



## THE ADAMS® TECHNOLOGY WEATHERPROOF. CLEAN. PROFITABLE.





2 3

Your employees ...

enjoy increased satisfaction in a dust-free and healthy work surrounding dian Your storage ... 不是日 is cost-effective outside and handling is simplified Your logístics chain ...

Call



## TABLE OF CONTENT

14-15

16-17

18-19

22-33

34-37

40-41

42-43

Cement Innovation	6-11
The Game Changer	12-13

The ADAMS<sup>®</sup>

From tubular film to the full pallet

**Film Properties** 

ADAMS<sup>®</sup> Advantages 20-21

Which System fits your Business?

Accessories

This might also be of interest to you 38-39

One House, three Families

We are always there for you





















### Portrait CemInEu

Cem'In'Eu is an industrial start-up which has developed a new concept for the production and sale of cement in Europe. Its approach to the market is based on the principle of "small is beautiful" with small, compact and standardised production units set up as close as possible to regional economic areas. A totally innovative business model, which places the environment at the heart of its concerns.

Cem'In'Eu has launched several projects in France and in Europe, with a market-share objective of the cement market of between 6% and 8% of targeted local markets, thanks to an annual production capacity of approximately 250,000 metric tons per grinder. Each site will result in the creation of about thirty direct jobs. In tandem with local administrations and actors, Cem'In'Eu is deploying an ambitious action plan for the protection of the environment and of the biodiversity which is adapted to each issue encountered locally.





### PERFORMANCE ALMOST LIKE A SYMPHONY

#### Attack from below

Young CemInEu company aims to shake up the cement market in Europe: with the ADAMS® technology from HAVER & BOECKER and sustainable packaging. A plant visit in Tonneins, France:

In the last production hall at the end of the production line, stands the ADAMS<sup>®</sup>. From a distance, it looks almost like a UFO: Behind its white, octagonal protective walls, complexly orchestrated ballet of hundreds of machine parts dances about - all of it can be watched through the windows all around. The ADAMS® performs almost like a symphony: it ticks, clacks, hisses and turns with a clockwork precision rhythm. Outside next to it, the reel with the tubular film turns silently as grippers take hold of the empty bags and guide them to the ten filling spouts of the rotary machine. With every hiss and every clack a new cement bag is filled and sealed: 1,100 at peak times. Every minute fifteen bags leave the inside of the machine packed in this way. They glide along on conveyor belts and are pressed so that any remaining air escapes via the integrated air duct in the bag.

Before each individual cement bag is weighed and before it is automatically placed slip-free on a pallet: "A few grams more are allowed," says Rachid, the technician in charge of ADAMS<sup>®</sup>. "If it's too little, an error message comes up and we readjust. Happens very rarely, though." If everything fits, the completely dust-free, waterproof and weatherproof cement bags await trucks to transport them to customers in the region. Here in tiny Tonneins, a community of around 9,000 inhabitants in the flat countryside between Bordeaux and Agen, a young French start-up is starting to shake up an industry that's dominated by global players: cement production. In the summer of 2018, the Aliénor Ciments plant began operations. Even at first glance, you notice what's different: Nothing is dusty, nothing is smoking and there are no huge rotary kilns in sight. Clean as a whistle and constructed in modular, prefabricated design, the surprisingly small plant stands in an industrial and residential area.

#### The target: eight percent market share

To its right are the buildings of the former Seita tobacco factory, whose closure in 2000 put about a quarter of the community out of work. Offices have moved into some of them today, while many remain empty. Next to them are other factories and some residential buildings. "Mainly manufacturers of aerial lifts; we are in the land of aerial lifts," says Audrey Bonnet, Plant Director. The 40-year-old Toulouse native grins; she's used to working in hands-on, male-dominated domains: Bonnet did stints in concrete, oil and aircraft construction before one of CemInEu's founders recruited her to head the first plant. A mutual friend had made the contact. With Bonnet, thirty other residents from the area soon found new jobs, most around 25 years old, forty percent are women.

