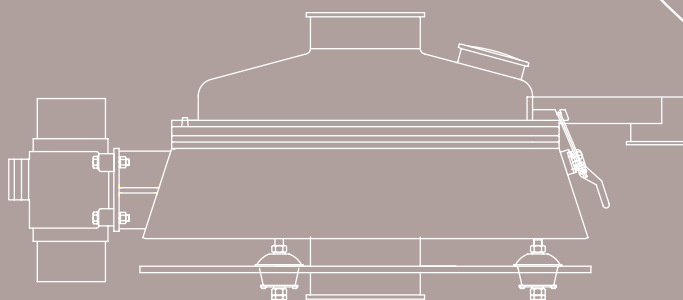


**MINERALS  
& BUILDING  
INDUSTRY  
DIVISION**



*The smartest designer  
for powder handling solutions*



# EXPERTISE & TECHNOLOGY

Our clients are often faced with the relative competitiveness and requirements relating to the product quality. PALAMATIC integrates into its production line designs equipment to meet the constraints of traceability, precision dosing, mixing quality and high production rates.

From the reception of raw material to the packaging of «finished products», we guarantee an optimal process ensuring consistent quality of production and performance under control. Our innovative and high quality equipment is perfectly adapted to minerals processing and building industries. Our engineers master perfectly the problems of these sectors and define the ideal equipment with you.

PALAMATIC ensures the success of your project.



Plant of calcium carbonate

4 - Building Industry  
& Minerals Division

6 Factory & production line  
designer

8 - Your project

- Turnkey solutions
- Engineering / Audit
- Exam ples of realisations

14 -Automation & electricity

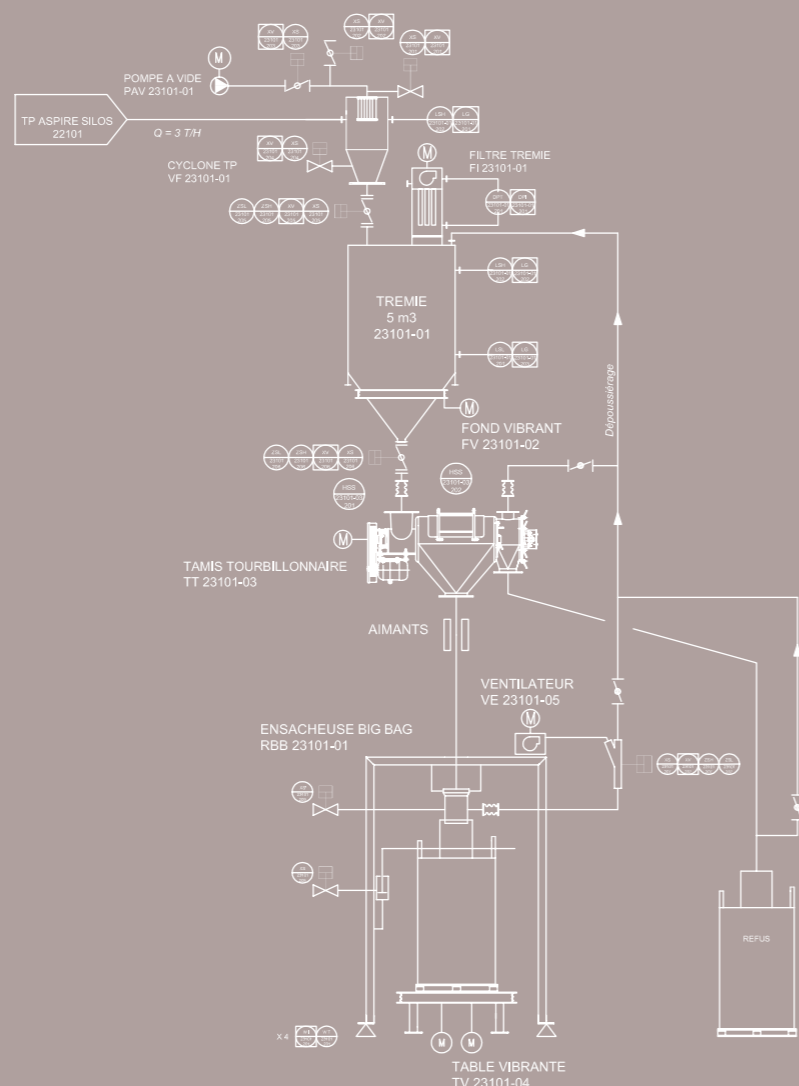
16 - Equipment

18 - Services

- Test plant
- Assembly
- Commissioning
- Customer services

22 - Atex and sectors

## SUMMARY



Loading of granulates

# RECOGNISED EXPERTISE

Optimal knowledge of the world of cement plants and quarries ensures you a high quality service and a technical solution adapted to your project. PALAMATIC has recognized expertise in processing, extraction, crushing, grinding, dosing, mixing, homogenization or conveying of products such as lime, oxides of silica, alumina and iron.

