

Bibko Umwelt- und Reinigungstechnik GmbH, 71717 Beilstein, Germany

# New recycling plant and chamber filter press at Rehm Kies- & Betonwerk GmbH & Co. KG

**Rehm Kies- & Betonwerk GmbH & Co. KG, headquartered in Lottstetten, has been successfully involved in the extraction, processing and distribution of sand and gravel as well as the production of concrete for over 50 years. Furthermore, the company has made a name for itself in the field of waste disposal and building materials recycling.**

In order to recycle the residual concrete in an environmentally friendly way, Bibko Umwelt- und Reinigungstechnik GmbH was commissioned to develop a corresponding concept. The concept developed comprised two recycling machines including agitators, as well as a chamber filter press. During the design phase, great importance was attached to keeping the waiting times for the truck mixers as short as possible, for which reason two washing machines with a capacity of 30 m<sup>3</sup>/h each were installed in parallel. This design enables up to four truck mixers to be washed out simultaneously.

The washed-out material is dewatered by means of a 3.00 metre-long screw conveyor and conveyed to a discharge height of 2.50 m, so that sufficient height is available to avoid having to permanently remove the washed-out material from under the plant.

Both systems have two rinsing gibbets each, which fill the truck mixer drums with recycling water. The residual concrete still in liquid form in the mixer drum is turned out together with the recycling water into the charging hopper in one of the two systems and separated into its constituent parts in the recycling machine.

The resulting wash water, which contains fines with a maximum grain size of 0.2 mm, is fed to the agitator tank via an outlet channel. An agitator installed in the tank keeps the fines in the residual water suspended by cyclic agitation and prevents the fines from settling.



*The concept developed comprised two recycling machines including agitators, as well as a chamber filter press.*



*Both systems have two rinsing gibbets each*

If either the filling level or the density of the water in the agitator tank rises above a previously defined value - this can be conveniently set via the touch display according to the customer's requirements - the filter press starts automatically in order to bring either the density and/or the filling level to the previously defined level.

By automating the process, the operator is largely spared manual operation or intervention. The recycling water with the contained fines and an average density of 1.05-1.07 kg/l is pumped into the chamber filter press via a compressed air diaphragm pump at increased pressure so that the chamber filter press clarifies the recycling water and presses the fines it contains into a filter cake that is resistant to penetration. Then,

depending on the version, the press opens automatically and ejects the material. The filter cake produced by the water clarification can then easily be recycled, e.g. as RC material in road construction.

The chamber filter press was housed safely in the winter thanks to the customised enclosure, including the associated access stairs. The enclosure itself is insulated and thus enables year-round working - even in sub-zero temperatures in winter. In addition, there is the option of equipping the discharge opening in the container floor with an automatic closing flap to ensure even better protection against the cold.

**Bibko chamber filter press with container solution**

Chamber filter presses, as well as container solutions suitable for them, are offered in various sizes and designs and are also specially manufactured according to customer requirements. Both the chamber filter press and the recycling system can be equipped with additional systems, such as density measurement or pH neutralisation. In addition, Bibko can supply the chamber filter press with various residual water and clear water tanks or also as a mobile system. Bibko chamber filter presses can be adapted to the common residual concrete recycling systems. ■

**FURTHER INFORMATION**



Bibko Umwelt- und Reinigungstechnik GmbH  
 Steinbeisstraße 1+2  
 71717 Beilstein, Germany  
 T +49 7062 92640, F +49 7062 926440  
 info@bibko.com, www.bibko.com



*Chamber filter presses, as well as container solutions suitable for them, are offered in various sizes and designs.*