



THE EXCELLENCE IN **FILTRATION**, BY NATURE



**CONCRETE & TUNNELING**  
DIVISION



**matec**<sup>®</sup>  
machinery technology

**WATER TREATMENT & SILT MANAGEMENT**



## WATER TREATMENT & WASHOUT SOLUTIONS

### THE EXCELLENCE IN FILTRATION, BY NATURE

MATEC is a worldwide leader in the design and manufacturing of filtration and purification plants for waste water and silt. We design, manufacture and install complete and turnkey plants in any sector which deals with waste water and silt. The most important ones are mining, aggregates, sand and gravel, stone, concrete, ceramics, plastic and glass. We have developed extensive experience over 10 years and thousands of successful projects all across the world. Through our systems we can guarantee the best results, allowing any working site to reach its maximum efficiency and production, because Matec systems maximize the returns of the plant, recovering precious materials and reducing disposal costs. We can provide our customers with the best quality machines, also thanks to components by top brands and the best assistance service.

Matec headquarters are in Massa, Tuscany, Italy. Our workshop and offices cover a 5000 m<sup>2</sup> area, here we design and manufacture all our machines to offer 100% Made in Italy products. Matec is a well-established presence in every continent and we have developed branch offices in America, Brazil and India, plus a global dealer network. Through our warehouses and dealers, we can easily supply the spare parts you need and give assistance. The need of constantly keeping a high level of both service and operational skills must be translated into a strong integration between Customer's needs and the daily comparison to the evolution of our reference markets. Our company mission is to create values through the supply of cutting edge products and services for customer's greatest satisfaction, at the same time respecting mankind and the environment.

#### FIELDS OF APPLICATION

- ✓ MINING COAL AND IRON-ORE
- ✓ AGGREGATES - SAND AND GRAVEL
- ✓ STONE CUTTING MARBLE AND GRANITE
- ✓ CONCRETE AND TUNNELING
- ✓ RECYCLING AND SOIL WASHING
- ✓ GLASS AND CERAMIC
- ✓ CHEMICAL, PLASTIC, INDUSTRIAL APPLICATION



- ✓ 1800 INSTALLATIONS IN THE WORLD
- ✓ OVER 150 COUNTRIES
- ✓ 4 FACTORIES ITALY USA BRAZIL INDIA
- ✓ GLOBAL DEALER NETWORK



**PRODUCTIVITY**



## WATER TREATMENT & WASHOUT SOLUTIONS



### CONCRETE & TUNNELING DIVISION

Matec is a leader and the leading producer of hi-tech machinery for filtration of water derived from trucks, mixers, pumps and concrete, and generally all water derived from the process.

Waste water and sludge treatment arising from washing processes in concrete production sites.

Matec designs and manufactures complete CWR (Concrete Water Recycling) filtration plants. By using the filter press, our plants treat waste water and sludge arising from various washing processes.

Matec CWR plants are designed to maximize the returns of concrete production sites and to recover and re-use washing water, which has been clarified automatically and without using chemical additives.

Thus we can guarantee cutting down disposal costs, also thanks to the production of dry cakes easy to shovel and move



