



Revolution in the Concrete Industry:

With its innovative production process, MultiCON offers the environmentally friendly solution for a global concrete problem and also provides solutions especially for the German market.

Concrete is the most widely used building material in the world. However, in order to produce concrete among others sand is required, a resource that is becoming increasingly scarce as is well-known. The increasing demand, the decreasing extraction capacities as well as the high CO₂ emissions during the production of concrete are far-reaching problems and require future-oriented solutions. The company MultiCON who has set itself the objective to offer economic and ecological concrete solutions has made the breakthrough in the globally booming construction industry with its unique offer: Previously unusable fine sands are now made usable for the concrete industry!

Today's construction industry is no longer imaginable without concrete, as the long-lasting mixture of sand, gravel, cement and water offers more design opportunities than any other building material and possesses the required strength and stability. The other side of the story: For the implementation of future construction projects, in particular for the planned mega buildings, as e. g. in the United Arab Emirates or in the Asian region, enormous quantities of sand and gravel are required for concrete production all around the world in the next years. The existing resources are not sufficient to cover the actual demand. This results in higher procurement costs, in illegal sand extraction and thus in serious political, economic and ecological consequences worldwide.

The technology of the future: Making use of previously unused resources

The MultiCON GmbH with headquarters in Munich is engaged in both global and also market-specific challenges of the industry. The product range of the MultiCON GmbH includes the production of high quality, future-oriented products by applying efficient systems in practical applications of the concrete industry. So, on the occasion of the "ICCX Middle East 2018" in Sharjah at the end of November this year, MultiCON came up with an absolute world debut: A patented method for the production of concretes from fine sands, but in particular the large-scale concrete production from desert sand. For the first time, the method for the "conversion" of previously unsuitable desert sands into high quality concrete aggregates was presented to international trade experts of the concrete industry. Within the scope of this new method, large quantities of very fine sands are converted into suitable concrete aggregates. In Germany, too, large quantities of unusable, unused fine sands have caused considerable environmental damage as a "waste product". With the new method of the MultiCON GmbH, these sands can now also be made usable for the German concrete industry. The final products are high quality, more cost-efficient, environmentally friendlier, sustainable and future-oriented concretes.

Concrete from fine sand - Lighter, harder, environmentally friendlier and available more quickly

"Sand is scarce, although there is fine sand, such as desert sand, in abundance. Until now, however, no technology has been developed to utilize the resource of fine sand", says Dr. Helmut Rosenlöcher, Technical Director at MultiCON, describing the paradox. So far, fine and desert sands have been unsuitable for the production of concrete due to their grain size, their grain spectrum and their smooth surfaces. In 2017, the chemist from Weißenfels, Germany, succeeded in taking the decisive step in the production of high quality concretes from desert sands. Rosenlöcher had the idea to grind the already very fine desert sand even finer. The pulverized product is subsequently pelletized with mineral binders to form pressure-resistant pellets. By applying the MultiCON Dual High-Speed Mixing Technology,



these pellets are then used to produce high quality concretes which are reduced in weight by 25 %, harden more quickly and possess more than twice the strengths of commercially available standard concretes 24 hours after production.

Positive side effect: A cement reduction of 40 % is possible and results in significant CO₂ savings of up to 30 %. “We endeavour to optimize the product of concrete to the highest possible extent and to preserve it for the future in terms of resource conservation”, declares Dr. Leopold Halser, Managing Director of MultiCON. Further advantages of this technology are obvious: It considerably reduces the concrete production costs - up to 15 % compared with conventional processes can be saved.

Processing of existing resources on your own doorstep

With its technology “Made in Germany”, MultiCON significantly contributes to solving the problem of the global sand shortage. Until now, less than 5 % of the global sand reserves have been used for the concrete production. This will change now! But MultiCON has also found solutions for the specific resource problems of local markets and has them assessed by independent institutes. Because in Germany, too, sand is an increasingly scarce and thus also an increasingly valuable raw material which is not infinitely available and must often also be delivered to the points of use with very high transport efforts.

Here in Germany, the sand and gravel consumption amounts to more than 240 million tons. The required areas for the extraction of the sand and gravel reserves would engulf between 400 and 600 hectares of useful area per year which is more than the size of the Wannsee. “So it was more than necessary to think about the possibilities to prepare large quantities of unused and previously unusable fine sands for the German concrete industry”, Dr. Rosenlöcher points out. For him, it was obvious to use the existing resources of natural sand and gravel reserves, in particular the fine sand components, and not to dispose of them as in the past, because this causes environmental damages. The patented method for the preparation of fine sands offers the ideal solution. The fine sands from Northern Germany, e.g. from Mecklenburg-Western Pomerania, can be pelletized and used as aggregates for the production of sustainable concretes without problems. But further pelletizing tests have been carried out successfully, too. This way, the previously unused fine parts from concrete recycling, which are accrued in large quantities when crushing rubble, can also be recycled as concrete aggregate by means of pelletizing. The conversion of unused or previously seldom used fine sands into high quality concrete raw materials has a high economic and above all ecological significance. In Northern Germany, but also in large parts of Eastern Europe, large quantities of fine sands are available which can be processed economically and efficiently with the MultiCON fine sand preparation process.

About MultiCON GmbH:

The MultiCON GmbH with headquarters in Munich was founded in 2016. The company offers innovative overall solutions for the concrete industry. The range of services covers planning, know-how transfer, patent licenses, country licenses, construction and operation of the plants. MultiCON is cooperating with renowned institutes and universities to develop new patents and products. MultiCON always searches for custom-fit solutions for global and local challenges in the industry and implements them in a market-specific way. For more information, go to www.multicongroup.com