The use of additives in the manufacture of concrete allows to assign it specific properties, especially for high performance concretes (technological innovations). The experience of PALAMATIC engineers and the use of powerful softwares make it possible to design and implement these specific processes. Palamatic offers a complete service from the process definition to its eventual commissioning.

Our many years of experience in various fields of activity allow us to offer you the benefits of inter-sector synergy.

Steps of cement manufacturing process example:

- extraction of raw materials
- grinding and storage of raw materials
- cooking of raw materials
- storage, crushing and screening
- packaging and transport

Pneumatic conveying of cement using our solutions allows maximum life span and the minimum of maintenance for your installation.

## MINERALS & BUILDING INDUSTRY DIVISION



- CEMENT PLANTS
- QUARRIES
- INDUSTRIAL PLASTER  
(BOARDS AND POWDERS)
- GLASS MANUFACTURING
- MINERALS AND METALS



# FACTORIES & PRODUCTION LINES DESIGNER

- ALUMINUM ■ BENTONITE ■ BRONZE ■ MICA ■ CALCIUM ■ CARBONATE
- CEMENT ■ IRON ■ SILICON ■ NICKEL ■ ALUMINA ■ AEROSYL

Our engineering team and technicians are trained on different technologies and attentive to our customers in order to deliver adequate optimized installations with specifications that are imposed upon us.

Our conception is modelised in 3D with SolidWorks to give our customers the possibility of a better « in space » visualization of the design and integration proposals. Do not hesitate to contact us for your projects, be they new equipment integration in your production lines or full turnkey installations, we are at your disposal to draft a detailed technical proposal.

## Containers or pneumatic conveyor ?

Based on your production, our engineers select batch and continuous techniques.

## Weighing, by-weight proportioning, additives, micro-ingredients or loads?

PALAMATIC integrates the optimal solution by implementing volumetric, weight, or integrated dosing in-line on conveyors. Our many years of experience in the agri-food industry, chemical, pharmaceuticals, and animal nutrition allow us to offer you the benefits of this expertise.



- PRODUCTION FEEDING
- TRANSFERRING
- SIFTING
- STORING
- DOSING
- MIXING
- PACKAGING
- AUTOMATING
- ASSEMBLY
- TRAINING



# 2 APPROACHES

TO ENSURE THE SUCCESS  
OF YOUR PROJECT

## PROGRESS OF PROJECTS

- 1 DESIGN-ENGINEERING
- 2 PLANNING
- 3 MANUFACTURING-PRODUCTION
- 4 AUTOMATION & ELECTRICITY
- 5 ASSEMBLY
- 6 COMMISSIONING



# 1

## TURNKEY SYSTEMS

Your product is unique! Palamatic integrates innovative optimal solutions with custom equipment defined by our highly skilled experienced engineers.