CWR plant in Russia



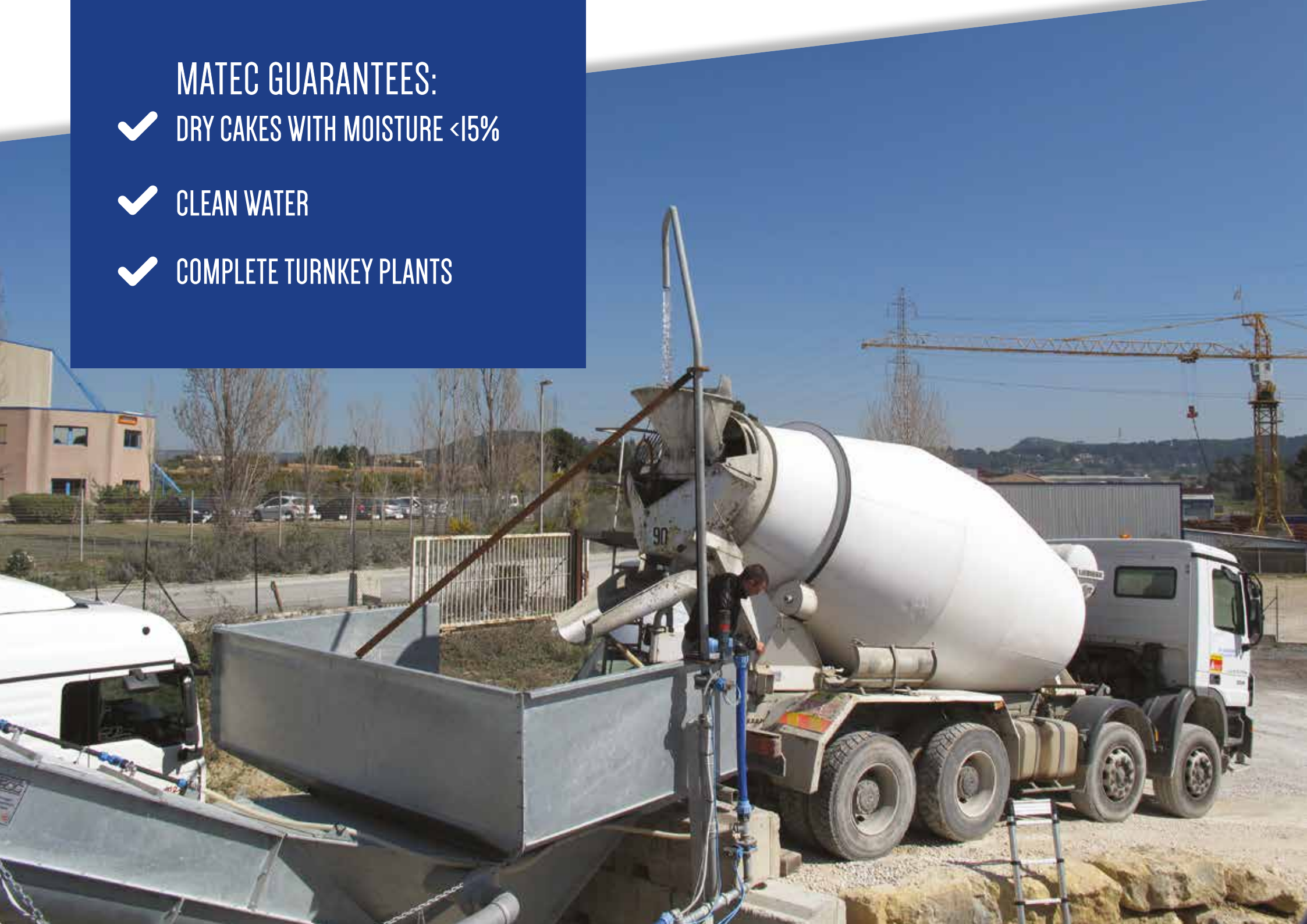
CWR Filter Press in South Carolina



Matec CWR plant in Italy

## MATEC GUARANTEES:

- ✓ DRY CAKES WITH MOISTURE <15%
- ✓ CLEAN WATER
- ✓ COMPLETE TURNKEY PLANTS





**WATER TREATMENT & WASHOUT SOLUTIONS**



**CONCRETE & TUNNELING  
DIVISION**

# BORN TO BE PERFECT

TURNKEY WATER TREATMENT AND FILTER PRESS  
NO PERSON, NO POLYMER, NO PROBLEMS!



**FILTER PRESS**



PUMP

WASTE WATER TANK

CLEAN WATER TANK

SCREW SEPARATOR

## WATER TREATMENT & WASHOUT SOLUTIONS



### CONCRETE & TUNNELING DIVISION

#### FILTER PRESS

Matec filter press is used in the CWR installations for the mud dehydration. The machine is completely automatic, for the opening and closing of plates, the washing of cloths and plates and their shaking, to guarantee that no mud remains attached to the cloths. Through the dehydration process, we obtain clean water that can be reused for washing mixers and concrete recovery units (screw separator or dewatering screen) and to obtain dry cakes easy to be disposed of.

