

EuroCover EC



EuroCover EC Process – Technical File.

1- Presenting the EuroCover EC Process

Bigger or smaller construction and earthmoving works, quarries, mines or other similar activities often create a number of disorders:

- Slopes are created that tend to be sensitive to wind and water erosion : during rainy periods the risks are multiplied and often important run-off channels appear, fine sediment run-off can contaminate streams and rivers; countermeasures

cause delays and extra costs.

- Trenches, piles of earth and debris; unfortunately the same cause with the same side-effects
- Various materials like mine or quarry waste, minerals, sandy material and materials from earthmoving works are stored: dust being blown away by wind can negatively impact the environment and health close by and even further

away from the site. As in the other examples, these stored material piles also tend to be sensitive to wind and water erosion. traditional and temporary confinement of polluted soils and sites, by avoiding the spread of VOC's (Volatile Organic

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EuroCover EC Process



Technical File

EURO-TEC

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Components), dust and contamination leakage towards subterranean water.

Various techniques to cover stocks and extracted materials exist, of which the most commonly used is tarping by means of heavy (or extra weighted) geo-membranes and/or tarps. However, the maintenance often represents an important expense in the general framework, a cost that often isn't budgeted:

- Positioning, fixing and re-positioning tarps
- Filling and positioning weight bags
- Regular maintenance, but especially needed when rain- and thunderstorms are present (pumping water pockets, repositioning weight bags, repositioning blown away tarps, filling run off channels created by rainfall)
- Managing and control of run-off sediments at the perimeter of the site

EuroCover EC (registered and patented under number 1159548) offers an immediate stabilizing solution for trenches, slopes or storages mentioned earlier, or as a perfect alternative to traditionally used temporary protection measures.

This innovating process has been designed and optimized by specialists in the field of efficient erosion control and confinement, in order to offer an effective technical and financial tool for slope, trench and storage protection.

Moreover, the process is completely in line with the European Commission guideline (COM 2012-46), which tackles the current European and Worldwide trends on soil degradation as well as the future challenges to protect our soils.

EuroCover EC is hydraulically applied in 1 layer onto the soil, and consists of 2 components :

- A Semi-sealing component
- A Stabilizing component that provides mechanical protection.

Because every jobsite has its own constraints and specifications, a check list (upon request) will help to evaluate all of them inherent to the site, in order to supply the product that is best adapted to the soil constraints present.

EuroCover EC offers the following advantages:

- Ease of application, regardless of soil micro-relief or slope steepness
- Absolutely no need for maintenance, specifically related to windy areas or due to severe climate conditions
- Stabilizes the superficial sand, even on already existing run-off channels (ravines)
- Absorbs and minimizes the 'splash effect' of raindrops during heavy rainfall
- No leaching of rainwater collected by the membrane over the whole of the area

Picture 1-2-3 : Slopes and embankments prone to erosion



Picture 4-5 : Traditional ways of protection



EuroCover EC

Is hydraulically applied in 1 layer onto the soil, consisting of 2 components :

- A Semi-sealing component
- And a Stabilizing component that provides mechanical protection.
- After drying the product becomes a stable and unseparable compound
- After a couple of days, the homogeneous cover perfectly stabilizes the underlying materials

Equipment Needed

10.000 litre EuroSeeder on a jobsite truck



Preparing and mixing EuroCover EC elements



The aspect of EuroCover EC membrane while in the tank



Applying EuroCover EC

Application of EuroCover EC by hose



Application of EuroCover EC



Filling the tank with the EuroCover EC system components



Résultats

Stabilizes the run-off, even on already existing erosion channels



Stabilization of stone & sand river embankments



General view of a EuroCover EC site



(water absorption and evaporation capacity around 600% of dry weight)

- Does not cause any extra waste
- An economically and technically viable alternative over traditionally constraining solutions
- Average protection duration between 60 to 180 days. Can be prolonged by simply adding a new layer of EuroCover EC
- Visually positive impact in comparison to traditional tarp systems.

EuroCover EC is applied by using a special machine (EUROSEEDER), which consists of a tank, an agitator with paddles, and a centrifugal pump. The application is done or from a slope side, or from the operator platform by canon, or from ground level through a hose.

Results on different jobsites

1-Stabilization of stone & sand river embankments



2-Stabilization of sediment run-off, even with already existing erosion channels present



3-Stabilization of sediment run-off and Suppression of Dust particles on a temporary storage site of materials after earth-moving work in a residential area



3-Stabilization of open trenches in a pipe-line project. On the front area a recently applied EuroCover EC (only a couple of hours), the other area shows the product applied before (some days).



2. Operating Mode

2.1. In order to adapt and offer the best possible solution which covers closely the specific needs of each jobsite in the best way, we ensure a preliminary study of the specific composition of EuroCover EC on-site.

2.2. The amount of water needed to prepare EuroCover EC, is approximately 4300 litre per tank load. This rather important amount of water needs to be entered into the tank rather quickly, hence the need for a fire-hydrant or in the absence of such, the job-site management will ensure sufficient water supply by e.g. water cistern equipped with a high flow rate pump.

2.3. Preparing the EuroCover EC hydraulic slurry.

With the tank filled, the various components of the temporary sealing part of

EuroCover EC are introduced in the tank, which is equipped with an agitator with paddles, capable of turning in 2 directions. The mixing power of the machine provides a homogeneous, slick blend of the sealing matrix. The products' components are mixed in a specific order and following a strict procedure assuring in that way the quality of EuroCover EC. Please note that during periods of frost, it will become extremely hard if not impossible to apply EuroCover EC.

2.4. The EuroSeeder is conveniently placed there where – by using the hose– the whole area that is to be treated can be reached easily – before being treated. The operator ensures the machine operation and handling (start & stop, mixing of the slurry, pump operation, recirculation of material back into the tank). A

trained operator ensures the application of EuroCover EC slurry by canon or by hose, taking care to cover the rim of the previously sprayed strip again, in order to ensure ultimate coverage. After the first targeted covering, the operator will ensure a general cover by spraying the area with a 'rainfall' pattern.

- Availability of an area for rinsing and cleaning of the equipment
- On-site availability of water (fire hydrant)

2.5. Mainpower

The job-site manager is responsible for start-up and follow-up of the site.

He'll be in charge of the technical management and security of the site as well as timely ordering of materials and products. 2 Operators will ensure the EuroSeeders' operation, preparation of EuroCover EC and the final application of it on-site. Eventually 2 extra people on-site will be in charge of the logistic support, the handling of the hoses (whenever needed) and other handling tasks.

2.6. Time needed for EuroCover EC layer to be applied.

The time needed to apply the temporary sealing EuroCover EC, is approximately 1 ½ to 2 hours per tank load, excluding the time needed to clean and rinse the material and equipment which is done at the end of the working day.

2.7. Eliminating EuroCover EC.

As previously mentioned, EuroCover EC protects on average between 60 and 180 days, with the possibility of re-applying another layer of EuroCover EC in order to extend this duration.

The disposal of EuroCover EC does not need any additional action as the product can easily be discharged with and mixed with the material it covers.

2.8. Important notice :

The following services remain under the sites management responsibility :

- Formalities for access to the site
- Availability of 2 persons for the handling and the application, including their personal protection equipment
- Availability of a room or closed container (during periods of frost), for storage of the EuroCover EC components