

Fragile, Handle with Care

pei tel Communications
relies on KABELMAT
automatic winding technology

For over 30 years, pei tel has been a supplier of professional voice and data transmission equipment. Their portfolio includes radiating cables, which are used in mobile and indoor radio technology. In order to supply customers with the cable lengths they require, pei tel relies on KABELMAT winders and unwinders from the UMROL product range, which was specifically developed by the HELUKABEL subsidiary to be able to safely handle even the most delicate cables.

"If you're sitting in a train in Berlin and hear an announcement, it is usually thanks to one of our devices," explains Dirk Grambke, division manager of distribution and retail for pei tel Communications GmbH in Teltow near Berlin. "You may even hear our devices in the USA and in the far east," he continues. The company's extensive portfolio includes professional wireless and infrastructure technology from



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A KABELMAT automatic rewinding line makes the protective handling of delicate cables at pei tel possible.

well-known manufacturers, as well as their own designs for diverse kinds of microphones. pei tel is primarily active in Germany, Austria, and Switzerland, and distributes products world-wide through their retail partners. They are also the only German manufacturer of classic fixed-installation telephones used in vehicles and additionally offers handheld telephone receivers, speakers, desktop microphones, and headsets, as well as communication solutions for security agencies. In 2020, the decision was made to add mobile and indoor radio technology to the pei tel product range. This includes components such as coaxial and radiating cables.

CABLES IN THE DESIRED LENGTH

Radiating cables, also called leaky feeder cables, deliver reliable, high-frequency coverage for tunnels, hospitals, and even in shopping centres. They feature small slits or openings in the outer conductor along the entire length of the cable which allow a wireless signal to pass in and out. "With these cables, network providers are able to offer scalable and wireless broadband services, which are even required in larger building complexes as a preventative fire protection measure," clarifies Grambke. "We collaborate with well-known manufacturers which provide us with these solutions." The cables arrive in ISO standard lengths of 2,000 metres, which are wound on

2.5-metre-wide wooden drums, each weighing multiple tonnes. "We cut the cables individually according to the customer's needs," says Dirk Grambke. "Very few companies in Germany still offer this kind of service."

For one customer, that could mean 150 metres, but 500 metres for another, which is why pei tel precuts their cables into standardised lengths. This off-the-shelf availability saves an enormous amount of time. Custom-cutting cables to length is also important, as it makes transporting the cable drums to and on the worksite that much easier, because, typically, the drums are transported using small vans. pei tel cuts the requested length of cable from the massive stock drum, then winds the new section of cable onto smaller drums. For this, the specialists from the HELUKABEL subsidiary KABELMAT Wickeltechnik have installed an automatic winding line. The cable manufacturer themselves recommended this supplier who delivered with an UMROL 2000 unwinder and an UMROL 1800 winder

ANYTHING BUT ORDINARY

"The systems are not off the rack," explains KABELMAT sales consultant Manfred Wössner. This is because high-frequency cables are very delicate. Any alteration at all to the cable could impact its electrical characteristics and lead to malfunctions. The worst-case scenario is that the cables are no longer usable after being wound. "To prevent the cables from being deformed by the machine, we installed a belt length measuring device," says Wössner. "This device spreads the contact pressure across multiple rollers and thereby protects the cable." It is also important to keep in mind that the cables should not be subjected to high tensile forces, since these can not only change the length of the cable, but also its shape. "The machines run perfectly in-sync and are controlled using traction force," describes Wössner. "The winder and unwinder are perfectly coordinated. This relies heavily on the settings of the installed servo motors." KABELMAT also adjusted the machines to prevent the cables from being bent too excessively and becoming damaged.

Only one person is needed to control the line. The operator is able to adjust the tensile strength and speed between the two winders using a state-of-the-art Siemens touch panel and is able to follow the process in real-time on a monitor. The UMROL 1800 is designed to be able to wind cables, depending on their type, onto



pei tel utilises an UMROL 1800 and an UMROL 2000 to wind and unwind cables.

drums or rings, however, radiating cables are typically wound onto the classic wooden drums. After cutting the cable, a second operator removes the filled drum from the system and packs it onto a pallet. These are then transported for dispatch by a forklift. Meanwhile, the operator is able to take care of the next drum.

SAFETY AND SERVICE COME FIRST

For pei tel, safety plays an important role. Safety grates, for instance, prevent employees from reaching inside the machines, and motion sensors stop the machines if a body part is detected inside of a dangerous area. "All KABELMAT machines are calibrated in accordance with the European Measuring Instruments Directive (MID) and are thus approved for use throughout Europe," explains Wössner. All steps of the operation are saved to a data storage device and can be seamlessly tracked. "All of this is to ensure we're offering our customers the highest quality and maximum uptime."

"After everything was up and running, KABELMAT provided the operating personnel from pei tel with intensive training and answered all of their questions," adds Dirk Grambke. He is, after all, enthusiastic about after-sales service. "If a problem arises, KABELMAT technicians can connect to our system remotely from their location in the Black Forest, initiate a remote diagnosis, and, if necessary, change certain parameters." This minimises downtime and contributes to the efficiency of the operation, because every minute of downtime costs money.

Thanks to the new KABELMAT winding line, pei tel is able to quickly and affordably deliver custom-cut lengths of sensitive radiating cable without the fear of damaging them. "This investment was completely worth the cost for us," concludes Grambke. "Our customers are extremely satisfied with our service, and that is what matters in the end." ◀



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