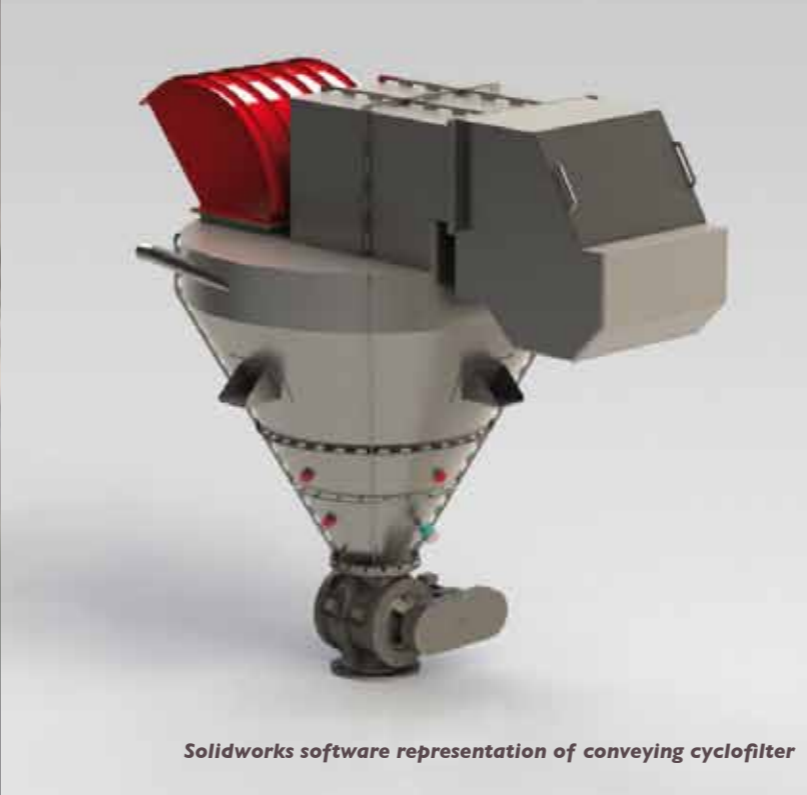
With attentiveness, reflection, and projection, our sales engineers provide you, through on-site visits, personalized studies and recommendations based on your current and forecast production. The wide range of feeding, conveying, mixing, lump breaking and milling equipment mastered by PALAMATIC and the possibility of conducting tests in our test plant guarantees the success of your project and your production line's reliability.

### Project management

To meet your deadlines, we give importance to the establishment of a detailed schedule on MS Project for each project. This planning stage guarantees a better visibility of project progress to meet the contractual delivery dates.

Upon receipt of order, PALAMATIC edits a program and plans for approval. Validation of equipment, as those of our designs or integrated equipment, forms the subject of a special undertaking in order to comply with the specifications.

Any subcontracting is also subject to qualification and strict control. All equipment and systems are subject to provisional acceptance. The technical folder is elaborated throughout the project to make it complete and ready for commissioning.



Solidworks software representation of conveying cyclofilter

Final realisation

2

« ENGINEERING / AUDIT »

To better fulfill your needs, Palamatic proposes advancing step by step. This approach corresponds to delegating a specialist engineer or team of engineers to your site at any stage in your project: simplified preliminary draft (SPD), detailed preliminary draft (DPD), detailed technical specifications (DTS), tender package (TP), construction monitoring... With this engineering configuration, PALAMATIC is positioned as a catalyser for your project's progress.

occupancy rate, equipment layout configurations, building volumes, standards and regulations (ATEX) and precise budgeting of your project.

Given our strong experience and the specific competence of our design engineers, you are ensured to get the best results regarding flow management, production machine



MS Project planning



Automatic big bag filling line



Storage and dissolution skid

# REALISATIONS EXAMPLES



Automatic opening of sacks



Storage



Bulk packaging

## ▶ AUTOMATIC SACKS OPENING INSTALLATION

**COMPANY AND FACTORY END PRODUCT:** leading company in the manufacturing of plaster and plasterboards.

**LOCATION:** France

**OBJECTIVE:** to ensure the automatic opening of 25kg bags at high speed with minimal human operation.

### PALAMATIC EQUIPMENT:

- an automatic sack opening system Varislit® ensures a throughput of 8 sacks / min.
- a vacuum lifter for sacks allows effortless loading by the line operators
- the Varislit 6000 allows unloading and compacting empty bags while ensuring the containment of the zone by a dedicated and integrated dust collecting system. The machine is designed according to ATEX Directives and integrates a reinforced frame and an explosion vent connected to the exterior of the building
- deconditioned plaster is transferred by dense phase pneumatic conveying

**RESULTS OBTAINED:** the introduction of the bags is now done ergonomically at a high rate in a clean environment.

The Palamatic range of automatic sack opening machines consists of 6 standard models. This range meets all applications for bag opening whatever the production rates and the type of packaging used.



## ▶ STORAGE LINE FOR GRANULATES

**CLIENT:** national company specialized in the supply of granulates

**LOCATION:** North Africa Middle East

**OBJECTIVES:** the facility has to permit the transfer and storage of carbonate into silos.

The carbonate derived from the client's quarry follows a calcination, hydration and grinding treatment before being transferred to silos. Sorted by particle size, the material is oriented towards the suitable silo. The bulk loading into trucks is assured by a double envelope loading spout using gravity.

Transfer rates are about 50 t./h.

