

FLOODLIGHT MASTS ... A SPORTING HIGH-LIGHT



Sporty and smart - BFtec GmbH has recently implemented a sporting highlight in the literal sense of the word at the Rudi-Ziegler sports facility in Bamberg. Eight new floodlight masts were set up within a period of only two days for the sports association DJK Don Bosco Bamberg 1950 e.V.

Setting up eight new, 16-metre-high floodlight masts, each with a lamp area of one square metre, within only two days is truly a record time. Until now, the erection of floodlight masts represented a larger intervention in games operations for sporting facilities, which therefore could only usually be undertaken outside playing hours. BFtec GmbH from Nentershausen in East Hessen has developed a time-saving and resource-saving procedure which shines a new light on sports facilities and football fields and can be erected almost overnight. In the field of medicine, such interventions

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are described as “minimally invasive”. And the secret of these rapid construction methods has been obtained from the natural world, as the process is substantially accelerated through the application of steel root foundations, the so-called SteelRoots®. These SteelRoots® – originally also marketed as Mammoth foundations – were developed by the founder and owner of BFtec, Peter Kellner, who derived his product from the principle of tree root functions. Like counterbalance foundations, the loads are dissipated into the surrounding

ground. Depending on the use and height of the mast, steel struts and plates are inserted into an excavation pit in a similar manner to the root system of a tree before being backfilled with the soil previously removed. This is far quicker to execute and involves less effort and expense than conventional concrete foundations. No formwork has to be provided, the concrete does not need to cure and no excess soil has to be transported away. Also, no crane is required to set up the mast.

Two Cat 300.9D-type micro diggers which were transported to the site in retrofitted Sprinter vehicles were used by the BFtec Assembly Team to excavate 1.40 metre-wide and deep pits. The SteelRoots®, which were delivered for easier transportation in individual parts, were assembled in a few easy steps on-site and then lifted into the excavation pit. The pits were then backfilled with the excavated earth. The soil was compressed layer by layer using a compactor. Even drainage and



water supply pipes can be “incorporated” into this foundations system without the lines having to be capped. After this, the mast segments are plugged together and connected with the SteelRoots® via a folding joint.

In collaboration with the company Pfeiffer Stahlrohrmaste GmbH, BFtec has had a slimline mast system developed which can be plugged together on-site, and which can be transported in lengths of max. 8 metres. With the aid of a hydraulic jack, the mast is then brought into a vertical position – facilitated through the folding hinge. This is then covered with topsoil and, for aesthetic reasons, disappears several centimetres under the top ground surface. Should repairs or maintenance work become due, the hinge can easily be uncovered again, the hydraulic jack applied and the mast brought back into horizontal position. In this way, the mast including the SteelRoots® could also be completely dismantled and recycled without leaving residues. However, before dismantling is due, the new floodlight masts at the Rudi-Ziegler sports facilities in Bamberg will provide optimum lighting over the years to come for evening games and training sessions, as the actual floodlights themselves are provided by the market leader in modern LED lighting systems.

The construction contracts have already been signed for two dozen more floodlight masts of the same construction. And on the subject of formalities: the stability checks for the system have been calculated by an external statics office and therefore do not require any further construction permits. Due to its rapid construction and high flexibility, the system is also highly advantageous for other sports associations and sports facility operators: floodlight masts can thus be set up almost overnight without major conversion measures having to be implemented. Over and above this, this method of construction for masts on SteelRoots® can also be used for TV and surveillance cameras.

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