CemInEu was founded by two former cement industry executives. Their business idea was to develop a Europe-wide network of compact, standardized



and potentially demountable cement grinding plants located inland and as close as possible to regional economic centers. Each unit is expected to provide an average of about thirty jobs, have a turnover of about thirty million euros and an annual capacity of about 240,000 tonnes. Each site is to be accessible by rail or water and serve a sector within a 200-kilometer radius. The aim is to capture a market share of six to eight percent in each area and thus become an alternative to the Big Five.

The company assures care is taken in all business processes to keep CemInEu's CO<sub>2</sub> footprint small. This starts with a decentralized structure, which keeps the trip to the customer short and extends to purchasing. Unlike the large, traditional cement plants with their kilns, CemInEu does not produce clinker itself, but has it produced as climate-friendly as possible. The supplier in Turkey uses a modern plant from 2015 while the newest kiln in France, on the other hand, dates back to 1978. Clinker is delivered by rail and not by truck. In Tonneins it is then mixed, ground, and packaged.

#### Clinker gets delivered

Bonnet leads the way behind the plant, where empty containers are waiting on the rails to be transported back to the southern French port city of Sète. Every week around 52 containers of cement clinker arrive by sea from Turkey to Sète and then by rail to Tonneins. They are unloaded automatically via an overhead crane. Gypsum and lime are delivered from the immediate vicinity from the localities of Landes and Lot-et-Garonne. CemInEu has analyzed how much  $CO_2$  emissions are caused by water and rail transport. Bonnet says: "It's less than the subsequent cement delivery that trucks account for - even if they travel more than 200 kilometers.

The three raw materials are ground up in the 10-meterlong roller mill, where they are stored in six silos of 500 tons each, and from there are dosed as bulk material or transported to the ADAMS® for clean packaging. More than 200 checks monitor the quality of raw materials and end products. Four laboratories and four employees are solely responsible for this at CemInEu. "Our unique selling point in France, however, is sustainable packaging. Our main selling point," explains Bonnet. It came down to standing out at first glance from the other suppliers in the trade, and recyclable PE packaging was one of the most important assets. When looking for packing machines that could do this, the founders immediately thought of HAVER & BOECKER in Oelde, who after all had decades of experience in the industry and with its equipment suppliers. "In fact, the ADAMS<sup>®</sup> technology from Germany is the most important high-end machine in the plant," says Bonnet. "Indeed without it, we quite literally could not pack it." And she abundantly praises the comprehensive support provided by the German machine manufacturer. From on-site installation to coaching on operation, "Whenever a question arises, we have someone on the phone right away - and even a French-speaking contact-person in Paris."

#### Tear and weather resistant, completely emptyable and recyclable

For Bonnet, the advantages over conventional paper bags are obvious. She names them off almost as fast as the bags inside the ADAMS® are filled: "Our bags hardly tear at all, while five to seven percent of conventional paper bags break and render the cement unusable. They can be stored outside on construction sites at low cost because they are rain and weather resistant. They are easy to empty out completely, to reseal cleanly with their recyclable plastic handles and are also 100 percent recyclable. To conserve resources, we ourselves started using recycled material for our



them to be transported in a particularly space-saving manner, thus making them more profitable and ecological. And of course: they look much better and are of higher quality." Even if the clever business model at first glance makes sense even to the layperson, in a way CemInEu does face some obstacles: There is hardly an industry sector in which old habits, structures and business connections have become so cemented as in the construction business. "The first six months required intensive persuasion of our future customers," Bonnet recounts. A preliminary survey of concrete producers, construction companies and building materials suppliers who now use CemInEu cement showed: custo-

in France and Europe are already planned over the next three years. Already in March 2021, the second plant opened, Rhône Ciments in Portes-Lès-Valences, and again with a woman as director and with an ADAMS® from HAVER & BOECKER.

## THE GAME CHANGER

»It is simply the very best product protection. The bags can be emptied of residues and are easy to recycle. This has a future!



Frank Ormeloh Head of Business Unit Cement HAVER & BOECKER



## THE ADAMS® WEATHERPROOF. CLEAN. PROFITABLE.

With ADAMS® technology, HAVER & BOECKER has revolutionized the packing market worldwide. The polyethylene bags not only look classy, they are also tear-resistant and weatherproof. In this way, they protect the valuable contents and strengthen the end consumer's trust in the manufacturer and its brands. This also benefits profitability. Less breakage during transport. Because the bags are weatherproof, they can be stored for longer and even outdoors – which saves even more costs. The bags are also easy to empty, re-closeable and completely recyclable. And another significant advantage: the ADAMS® systems avoid dust during filling, which would otherwise contaminate working areas. The bag is formed in the machines from a prefabricated polyethylene tubular film, after which the product is filled and the bag is fully closed. The size of the packaging is variable; anything goes between 5 and 50 kilos. Speed is of the essence.