### PALAMATIC EQUIPMENT:

- the collecting screw conveyor permits the supply of the main bucket elevator
- a bucket elevator supplies granulates into two conveying screws through a set of bypass and pipings
- screws load the silos equipped with filters and fluidized bottoms
- truck loading spouts with shut off valve and balancing line allows the conditioning of the carbonate in trucks

**PALAMATIC INSTALLATION:** turnkey installation and interface with the building's architect. Operators were trained by PALAMATIC to process line driving, production and maintenance.

**RESULTS OBTAINED:** this outdoor installation ensures high production rates and guarantees a very high operating rate thanks to its robust design.



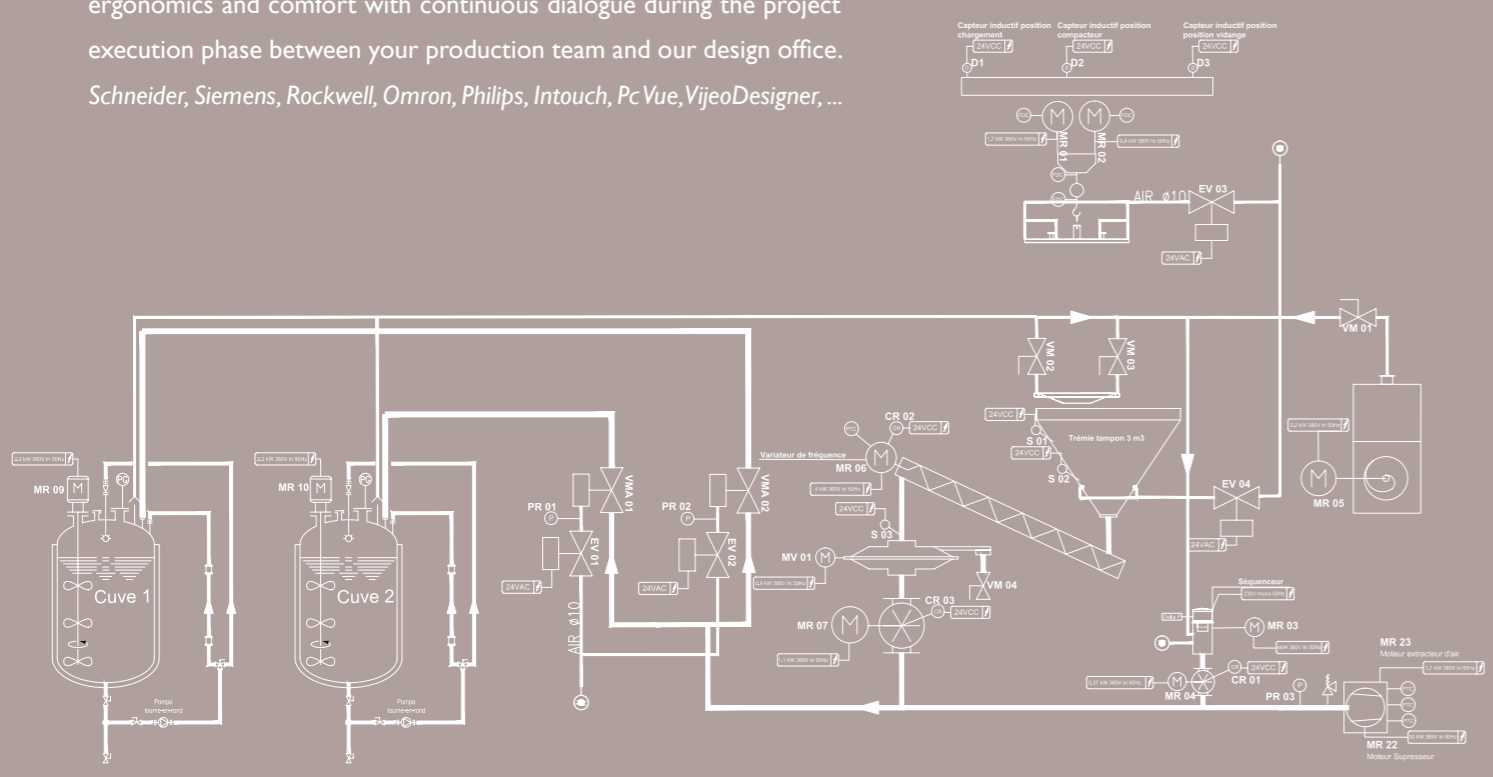
Armoire de puissance



# AUTOMATION & ELECTRICITY

## PAL'TOUCH® Technology

As a designer of complete production lines, Palamatic associates ergonomically and visually programmed PLCs with its production units. Production monitoring is as important as the result. This is why Palamatic's automation and computer engineers include fool-proofing in raw material inputs, lot traceability, operator identification and dosing reliability. The production line steering screens provide ergonomics and comfort with continuous dialogue during the project execution phase between your production team and our design office. Schneider, Siemens, Rockwell, Omron, Philips, Intouch, PcVue, VijeoDesigner, ...



