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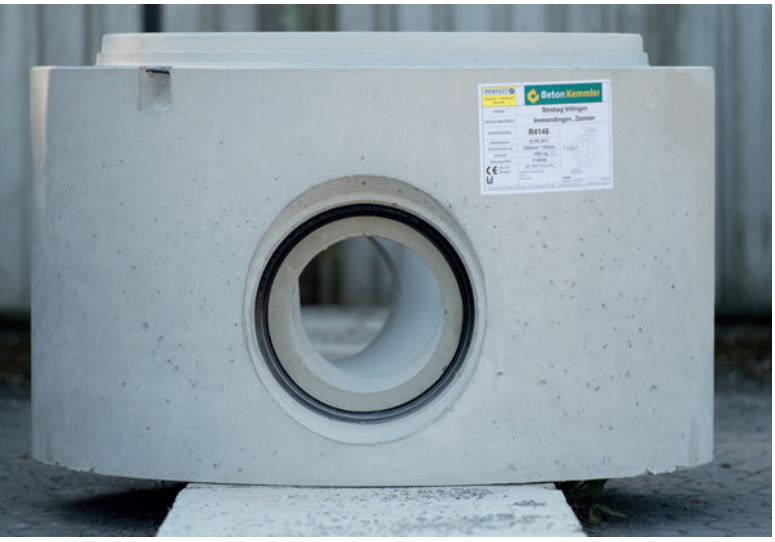
Beton Kemmler Supplies Monolithic Manhole Bases for Daimler Testing Ground

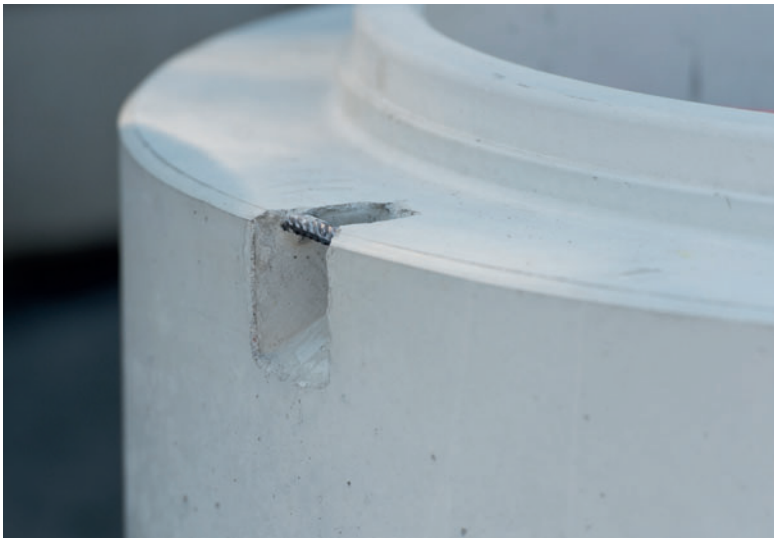
A 55-kilometer test track for self-driving cars will soon be completed in Baden-Württemberg, Germany. Not far from Mercedes-Benz's site in Sindelfingen, south of Stuttgart, Daimler has invested approximately € 200 million in the testing ground for this promising technology since 2015 While only a small amount of this is going towards the underground infrastructure, high quality standards, nevertheless, have been put in place for the selection of building materials. For example, Perfect state-of-the-art monolithic manholes supplied by Beton Kemmler, a local traditional Swabian company, are being installed for the numerous drains. Beton Kemmler has been manufacturing Perfect manhole bases since the summer of 2017. These manhole bases are produced in a mould and include all the relevant features of modern concrete manhole bases.

Kemmler Baustoffe has been established as a full-service provider for construction materials in south-west Germany for more than 125 years. All commonly used engineering and construction products are stocked for business partners and individual clients at 22 locations across Baden-Württemberg and Bavaria. The production of prefabricated garages and numerous concrete products for engineering and construction is based at Beton Kemmler's production site in Tübingen Hirschau. Manhole bases have also been produced here for generations, using the traditional method of manually retrofitting channels made from concrete or other materials. Due to changes in the market and in the quality awareness of engineering, however, customers prompted the decision-makers at the company to get to grips with modern production methods. Following careful consideration of the commercial and technical criteria, which are key to a strategic investment decision, Kemmler decided to invest in the Perfect manhole system offered by the Austrian manufacturer, Schlüsselbauer.