Originally developed for cement plants, ADAMS<sup>®</sup> now fills a wide variety of building materials worldwide.





## FROM THE TUBULAR FILM TO THE PERFECT PALLET

(1)



The tubular film

The polyethylene bags are delivered as film (PE side gusseted tubular film) on rolls, picked up on a carrier and fed manually into the machine.



The printing

The versatile marking systems ensure reliable and positionally accurate printing with your individual marking. We adapt this process step exactly to the speed requirements of the machine. Empty bag printing with laser ( $CO_2$  + fiber laser), thermal transfer or labeler and full bag printing with inkjet is optionally available.



The bag-scanner

The optional bag scanner scans the QR code printed on the film to ensure that the machine operator is using the correct bag roll selected for the product to be filled. QR Codes can additionally be used for product and bag tracing.





The bag manufacturing: corner welding and bottom seam welding

Due to the diagonal welding of the side gussets, the bag bottoms are optimally formed. Among the advantages of corner welding are improved bag geometry, higher bag strength and very good stackability. This attractive positioning options on pallets, both in terms of storage positioning options on pallets. The machine automatically adjusts to different bag lengths as soon as the corresponding data have been entered. The system variably compensates for the bag lengths. Separated by a knife the bag is open at the top.



The hexagon filling spout

The bag gripper clamps the bag chest tight to the hexagonal filling spout, resulting in a clean filling process.



The filling and bag closure

The combined MEC<sup>®</sup> control and weighing electronics - a development of HAVER & BOECKER - ensures exact filling quantities. Product compaction inside the bag is a fundamental requirement for achieving a clean and efficient final result. Inner and outer vibration compactors provide the required product compaction. The contents of the bags are efficiently compacted during filling. This reduces costs: compacted bag contents mean less volume and therefore less film.





The full-bag transport The filled bags are forwarded in an upright position, closed and placed on the conveyor belt.



The quality control The check-weigher for the "bag-check" with weight and closure control.

(8)



Markus Horstkötter Area Sales Manager Phone: +49 (0) 2522 30-671 E-mail: m.horstkoetter@haverboecker.com





#### The bag forming section

The belt conveyor consists of various adjustable elements, that ensure proper filling and increase process reliability. By using a pressing belt, the filled and sealed bags are formed precisely and can thus be palletized perfectly.

## FILM PROPERTIES



A packaging solution with a considerable range of outstanding and sustainable benefits – currently even with a **recycled content of up to 50%** through to the use of  $CO_2$  neutral bags.







- Seal Improved sealing seam for highly contaminated weld areas
- **Tight** Additional longitudinal seam to protect particularly fine powder

**Barrier** Enhanced water barrier for particularly hydrophilic goods





Easy Reclose Allows opened bags to be reclosed



Easy Carry Integrated carrying handle for convenient transportation



Easy Open Easy to open without a knife or

scissors





**Recycled Material** Film with recycled content and recyclable



**Green PE** Resin made from sugarcane-based ethanol



**Dawngauging** Thinner film overlap for lower packaging costs





## THE ADAMS® ADVANTAGES

#### WEATHERPROOF

#### Top quality in PE bags

The highest quality right from the beginning – this is what products filled with the ADAMS® technology as well as their packaging offer. Tightly sealed PE bags stand for a long lifetime and a consistently high product quality for powdery products along the entire transport and storage chain. Stored outside or inside.

#### Thanks to the robust and exceptionally tight PE material, you have the following advantages:

- PE bags offer a high level of UV and aroma protection, and thus the quality of the filled product provides high performance over the long-term.
- Since they are especially durable, PE bags help to prevent customer complaints – and ensure topproduct quality.
- Due to the high level of frost and weather resistance offered by PE bags, the packed products are always reliably protected even under harsh outdoor weather conditions and allow your customers to order in large quantities.

