatic
- Smart features
- Sturdy industrial design
- Electro-mechanical operation, based on servo technology
- Wide variety of stepless adjustments for all movements

DIMENSIONS

Layout dimensions are determined by customer-specific needs

ADVANTAGES



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SERVO TECHNOLOGY GENERATION

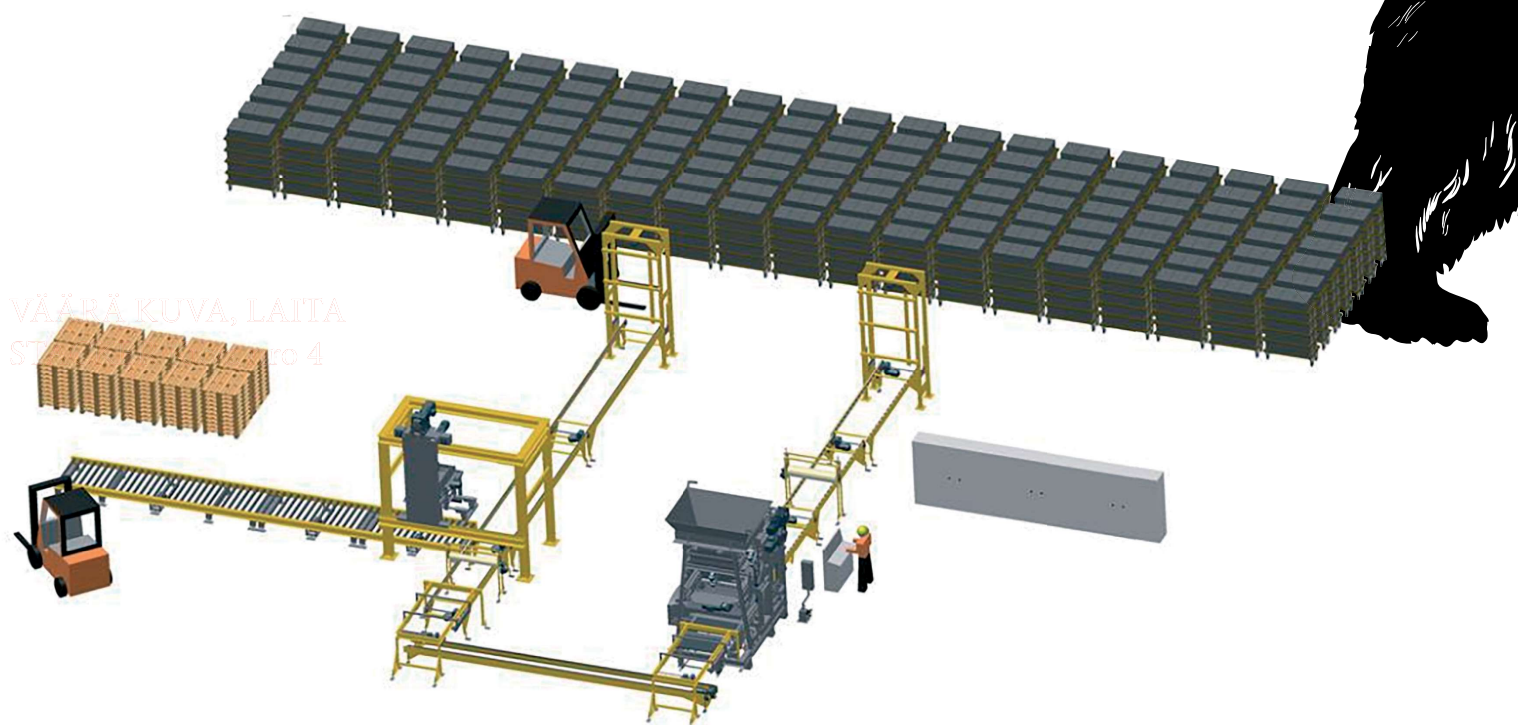
MEC STACKER EVOLUTION-20

The MEC STACKER Evolution-20 contains a fully automatic Evolution-20 Product machine and semi-automatic handling line with Forklift handling and production pallets with steel legs. The production pallet bundles are taken for curing freely in the desired location. This production line is excellent for spaces that have limitations for fixed curing and storage.

Concrete intelligence and efficiency

The control system is concretely smart and extremely versatile, but still really **user-friendly** and easy to use. Improved servo gear motor technology guarantees **precise and fast movements** in all conditions and improves energy efficiency totally to a new level.

The new web-based services are designed to support **maximizing production efficiency** and responding quickly to any need. New solutions also enable an extensive selection of predictive maintenance and real-time diagnostic services.



VÄÄRÄ KUVA, LAITA
ST...o 4

TECHNICAL PROPERTIES

- Fully automatic product machine, semi-automatic handling line
- Smart features
- Sturdy industrial design
- Electro-mechanical operation, based on servo technology
- Wide variety of stepless adjustments for all movements

DIMENSIONS

Layout dimensions are determined by customer-specific needs

ADVANTAGES



VARIOUS NEEDS

VARIOUS ACCESSORIES

INSULATION FEEDER FOR INSULATED BLOCK PRODUCTION



Automatic insulation feeder for concrete/insulation block production

FACE-MIX UNITS



Units for the production of two mass products

PACKING LINES



MEC Robot and manipulator packing lines with various accessories

QUALITY CONTROL UNIT

Machine vision units with advanced cloud based monitoring and reporting

PRODUCT WASHING UNITS

Robot washing device for patio tiles and stone surfaced products

NOISE AND DUST REDUCING CONTROL CABINS

Noise reduced cabinets and control booths for electrical cabins, machine operators and around the product machine

