

# Powder coating solution for an innovative passenger-access system

People with reduced mobility often face great difficulties when using public transport. PALFINGER PASSENGER SYSTEMS specialises in passenger-access systems and, with more than 30 years of experience, it is one of the leading manufacturers of customised lifts and ramps for wheelchair users. Its products help people overcome difficulties and barriers to entry. For its latest development, KARL BUBENHOFER contributed its expertise and designed perfect, tailor-made powder coatings for Palfinger.



The Trainlift TRV 2 was specially developed for the train manufacturer's requirement and installed in a special door in the new ICE. When folded in, it is very space-saving (right)

Lifts GmbH in Ganderkesee, Germany.

Here, automatic lifts are developed, tested and produced for railways and trains all over the world. The new TRV-2-800 development will be used in Deutsche Bahn's future ICE (Intercity-Express train), the Velaro MS from Siemens. To facilitate this, these ICEs will be equipped with separate entrances for passengers with wheelchairs.

When it comes to travelling by rail, boarding and alighting from trains always present a major challenge for passengers with reduced mobility. Various train designs, different platform heights and short stopping times often create stress for people in wheelchairs. With a view to overcoming the barrier between the vehicle (train) and the infrastructure (platform) in the simplest possible way, PALFINGER PASSENGER SYSTEMS offers innovative, reliable and customised lifting solutions. These are used worldwide in buses and rail networks.

"With our technological expertise and experienced staff, we always develop precise, project-specific solutions for both new trains and existing vehicles that set quality standards for the industry," explains Marion Wendelken, Senior Sales Manager at PALFINGER Tail

## Tight spaces demand a lot from surfaces

In order to maintain the stability of high-speed carriages, doors need to be kept as narrow as possible. After complying with the platform width for wheelchairs in accordance with the TSI standard, there is only 40 mm space left on each side to accommodate the technology. With the interior also not offering much room for manoeuvre with wheelchairs, the surfaces need to withstand a lot and be resistant to damage.

"The surfaces need to have a high resistance to scratching and be resistant to graffiti remover. Alongside this, the strictest fire protection regulations must be complied with; long-lasting corrosion protection is required and, of course, the coating must adhere very well to the surface," is how Marion Wendelken explains the mountain of requirements for the surface coating.

Since the various steel surfaces encompass a large number of geometries and are milled and turned to fit precisely, Palfinger has until now focussed almost exclusively on liquid coating. "We were rather sceptical about powder coating, as we were obliged to observe the tightest of tolerances, both in terms of the narrow geometries and the assemblies. We were also worried about flaking," recalls Rudolf Johannes Michalski

## KABE's expertise dispels all doubts

Siemens arranged contact with the system supplier, KARL BUBENHOFER AG. The Swiss family business is well known in the railway industry and has already implemented a large number of surface solutions in this field. Together with the appropriate personnel at Palfinger, Sales Manager Herbert Lohmann visited their long-standing coating plant and gave an on-site demonstration of the advantages of powder coating. Along with comprehensive advice on all of Siemens' requirements and colour preferences, the Palfinger team were very quickly convinced that this coating process would be the best solution in all respects.

The excellent contact with Hüntelmann Oberflächentechnik GmbH & Co. KG also contributed to this. At its approximately 6000-m<sup>2</sup> site, the coating company finishes metal with cathodic-dip-coating (CDC) and powder-coating technology, as well as with liquid coating. Palfinger Passenger Systems has also numbered among its satisfied customers for many years. "Until that point, we had never had any contact with KARL BUBENHOFER AG. From the very outset, we appreciated the smooth procedure and the very open and constructive collaboration.

This was very important for us, because like all paints, RAL 1023 Traffic Yellow is applied directly to CDC without an intermediate primer. The excellent hiding power offered by POLYFLEX® PES-20 Power from KABE caught the attention of our experienced coaters right from the start, and they continue to achieve consistently perfect results with the powder coatings," says Martin Münster, Plant Manager at Hüntelmann.