A forward-looking approach in the automotive sector requires that all global suppliers intensively analyse alternative driving concepts and explore the possibilities of driverless road vehicles and corresponding assistance systems. Daimler is rising to this challenge and will be able to simultaneously monitor and analyse up to 400 vehicles on the newly created test track. A forward-looking approach in the precast concrete component sector for pipeline construction, on the other hand, requires that opportunities created by new material properties and new production methods are also recognized and exploited. In the field of inspection and maintenance manholes, custom-made manhole bases made from self-compacting concrete (SCC) have become increasingly widespread over



One of the first Perfect manhole bases produced by Beton Kemmler – produced in A1 quality with no rejected parts from the very beginning



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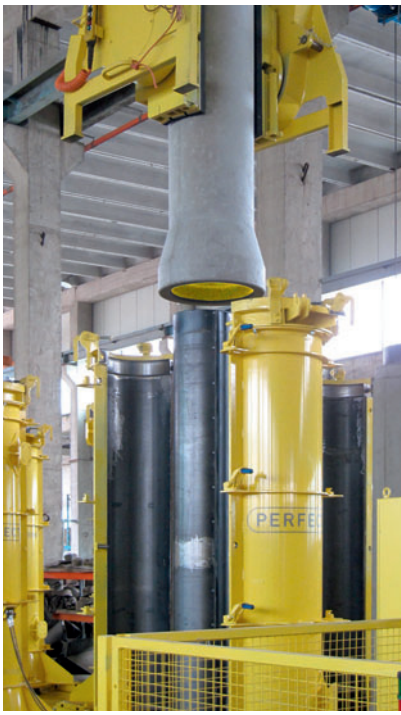

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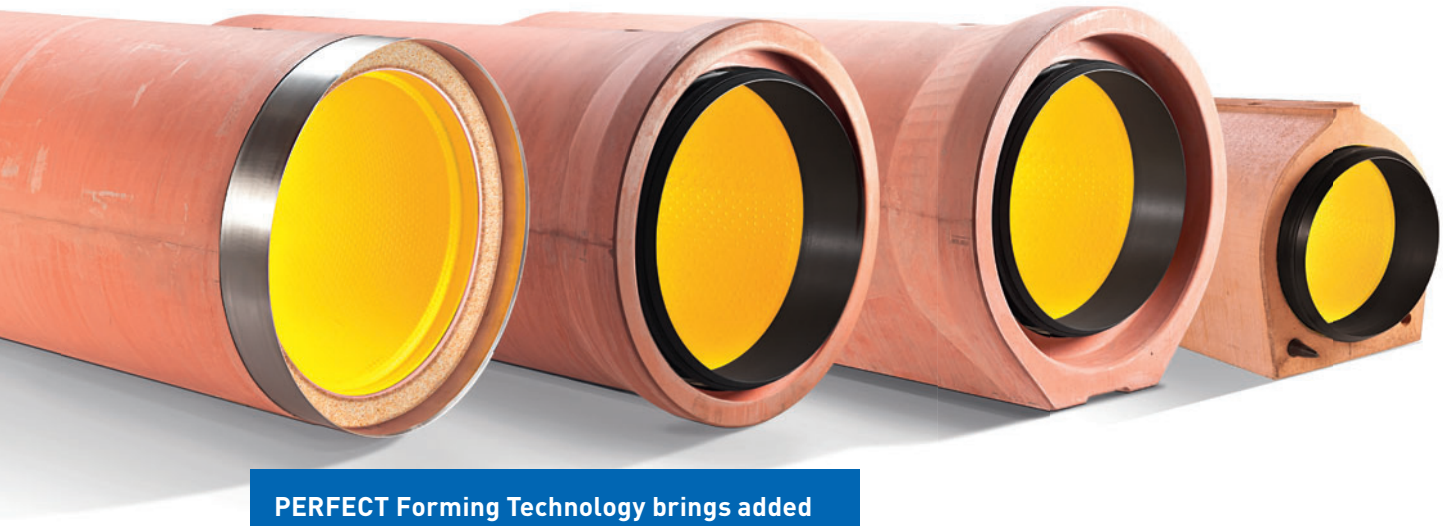