#### CLEAN

#### Clean and attractively packed

A clean and appealing presentation at point of sale is crucial for a product's success.

The packaging not only protects the product, but it also conveys a message to your customers. On the market it bears your company's image. At building sites, during transportation or storage, on the sales floor, inside or outside – PE bags ensure dust-free surroundings, as well as a clean and attractive presentation along the entire delivery and storage chain. The ADAMS® technology already achieves clean results during the filling process, amongst others due to product compaction within the package.

#### This allows the following advantages:

- Clean filling coupled with the packaging's tearresistance assures low dust levels – and thus high protection of your operating personnel.
- During filling, transport or storage, the bags protect the environment from possible pollution from hazardous contents.
- The improved printed, glossy image offers new possibilities for layout and design. The end-buyer always receives an attractive and clean package that contains a long-lasting and premium quality product.

#### PROFITABLE

#### Highly economic

PE bags that are handled with the ADAMS® technology can be presented in an appealing manner, and offer a decisive competitive advantage. Enjoy cost savings in storage, transportation, material and staff.

#### Practically this are your advantages:

- Ultimately the packaging's appearance is decisive when it comes to competitive advantage. A masterful presentation by PE bags in the environment of complimentary products brings with it a sales-boosting value that gets reflected in market share.
- Because products now may be stored outdoors, they are no longer seasonal. Your plant can produce with a constant capacity utilization over the entire year. This secures sales during periods of peak orders, makes production smoother, saves on unnecessary extra work and simplifies planning.
- Already before filling, the empty bags need less space in transport and storage – thus leading to lower costs.
  Moreover they can be stored outdoors and so reduce the need for roof cover. The employees save time with ordering and the feeding of the filling machines.
- Because of low dust levels during filling there is less wear and tear to the machines and downstream systems. The needed materials for maintenance and repair decrease and machine downtime is reduced. The results: constant production capacity utilization and lower operating costs.





By using PE bags you can also significantly save on energy and reduce CO<sub>2</sub> emissions.

# THE FOUR **RIGHT ONES** WHICH SYSTEM FITS YOUR BUSINESS?



**ROTO-PACKER® 10** ADAMS® EDITION

The rotating high-performance system with up to 10 filling spouts achieves maximum performance when filling your powder products into PE bags.

PAGES 26|27

PAGES 28|29

into PE bags.

**ROTO-PACKER® 8** 

ADAMS® EDITION

The rotating high-performance

system with up to 8 filling spouts

achieves maximum performance

when filling your powder products





**ROTO-PACKER® 4** ADAMS® EDITION

Adapted to your individual performance requirements, this system ensures maximum performance with 4 rotating spouts when filling your powder products into PE bags.

**INTEGRA®** ADAMS® EDITION

This extremely space-saving and completely filling system is characterized by rapid, on-site installation and operation start-up when filling your powder products into PE bags.

PAGES 30|31

#### PAGES 32|33



## CHOOSE YOUR FILLING MODULE FOR YOUR RS-SERIES:

The properties of your product determine the filling module. If you are packing fine powders, you'll choose the T-module. The "T" stands for "turbine", which means impeller. The product is transported into the bag by means of a turbine. The T-module is available in vertical and horizontal versions.

If you are packing mixed products that differ in grain size, select the L-module. "L" stands for "air". In this process, the product is conveyed from the pressure chamber into the bag by means of air pressure. The L-module is available in two versions, either with an angled or a fully ventilated base plate in the pressure chamber.

We offer the turbine filling technology and the air filling technology as a ST-module and a SL-module for the use of tubular film.

The two RS-modules are equipped with either a vibrating bottle or a vacuum lance to optimize deaeration during the filling process.

SL-Module (air) Tubular Film



#### ST-Module (turbine) Tubular Film



ROTO-PACKER® 10 ADAMS® EDITION

The rotating high-performance system with up to 10 filling spouts achieves maximum performance when filling your powder products into PE bags.