MATEC, through its CWR plants, can recover concrete at the end of its working cycle.

#### CONCRETE RECOVERY UNIT

#### SCREW SEPARATOR

The screw separator is used to separate aggregates, which will be washed during this process, from water, which still contains the finer particles and is ready to be purified by the filter press. Recovered aggregates are piled up at one end of the screw separator, ready to be reused in the concrete production cycle.

#### DEWATERING SCREEN

As well as separating water from washed aggregates, the dewatering screen selects the washed materials, depending on the installed number of meshes and its holes' size and allowing concrete producers to use precise mixtures. The dewatering screen is placed over a tank, where the water falls, ready to be treated by the filter press.

#### OPTIONAL ACCESSORIES

- Submersible pump for washing water feeding;
- Submersible pump for hopper feeding;
- Electroagitators;
- Dosing system;
- Conveyor belt.



CWR plant in Missouri

#### THE BENEFITS OF A MATEC SYSTEM

- No need of ponds, economic disposal system
- It recovers, selects and recycles the materials in the waste water
- It recycles and reuses 95% of water in the process
- It reduces the mud volume by 80%, producing dry cakes
- Eco Friendly system, with low maintenance costs



- ✓ 100% AUTOMATIC SYSTEM
- ✓ FROM 2 TO 200 TRUCKS AND MIXERS
- ✓ MORE THAN 300 INSTALLATIONS IN THE SECTOR





**WATER TREATMENT & WASHOUT SOLUTIONS**



**CONCRETE & TUNNELING  
DIVISION**

**CAPACITY**  
**COMPETENCE**  
**COURTESY**





## WATER TREATMENT & WASHOUT SOLUTIONS



### **CONCRETE & TUNNELING DIVISION**

## WHAT MAKES MATEC THE BEST SOLUTION FOR YOUR BUSINESS



### **PRESSURE**

MATEC is the only 100% HPT company using pressure up to 16 and 21 BAR



### **OPENING TIME**

The TT2 patented system reduces discharging times of big machines from 15/20 minutes to less than 3 minutes



### **CAPACITY**

We design and build plants to process from 0,5 to 100 m<sup>3</sup>/h, every plant is automatic and customized



### **AUTOMATION**

MATEC produces only 100% automatic and hi-tech plants



### **HIGH QUALITY**

Matec only uses top brands: Siemens and Allen Bradley for the electrical part, Bosch Rexroth for the mechanical part and feeding pumps 100% made in Italy



### **WARRANTY AND ASSISTANCE**

MATEC has a technical office with 5 engineers dedicated to blueprint design, project engineering and the providing of different platforms, 1 dedicated engineer during installation, 10 technicians for the plant assembling and start-up, and for the after-sale assistance within 24/48 hours



Plant in Colorado





## WATER TREATMENT & WASHOUT SOLUTIONS



### CONCRETE & TUNNELING DIVISION

## THE PROCESS

The mixers/trucks ① are washed and the residue is discharged into the screw separator or the dewatering screen.

