



MAITEK SRL

Technological innovation and respect for the environment

- Aggregates treatment, recycling and recovery -

MAITEK s.r.l. was born in 1999 with the aim to develop new technologies in the field of quarries. The company's activity is run by a staff of engineers and experts with a thirty-year experience in industrial and mining for aggregate production and recycling, particularly specialised in ecological plants.

Our main office is located in the Marche, in the north-centre of Italy, a region rich in little and medium enterprises working in the field of the aggregate treatment.

Our markets are: Italy, Europe, the Mediterranean Area and the Middle East Area.



The raise of an environmental sensitivity leading the public administrations in Italy and in Europe to new restrictions in quarry exploitation and the environmental problems have made MAITEK propose his customers a wide range of innovative products to solve these problems and give new advanced answers to the new needs of the market.

This new products range includes: complete plants for the soil washing, plants for the concrete recycling, systems for the truck mixers washing, plants for the recovery of the milled material coming from digging operations, for the asphalt treatment and for the recovery of the milled asphalt.

In addition to this, MAITEK provides its customers with the following services: Consulting, Engineering, After-sale Technical Support, Spare Parts Service.



- SOIL WASHING -

The Soil Washing is a process of washing contaminated sediments and soils, based on chemical / physical mechanisms allowing separating the matrices which compose the soil, concentrating the contaminants in the finest parts (silts and clays).

The Soil Washing process makes use of the principle according to which the contaminants mostly adhere to the fine particles. In fact, the fine particles have a large specific surface area and consequently absorb a quantity of contaminants larger than the coarse particles.

The Soil Washing process allow separating the fine material impregnated with contaminants from the coarse material by means of a washing process with pure water or water with the addition of several extracting fluids such as organic solvents, surface-active agents, acids and bases, in order to allow the contaminants desorbing from the soil matrix and flow into solution or suspension.

The main phases of the Soil Washing process are:

- Pre-treatment of the contaminated soil in order to separate the sizes;
- Washing and extraction of the contaminants that flow from the soil into a liquid/aqueous solution;
- Separation of the solutions extracting fluid - soil;
- Post-treatment of the soil

Fields of application:

The Soil Washing process is used when the soil is contaminated with heavy metals, hydrocarbons (localized contamination) and pesticides (widespread contamination).

Generally the duration of the Soil Washing treatment is short, it may take from one to three months.

Before the Soil Washing treatment it is necessary to analyse a sample of the soil to check the physical features of the soil itself and the typology of contamination.

Advantages:

- Recovery of a high percentage of raw materials;
- Lower use of chemical reagents and an high yield when using them;
- The contamination treatment may be executed directly on the contaminated site with the consequent elimination of the charges concerning the transport and the disposal of the contaminated matrix;
- Volumetric reduction and concentration of the contaminant substances;
- Possibility to solidify the contaminant substance remaining, further reducing the charges for its disposal.



- CONCRETE TREATMENT -
- concrete recycling -

Every year in Italy are produced about 50 millions of waste coming from the construction and demolition sites (about the double weight compared to the solid urban waste).

New CE regulations oblige attaining a recovery percentage equal to the 70%, concerning the weight, of the produced waste (nowadays it is the 15%).

Attaining this aim will increase the production of recycled aggregates to be reused; for example the concrete aggregates collected from digging and demolition sites, once treated, can be reused for the filling of the broken ground for the piping laying, for the making of sub-bases, for the making of base layers for asphalt pavements and for the ground consolidation.

Our company is able to plan and supply complete fixed plants, semi-fixed plants on skids and mobile tyred and/or tracked plants, for the crushing and screening of concrete aggregates collected from digging and demolition sites.