Dosing – microdosing – traceability – history – supervision



# EQUIPMENT



AUTOMATING		DOSING	
<b>Pal'Touch</b> Lot traceability, operator identification and dosing reliability... Production monitoring is as important as the result	<b>Trough and tubular screw conveyor</b> Mechanical conveying for pulverulent	<b>Product feeding with pneumatic conveying</b> Weight or volume feeding for powders and granulates	<b>Rotary valves</b> Gravity or blow through rotary valves for the dosing of powders and the feeding of pneumatic conveying

UNLOADING		FILLING	
<b>Big bag discharging system</b> To facilitate the flow and containment ensuring ergonomics and operator safety	<b>Manual sack opening system</b> Bags opening, handling with manipulator, reduced size device	<b>Automatic sack opening system</b> Automatic opening with respect for fragile products and high cadence deconditioning	<b>Truck loading spout</b> Efficient loading of powdered and granular materials into tankers or open trucks

GRINDING		SIFTING	
<b>Blade grinder</b> Micronization of your powders, blades technology, pins and hammers	<b>Granulator</b> Crushing of materials that tend to form clumps and ensure the fluidity of the product	<b>Centrifugal sifter</b> Implementation of the sieve on a pneumatic conveying line	<b>Vibratory sifter</b> Sieving for the protection of the line, elimination of agglomerates and foreign bodies

MIXING		PNEUMATIC CONVEYING	
<b>Mixer</b> Mixing 100% solid materials or incorporating liquids up to high viscosity	<b>Cyclone</b> Vacuum transfer in dense phase for all types of powders without retention and with line purge	<b>Hopper</b> Vacuum transfer system with integrated weighing system for introduction into melters	<b>Cyclofilter</b> For receiving powder on pneumatic conveying line

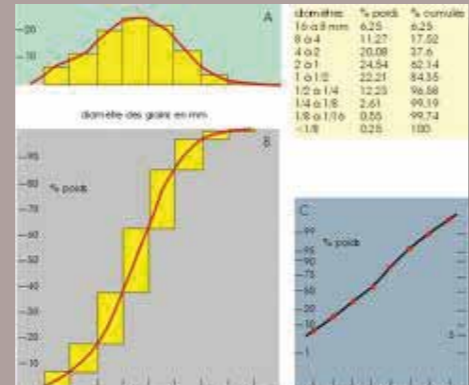
PRODUCTION FEEDING		STORING	
<b>Big bag filling station</b> Manual or automatic bagging unit for bulk and granular powders	<b>Big bag packaging</b> Conditioning of all types of big bags in a contained manner with densification and commercial weighing	<b>Silos / Hoppers</b> For storage of your powders and granules, steel, stainless steel or aluminum manufacturing and flexible silos	<b>Stainless steel / steel container</b> For storage of your powders and granules, standard or customised models from 500 to 2500 l.

## ▶ TEST PLANT

Always with the aim to satisfy and provide you, the client with the best solutions for powders, Palamatic can perform tests thanks to its in house **test centre and its demonstration equipment.**

- Pneumatic dense phase suction conveying
- Dosing
- Big bag unloading
- Milling
- Sifting

Thus, we validate the parameters required for your own products. This allows you to judge the performance of the Palamatic equipment and secure your investment.



Granulometric curve



Palamatic workshop

## ▶ ASSEMBLY

We perform or supervise every step of your project from assembly to final commissioning. We can offer you a complete quality service with respect for your deadlines. The installation of our equipment in your premises is performed by our technicians anywhere in the world.

The assembly of your production line includes handling, mechanical assembly, supporting piping and electrical wiring.



## ▶ COMMISSIONING

The commissioning stage provided by PALAMATIC ensures the respect of your specifications. It includes :

- Final adjustments of the whole system by qualified personnel
- Checking of electrical connections
- Conducting of production tests

### Training :

PALAMATIC provides comprehensive training to ensure optimal use of your production line. All your production, line conducting and maintenance teams are trained throughout the start phase.

