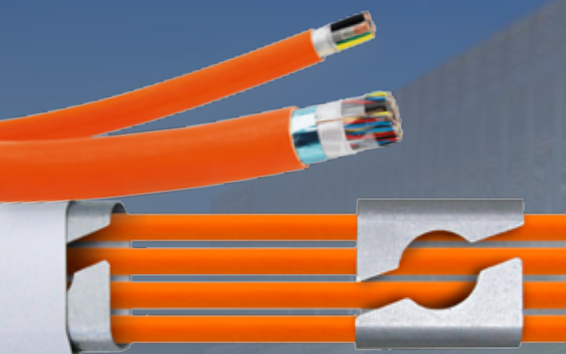


LEONI *projectreport*

Safety technology 11/2011

BETAflam® and BETAfixss®
Complete solutions for
building and infrastructure
cabling



ESPRIT arena, Duesseldorf

MegaLine® data cables and BETAfixss® -laying systems in operation

The demands placed on the construction of the multifunctional ESPRIT arena could hardly have been greater. Whether as the home stadium for the Fortuna Duesseldorf football club or as a centre for hosting events, flexible use and the highest possible safety for visitors were the overriding reasons for choosing the MegaLine and BETAfixss products marketed by LEONI.

The ESPRIT arena, formerly known as the LTU arena located in the district of Stockum, can, as a stadium, provide seating for more than 54,400 spectators. Should the stadium be used to host concerts, up to 66,500 visitors can be accommodated. With the retractable roof, the arena provides not only optimal conditions for 'Fortuna Duesseldorf', but also serves as a venue for a wide range of major events. The latest example was the hosting of the 2011 'Eurovision Song Contest'. In addition, a number of Duesseldorf city authorities, commercial offices and a hotel are integrated into the complex.

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In the ESPRIT arena the emergency exits are displayed in an exemplary fashion

The main focus is on personal safety

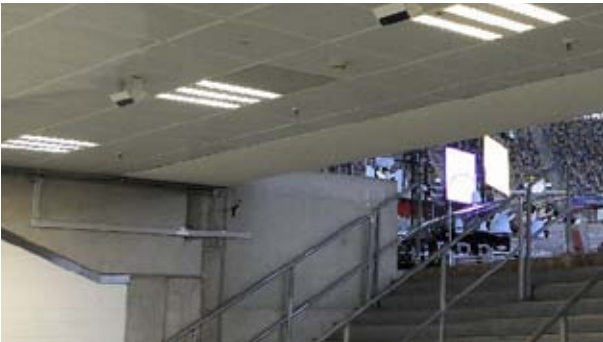
Major events have shown that personal safety has become an increasingly important aspect in constructions that are decidedly more and more complex. Technical innovations in the areas of dynamic building management systems, people counting and evacuation procedures are taking on added significance. Moreover, multifunctional use and the different needs brought about by this situation demand the highest degree of flexibility. The interaction of technical components such as fire alarm systems, smoke extraction devices, emergency lighting and people counting are an absolute must in state-of-the-art venues.

Hermes research project

These were the preconditions and catalyst for the Hermes research project which, amongst other things, was also implemented in the ESPRIT arena. 'Hermes' was aimed at developing an evacuation assistant which, in emergencies, would provide decision-makers such as the police and fire brigade with pertinent information about the current distribution of people in the arena. This enables the danger level to be assessed in detail so that the emergency services can be deployed appropriately.

Our client, the Illingen branch of Imtech Deutschland GmbH & Co. KG, has installed and interconnected a number of technical building services in this project. This includes the integration of the hazard management system and the inclusion of people counting in the evacuation assistant.

On the basis of the structural conditions and the relevant safety regulations the aim was to find an adaptable and flexible mounting and protection system for the different data cables, which are used as feeder lines for people counting. With more than 140 specialised cameras it is possible to view and monitor every part of the arena



The BETA fixss® Insta-Clic metal conduit with customised protection against vandalism

BETAfixss Insta-Clic metal conduits

The BETAfixss Insta-Clic metal conduit additionally comprises a galvanized cable holder into which up to six category 7 data cables can be introduced. The powder coated steel covers and the specially manufactured steel clamps serve as added protection against vandalism. Moreover, the BETAfixss Insta-Clic metal conduit has been tested for E30 and E90 system integrity.

BETA fixss® laying system in use



Designed with vandalism in mind

As the BETAfixss Insta-Clic conduits are mainly used inside the arena and thus open to access by spectators, it was absolutely imperative to provide individually tailored protection against vandalism.

During the project, the following material was supplied and installed by Imtech:

- **several 100 m of BETAfixss Insta-Clic steel conduit, some of which was flexible**
- **several 10,000 m of halogen-free type MegaLine® F1 0-130 category 7A data cables**

The findings gathered from the 'Hermes' project hitherto have far exceeded the expectations of all the parties involved. It is fair to assume that by the time the project has reached its conclusion further ground-breaking research pronouncements can be expected.

LEONI is grateful for the trust placed in the company, both on the part of Imtech as well as the operators of the ESPRIT arena.



LEONI's Infrastructure & Datacom Business Unit...

...supplies complete networks for the power and data sector, with the emphasis on safety and performance. The Infrastructure & Datacom Business Unit has successfully met the challenge of the growing demand for bandwidth and increased standards in product lifetime and safety.

These days, building and traffic infrastructure poses considerable challenges with regard to fault prevention and fire protection. Contractors and consultants take these challenges seriously: buildings such as hospitals, event venues and office complexes are equipped with higher-order safety technologies. This ensures that people will be able to save themselves in the event of a fire, and enables the damage resulting from successful fire-fighting interventions to be minimised.

While the new challenges presented by ever more complex applications certainly threaten the infrastructure, it is imperative that the highest level of safety is guaranteed everywhere else too. Our BETAflam® products meet all the relevant international standards for both high-rise and underground constructions.

We aim to exploit our commitment and our consulting services to reach optimum solutions, in collaboration without customers – but, more importantly, we want to build confidence. We have pleasure in giving you a glimpse of our achievements in the references.