- CONCRETE TREATMENT - - truck mixers washing -

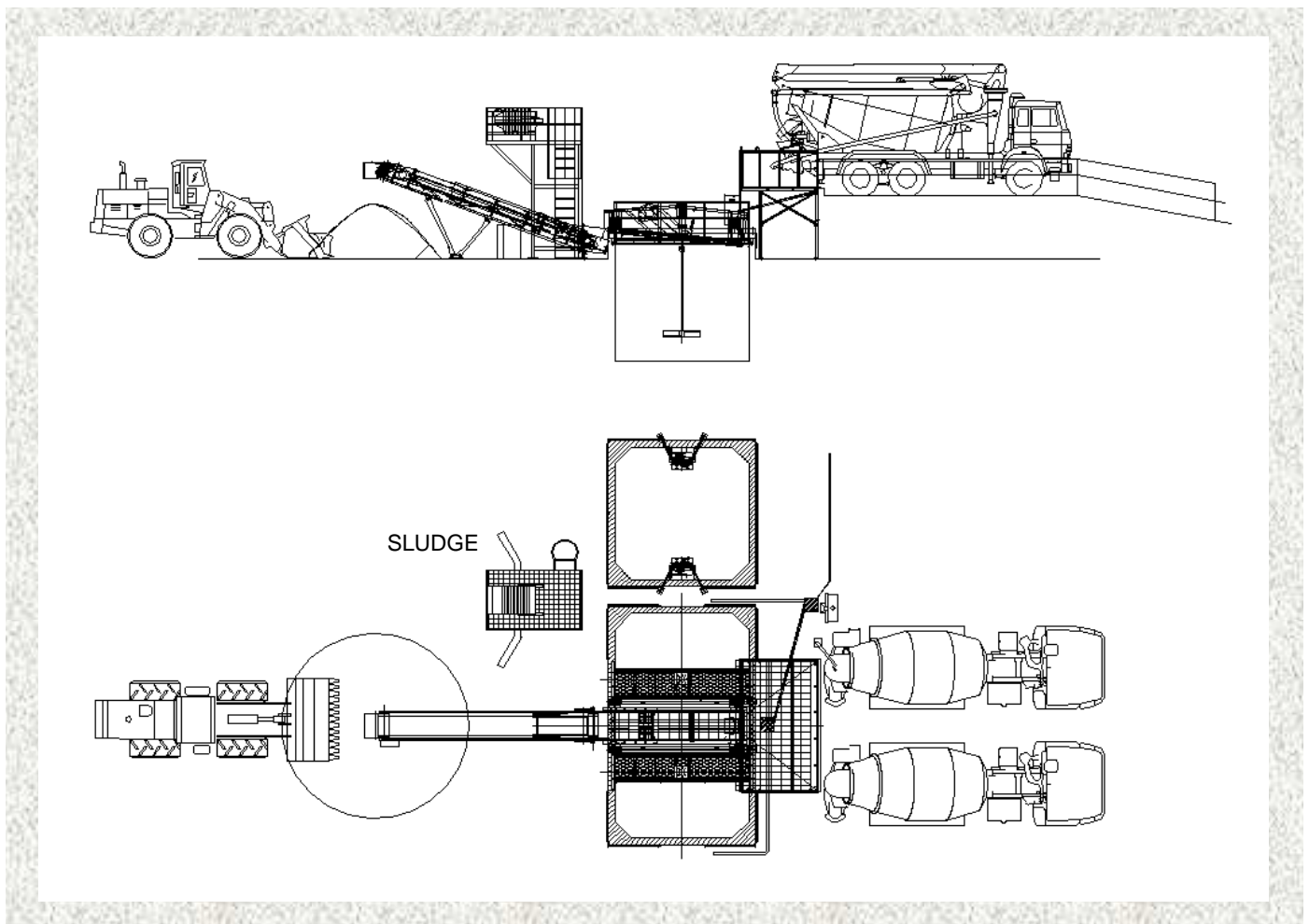
The regulations concerning the environmental antipollution subject have pressed several companies to offer systems to solve the problems concerning the disposal and recovery of the unused concrete in the truck mixers.

Our systems satisfy completely the current trend concerning the complete recovery of the solid and liquid materials coming from the washing of the truck mixers.

The truck mixers and the concrete pumps, when coming back from work at the end of the working day, must be well washed inside and outside in order to avoid the setting of the residual concrete.

Our plants, that can separate and wash the aggregates, include a vibrating screen placed on a collecting tank and fed by means of a hopper. The polyurethane mesh, vibrating by means of two powerful vibrators, let the material flow to the collect area while the water, the concrete and the fine material fall in the tank below. A series of sprinklers washes the aggregates during the transport.

The aggregates, when washed and dried, without concrete and silt, will be stocked to be reused in the production of new concrete, while the residual water will be reused for the next loadings. The residual sludge will be evacuated or pressed, in the second case the plant will be equipped with a dewatering system by means of a filter-press which will reduce the humidity about to the 20% and will let the sludge become so hard to be taken with a shovel.



- MILLED MATERIAL / ASPHALT RECOVERY -

The current production processes and the use of suitable plants, allows the reuse and/or recycling of second-hand materials or waste materials, for the making of the sub-bases of the road super-structures and for the making of the bitumen surface sheeting.

According to the current regulations, all the products are checked to assure the right performances, fully respecting the environment, the quality and the safety.

Generally the most reused/recycled materials come from the ground treatment or from the digging rocks, concrete, demolitions and milled asphalt.

Appropriate technological plants enable the treatment of not hazardous aggregates and their reuse in the road-beds.

Asphalt milling is basically a process of grinding up the concrete/asphalt pavement or other materials in order to re-profile the surface before the making of a new pavement.

The aggregates coming from the milling are properly treated passing through crushing and screening processes.

The milled material is often used for the making of sub-bases, fillings, foundations, mixed concretes.

The milled asphalt, also called “recovery bitumen conglomerate”, is essentially the product of the road profiling during the maintenance operations of the roads when removing the bitumen sheeting before making a new pavement. It is a high performing product, entirely reusable in the road construction processes from where it originates and it can be reused over and over again.

The milled asphalt, unlike the other materials coming from the building demolition processes, is the only material that can be reused without any preventive treatment and can be recovered without any special additional processing.

The milled asphalt has a high market value.

Our plants for the asphalt recovering include a system for the milled asphalt treatment, involving the separation of the aggregates from the bitumen, and the consequent reuse both of the separated aggregates and of the bitumen.



BENEFITS resulting from the recycling and recovery of the aggregates:

- For the producer it is a way for an affordable disposal;
- For the plant owner the recycled material gains a commercial value in the market;
- For the purchaser the recycled material reaches performances comparable with the traditional materials from where it originates and it is really much cheaper;
- For the community recycling the construction materials assures a best safeguard of the natural non renewable resources;
- For the first time the waste gains a real value.

For a better and more sustainable world, encouraging and making easier the recycling and the recovery of the materials that have still so much to give, it is a duty and a priority.

Recycling the construction and demolition materials is a duty for all the developed countries, especially when their green conscience takes shape and they realize that natural resources are not infinite.

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