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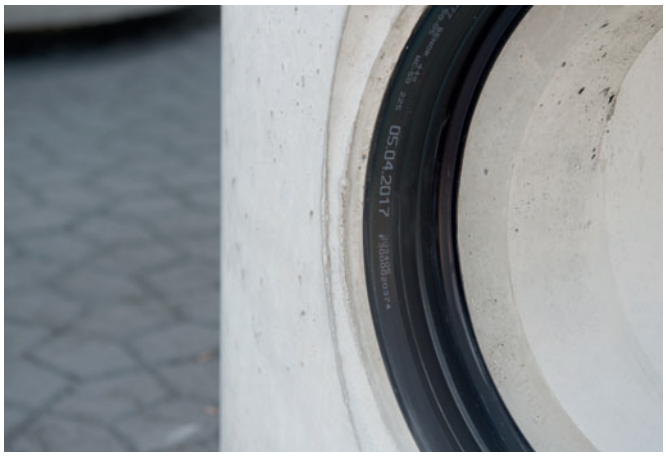
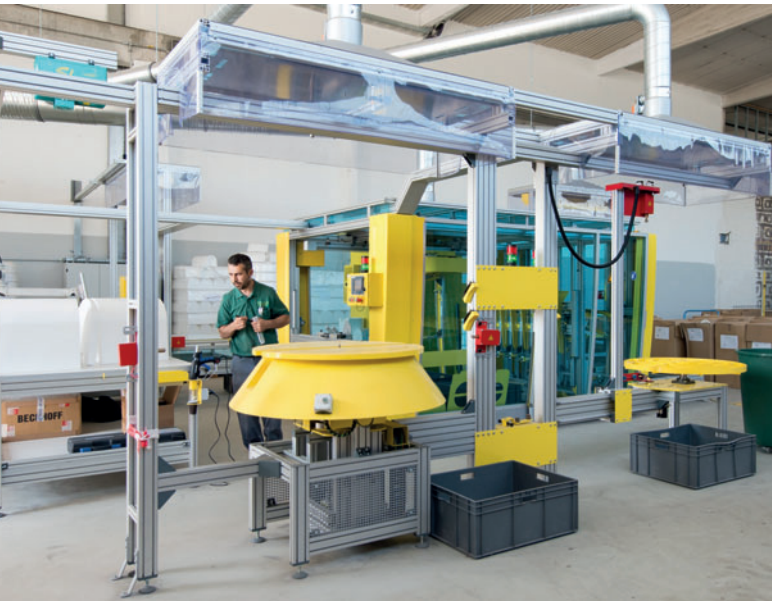


Production in a cast using SCC guarantees a solid connection between the integrated gasket and the concrete manhole base

The site in Tübingen Hirschau is the center of added value created by concrete component production at the traditional Swabian company

the last ten years. Beton Kemmler followed this worldwide trend and was able to start supplying the Daimler site with Kemmler Perfect manhole bases immediately after the production of its Perfect manholes began. The majority of the approximate 350 manholes need on the testing ground will therefore be equipped with Kemmler's new Perfect wet-cast manhole bases.

Kemmler Perfect manhole bases have a homogeneous – monolithic – structure. The bottom and wall of the manhole, as well as the berm, including the manhole's channel run-off and pipe connections, are produced in a mould and require no finishing of the concrete surfaces. The surface quality of the concrete, which allows minimal water penetration, and the gaskets, which in many cases are set in concrete in the manhole wall, create more than just a visually appealing look. They are also the main reason why the service life of this component, which is key to underground infrastructure, is estimated to be longer than was previously the case. Kemmler Perfect manhole bases are available in the nominal widths of DN 1000, DN 1200, and DN 1500. Wall thickness varies, depending on the types and dimensions of the pipes to be



Globally tried and tested production technology now used at Beton Kemmler – image shows the EPS cutting technology

The negative EPS channels are inserted into easy-to-operate moulds and produced overnight in the mould

connected, between 150 mm and 330 mm, whereby partial reductions in wall thickness result in material and, therefore, weight savings.

The production principle behind the manufacture of Kemmler's Perfect follows the proven concept of turning prefabricated EPS moulded parts into complete channel models, including pipe connections. All properties required in the subsequent concrete component, such as diameter, height and channel inclines, as well as the number, position and incline of the pipe connections, are already shown in this channel model. The negative channel produced in these few steps is placed into a steel mould which is then filled with self-compacting concrete. The hardened manhole base is demoulded the next working day and is made available for storage or delivery.

The short lead time for project-specific components – the "lot size of one" – was one of the criteria in Beton Kemmler's strategic direction for the Perfect production system. Even complex components can be produced independently using the EPS cutting technology. The simple exchange of experience with the system developer Schlüsselbauer, which has no subsequent costs, and the user expertise developed over many years in this globally leading technology for manhole base production were further reasons behind the choice of production method made by the decision-makers at Beton Kemmler.

Source

(1) "Prüf- und Technologiezentrum Immendingen" ["Immendingen Testing and Technology Center"], https://www.daimler.com/nachhaltigkeit/management/stakeholder-dialog/immendingen.html [08/08/2017]).

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