	2900000 000000		Chr.		0000	
Number of spouts	<b>Performance</b> bags/hr per 25 kg	Performance class	Intuitive Operation	Plug & Pack	Product variety	min./max. bag weights
10 (5)	up to 1,200	24/7	yes	yes	all types of cement up to 8,000 g/cm <sup>2</sup>	5 - 30 kg
	00	Q	Sample			$\langle \bigcirc \rangle$
Bag sizes in mm	Range Film Thickness	Delivery of tubular Film	Sample-bag function	handle punch	Vibrating bottle	Hexagonal dust tight filling spout

\* Actual width range depends on bag material and filling spouts.

26 27



With our sustainability campaign "Planet Blue", we're directing our products and solutions towards a world in balance.



ROTO-PACKER® 8 ADAMS® EDITION

The rotating high-performance system with up to 8 filling spouts achieves maximum performance when filling your powder products into PE bags.

	2000000	10), 10),	Chr.		0000	
Number of spouts	<b>Performance</b> bags/hr per 25 kg	Performance class	Intuitive Operation	Plug & Pack	Product variety	min./max. bag weights
8 (4)	up to 1,100	24/7	yes	yes	all types of cement up to 8,000 g/cm²	5 - 30 kg
	00		Sample			$\langle \bigcirc \rangle$
Bag sizes in mm	Range Film Thickness	Delivery of tubular Film	Sample-bag function	handle punch	Vibrating bottle	Hexagonal dust tight filling spout
Width: 210 - 420* Length: 350 - 710 550 - 910	100-200 μm	possible option	yes	possible option	yes	yes

\* Actual width range depends on bag material and filling spouts.

28 29



With our sustainability campaign "Planet Blue", we're directing our products and solutions towards a world in balance.



ROTO-PACKER® 4 ADAMS® EDITION

Adapted to your individual performance requirements, this system ensures maximum performance with 4 rotating spouts when filling powder-type products into PE bags.

	000000 C		(Chronie Chronie Chron			
Number of spouts	<b>Performance</b> bags/hr per 25 kg	Performance class	Intuitive Operation	Plug & Pack	Product variety	min./max. bag weights
4 (3), (2), (1)	up to 720	24/7	yes	yes	all types of cement up to 8,000 g/cm²	5 - 30 kg
	00		Sample			$\langle \bigcirc \rangle$
Bag sizes in mm	Range Film Thickness	Delivery of tubular Film	Sample-bag function	handle punch	Vibrating bottle	Hexagonal dust tight filling spout
Width: 210 - 420* Length: 350 - 710 550 - 910	100-200 μm	possible option	yes	possible option	yes	yes

\* Actual width range depends on bag material and filling spouts.



With our sustainability campaign "Planet Blue", we're directing our products and solutions towards a world in balance.



### INTEGRA® ADAMS® EDITION

This extremely space-saving and completely filling system is characterized by rapid, on-site installation and operation start-up for filling powdery products into PE bags.

	2000000		Chris			
Number of spouts	<b>Performance</b> bags/hr per 25 kg	Performance class	Intuitive Operation	Plug & Pack	Product variety	min./max. bag weights
1	up to 180	24/7	yes	yes	all types of cement up to 8,000 g/cm <sup>2</sup>	5 - 30 kg
	00	Q	Sample			
Bag sizes in mm	Range Film Thickness	Delivery of tubular Film	Sample-bag function	handle punch	Vibrating bottle	Hexagonal dust tight filling spout
Width: 210 - 420* Length: 350 - 710 550 - 910	100-200 μm	possible option	yes	possible option	yes / no for free-fall	yes

\* Actual width range depends on bag material and filling spouts.

32 33



With our sustainability campaign "Planet Blue", we're directing our products and solutions towards a world in balance.



# ACCESSORIES

## ACCESSORIES

early stage

Bag scanner

control unit

QUAT<sup>2</sup>RO® DPS QUAT<sup>2</sup>RO<sup>®</sup> Analytics Data processing system

If you want optimum results, you can equip your ADAMS® system with the appropriate additional technology. In interaction, the machine shows its full potential.



36 37

### THIS MIGHT ALSO BE OF INTEREST TO YOU





#### Bag consulting service

Our HAVER & BOECKER Institute is the place where we bring our packing triangle to life. Here we take such a close look at your product so that we can define the ideal machine technology on the basis of the results, and then design the packaging or screening media to fit it precisely. We know your equipment very well and we'll support you in optimizing your bags. We'll advise you on functionality, filling speed, order quantity, valve closure, cleanliness, efficiency, costs and quality.