GRINDING LINES

Grinding device for the exact height of the products

PRODUCTION PALLETS

High quality production pallets for all product machines

CUSTOM EQUIPMENTS

Design and manufacture of devices for special purposes

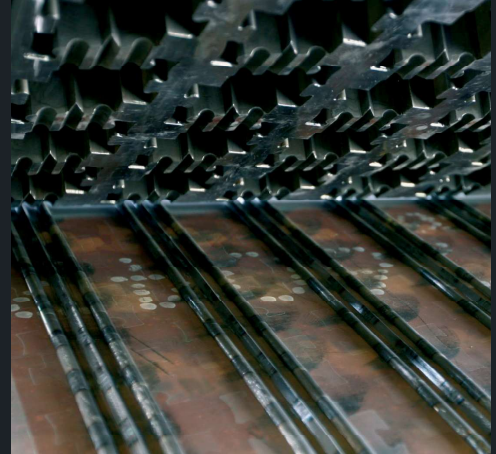
FOR CUSTOMERS SUCCESS

LIFE CYCLE SERVICES



DURABILITY AND ACCURACY

MEC Molds are designed and made in our factory in Finland. Each mold goes through a systematic process to guarantee the right molds for the efficient and dimensionally accurate manufacture of each product. We keep our production capacity limited throughout the year, to serve customers faster and precisely. Our average order-to-ship time is 20 weeks. We design and deliver molds globally for every concrete product machines regardless of the brand. Additionally, we provide mold maintenance and spare-parts to extra life cycle.



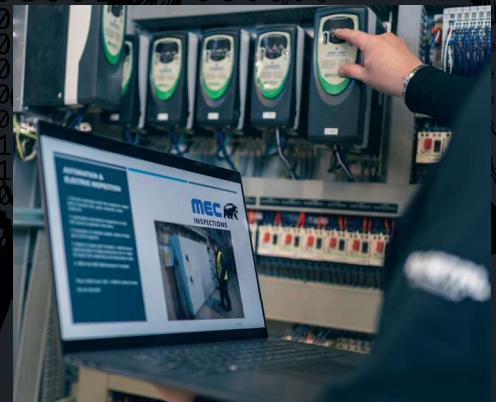
OPTIMAL PRODUCTION

MEC maintenance is an inherent part of the partnership with the customer. We have manufactured and delivered concrete product production lines globally since 1996. Throughout these years, we have provided spare-parts, maintenances and guidance to our production line owners and helping them to keep production at optimal level all year. For every new MEC production line customer, we offer different service levels and continuous warranty.



TO KEEP YOU UPDATED

MEC Inspections is developed according to customer needs, to figure out the situation for every electric part, automation, or mechanical machine in a production line. Knowledge of spare part availability and maintenance needs come in handy when planning for the next season and for keeping capacity at an optimal level all year round. We provide visually presented comparisons to our industry-leading production line to see how your equipment fares against the competition.



TURN-KEY SOLUTIONS

ALTERNATIVE MATERIALS

The use of alternative materials and other environmental decisions benefits our world. We act as a forerunner in many ways that help our customers achieve demanding goals in environmental matters.

For sustainable development Mecmetal production lines provides possibility to use alternative materials in production and different ways of CO2 treatments to assure carbon-free or even carbon-negative end products.

Recycled concrete waste adding into production, alternative binders, CO2-treatment use and production that consumes less energy than technology that manufacturers use these days plays important part to help industry achieve net zero goals to greener world and at the same time manufacture products more efficiently and safely.

CARBON DIOXIDE TREATMENT

Carbon-neutral concrete products will soon be the industry standard as manufactures searches solutions to achieve environmental regulations and standards. At the moment concrete industry generates up to 8 percent of the worlds yearly carbon dioxide emission. One of the mecmetal's core values is environmental sustainability as we want to keep our heavy snow winter's and biting coldness here in north. We have been in continuous cooperation with product manufacturers and partners like Carbonaide, to provide the most compatible and efficient production lines with CO2-treatment, to achieve even the most ambitious goals without risking the quality of the end product.



CARBONAIDE

TRANSFORMS CO₂ INTO A ROCK-SOLID CONCRETE



AWARD WINNING CARBON-CURING TECHNOLOGY

Carbonaide offers an award winning carbon-curing technology for precast concrete manufacturers to reduce their carbon-footprint and generate cost savings with the help of CO₂. Our technology is fully compatible with OPC and enables the use of novel binders.

20% CEMENT SAVINGS WITH MINIMAL CHANGES

We offer an all-inclusive service for carbon-curing with minimal changes to the production process and operations. This results in 20% less binder use and 50% less CO₂-footprint already with OPC based mixtures. With our technology reaching carbon-negative concrete is made easy.

COMPATIBLE WITH MEC PRODUCTION LINES

Carbonaide's carbon-curing module is compatible with Mecmetal's concrete product production lines. Integrated reporting systems for reliable reporting of carbon dioxide concentration. Equipment maintenance and real-time support as well as adjustment in seamless cooperation.

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EQUAL STRENGTHS WITH 20% LESS CEMENT



COMPREHENSIVE SERVICES DEVELOPED ACCORDING TO CUSTOMER NEEDS



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