The screw separator, ② or the dewatering screen, recovers washed material

The recovered material is ready to be reused. ④

The dirty water ③ is stored in an external tank ready to be filtered

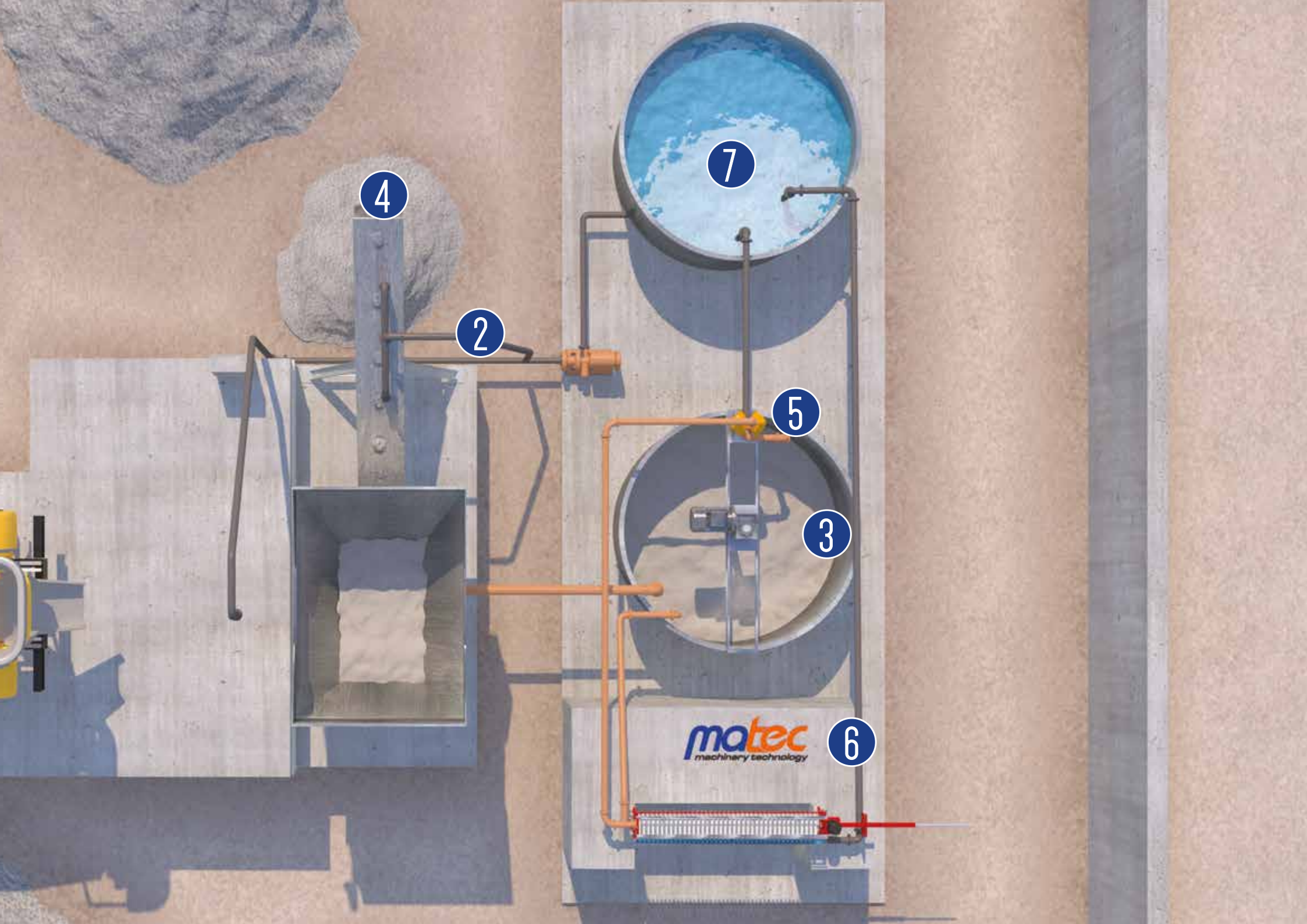
The dirty water is agitated in the tank.

The dirty water is pumped directly into the filter press by an HPT pump ⑤ without adding flocculant and without being clarified.

The filter press ⑥ filters the water by retaining all solids, returning completely clean water ⑦ ready to be reused in the production cycle.

The filter press produces dry mud cakes (max 15% of residual moisture) completing more than 5 cycles per hour and reducing sludge volume by 85%.





4

2

7

5

3

6



## THE EXCELLENCE IN FILTRATION, BY NATURE

MATEC specializes in the design and development of waste water purification and filtration plants. We work for many different industries, the most important are: mining, aggregates, gravel, sand, stone, ceramics and glass. Our mission is the customer's satisfaction. That is why we offer timely after-sale service, as well as before-sale advice to understand the real requirements of our potential customers.



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