#### Consume intelligently

Did you know that some processes spend more money on the annual requirement of consumables, than they spent on the original one-time investment of equipment, which requires them? Consumables are the fuel for your process. You need the right material for peak performance and success. We consult, design and even provide your consumables for every step and phase of your project. Regardless of whether you are commissioning, ramping up or you simply want to optimize your process on an ongoing basis.



#### Bag design

**Decisive Basics** 

The overall composition of a package, consisting of the brand message, the design and the performance, influences the purchase decision. We show you what really matters.



#### Starter kits

Are you planning a new packing line? Keep the focus on starting the process with the new technology and on your operational business. We take care of your perfect packaging, from the design of the bag to production.



#### Identify the root causes

Every good doctor knows: The key to good health is not treating symptoms, but identifying the cause. Your process is no different. Don't spend an endless amount of time and energy fighting the symptoms. Remedy the cause with our help and with smart services, software and analytical devices. Because only healthy processes are really economical.

38 39

#### Empty-bag collection

The film bags can be emptied of residue and thus are easily recyclable. In theory, this is clear to us and our customers. A look in practise shows that film packaging is definitely collected and disposed of in a targeted manner. The residual waste container is the most expensive disposal. The realization that films are recyclable materials is steadily increasing. It is a pleasure for us, trying to develop a collection-system for you! Let us talk about it!

#### Uncompromising solutions for your processes

Nothing is more important to your success than your own product and workflow. Therefore, don't compromise when it comes to your packing process: Make sure your systems and equipment are designed to meet the specifications of your products, not the other way around. Rely on a family of specialists to get the job done as profitably as possible.

## **ONE HOUSE, THREE FAMILIES**

May we introduce: High-performance packaging technology from HAVER & BOECKER in Oelde, Westphalia. With our V-Series for valve bags and our S-Series for tubular film performing the whole world of bulk packing.



### THE ORIGINAL ROTO-PACKER®

The rotating one. Since 1960, the ROTO-PACKER® has been rotating. Today, it is the best-selling high-performance packaging system in the world. No wonder: After all, we developed it in close cooperation with you, our customers. For a clean, safe and profitable filling process.



#### THE INTEGRA®

The comfortable one. Here everything is in one machine housing. The latest generation of the packaging system INTEGRA® fills almost any product and runs fully automatically. Plug and Pack! For paper or plastic valve bags, FFS film, pre-made openmouth bags and mini valve bags.

#### THE ELEMENTRA®

The variable one. You want a system that adapts to every your needs?

The ELEMENTRA® includes a series of components that you can easily replace. A semi-automatic packaging system for big bags and buckets and for paper or plastic valve bags.

## WE DO WHAT WE KNOW AND WE KNOW WHAT WE DO!

Mastering the interaction within the packaging triangle between product, packaging material and machine technology is the basis of our expertise and the starting point to make your process flow perfectly.



#### Sustainability for a livable future

Sustainability is a core value for us: We make decisions taking into account long-term consequences for the HAVER & BOECKER family, for the entire universe of our customers and for the wellbeing of future generations. We follow this fundamental approach and strive with all our technologies to improve living conditions for humanity. That's our mission!





PROcheck systematizes all instruments and actions with which you can keep an eye on the efficiency and potential of your processes at all times and optimize your success: diagnostics, equipment, consumables, original parts, rebuilds & upgrades, services, plants & systems, process engineering.

With PROcheck, we show you very specifically where and how you can sustainably maximize your productivity and thus your results over the entire life cycle of your plants, systems and machines. So that you'll be also in perfect flow in the future!





PM 446 E 4216 0323 0.1 Fe The machines and equipment shown in this brochure as well as the technical parameters represent only examples of customer-specific technical solutions. We reserve the right to make chan-ges at any time without notice! The ® symbol indicates a registered trademark of HAVER & BOECKER oHG in Germany. Some of the trademarks are also registered in other countries.

HAVER & BOECKER OHG Carl-Haver-Platz 3 • 59302 Oelde • Germany Phone: +49 (0) 2522 30-0 • Fax: +49 (0) 2522 30-403 E-mail: haver@haverboecker.com Internet: www.haverboecker.com