A comprehensive and customised technical start up documentation is supplied with every installation.



Plant installation





[www.palamaticprocess.fr/machines-industrielles/melangeur-industriel](http://www.palamaticprocess.fr/machines-industrielles/melangeur-industriel)



► SERVICE

**Customer services and maintenance on site**

We guarantee after-sales service and quick delivery of spare parts and worn parts. Our service also proposes maintenance contracts adapted to your need.

PALAMATIC after-sales service technicians move on site to provide the best solutions to your problems. Regular visits from one of our technicians guarantees operating efficiency and extends the life span of your installation.

Each of our technicians has received comprehensive technical training. Remote diagnostics are integrated into the automatons for increased reactivity. Palamatic uses teleservice systems allowing remote diagnosis and support in a short time even if the clients are located far away.



Deconditioning - Handling - Transferring

# ATEX REGULATIONS



## AUDIT AND COMPLIANCE

In your production processes, you are very frequently faced with the explosive nature of several materials like powder, gas or liquid. Explosions have huge consequences. When the atmosphere is explosive, a small spark (e.g. that of an electric switch or from the mechanical heating of a part of the machine) is enough to cause an accident or a disaster.

For many years, authorities and industries have worked on developing safety rules governing work conditions in such dangerous environments : explosive atmospheres. The new regulations, called ATEX regulations, were published and are effective as of the 1st of July, 2003.

PALAMATIC provides its expertise to classify your risk zones based on the nature, frequency or duration of the presence of an ATEX regulation. Today, PALAMATIC delivers to its customers ATEX installations certified by notified organisms (Inéris, LCIE ...). PALAMATIC has developed as a standard some equipment conforming to ATEX 0-20 / 1-21 / 2-22. Our engineers perform the zoning and drafting of risk analysis on new equipment and new facilities.

PALAMATIC ensures safe operation and full compliance with these standards.



**Palamatic**  
 PROCESS >>> machines • engineering  
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 ☎ +33(0)2 99 86 06 22  
 ☎ +33(0)2 99 86 08 10  
 ✉ sav@palamatic.fr  
 CE Ex  
 DESIGNATION : VIDE SACS  
 ANNEE DE FABRICATION : 2012  
 En conformité avec les exigences de la directive 94/9/CE  
 L'équipement ne doit pas être mis en service sans que la machine dans laquelle il est incorporé ait été déclarée en conformité avec la directive sur les machines 2006/42/CE

# 5 SECTORS

*Palamatic created five specific divisions to offer customers an efficient project team sensitised to constraints of these sectors.*

## FOOD & FEED

- BABY FOOD ■ SPICES AND FLAVOURINGS ■ MILK DAIRIES ■ ANIMAL NUTRITION FOR LIVESTOCK ■ PETFOOD ■ MILLS ■ BAKERIES ■ SUGAR INDUSTRY ■ CONFECTIONERY ■ BEVERAGE AND JUICE MANUFACTURING ■ DIETARY SUPPLEMENTS ■ PRE-PREPARED MEALS



## CHEMICAL INDUSTRY

- PETROCHEMICALS ■ PLASTICS ■ PAINT ■ PIGMENTS AND DYES ■ PESTICIDES AND FERTILIZERS ■ PAPER PRODUCTION ■ TEXTILE MANUFACTURING



## FINE CHEMICAL INDUSTRY

- PHARMACEUTICALS ■ COSMETIC COMPOUNDS ■ BIOTECHNOLOGY ■ PRODUCTS ASEPTIC TREATMENT ■ DETERGENTS AND WASHING PRODUCTS ■ AROMAS



## MINERALS & BUILDING INDUSTRY

- CEMENT PLANTS ■ QUARRIES ■ INDUSTRIAL PLASTER (BOARDS AND POWDERS) ■ GLASS MANUFACTURING ■ MINERALS AND METALS



## WASTE WATER & SMOKE TREATMENT

- PREPARATION OF WHITEWASH ■ DISSOLUTION OF UREA ■ TREATMENT OF ACTIVATED CARBON ■ ALUMINUM SULFATE TREATMENT ■ SLUDGE PROCESSING / TRANSFER / STORAGE / COOLING





[www.palamaticprocess.com](http://www.palamaticprocess.com)



*The smartest designer  
for powder handling solutions*



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