KARL BUBENHOFER AG



Herbert Lohmann from KARL BUBENHOFER AG with technician W. Stuba from PALFINGER Tail Lifts GmbH sampling the prototype of the Trainlift TRV-2-800.

Rudolf Johannes Michalski also confirms how fortunate the contact with KARL BUBENHOFER AG was. "From the excellent advice in the project phase, the test coatings and trials in the technical centre, and right through to series production, we were convinced by both their expertise and their service. All three powder types – NCS S 7500-N Dark Grey, RAL 7021 Black Grey and RAL 1023 Traffic Yellow – meet our needs in full."

For the new lift, Palfinger is making use of anti-graffiti, silk gloss smooth POLYFLEX® PES-20 Power Corona Interior throughout. "These Polyflex powder coatings have already proven themselves outstandingly in many other areas, are certified for use in the railway sector and are resistant to graffiti removers. And above all, they also meet the strict requirements of the rail-vehicle manufacturers in terms of structure, durability and resistance to light," explains Herbert Lohmann. He is also keen to emphasise that even the Traffic Yellow RAL 1023 on the dark CDC primer has sufficient hiding power for no additional primer to be necessary.

As a system supplier, KARL BUBENHOFER AG naturally also offers its customers full support and additional products for repainting and repair work. With this in mind, the company has been collaborating closely with liquid-paint producer Mankiewicz Gebr. & Co. for many years, and they coordinate all powder coatings and liquid paint systems with each other exactly. This results in customised systems and tested repair instructions for the end user, both for powder and for liquid coatings.

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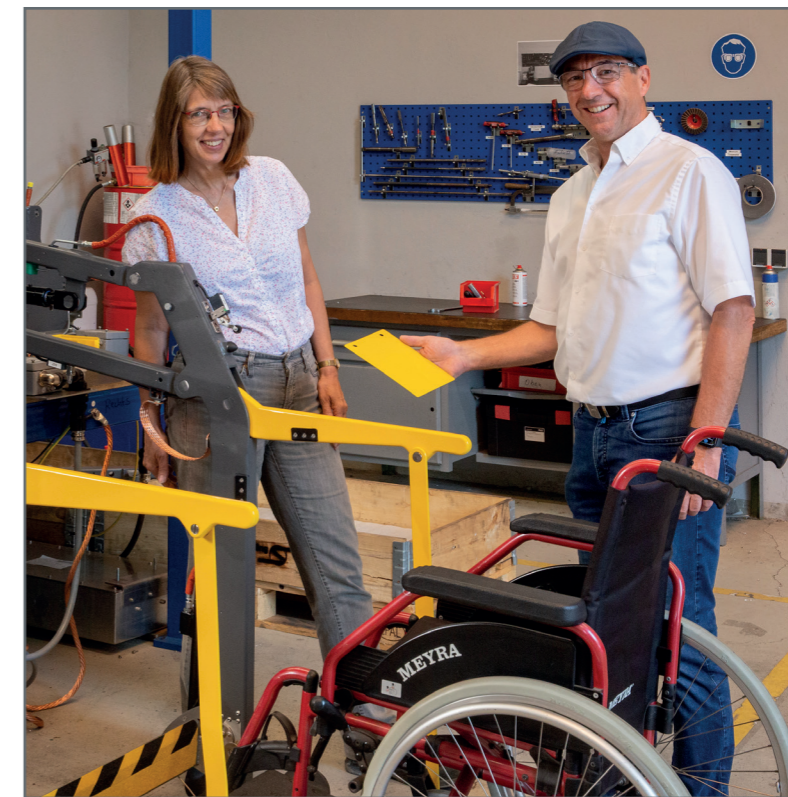
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## New enthusiasm for powder coating thanks to KARL BUBENHOFER AG

At KARL BUBENHOFER AG, they take great pride in having been able to communicate the advantages of powder coating to the team at Palfinger, where this level of support has gone down well. "We found working with KARL BUBENHOFER AG to be a very collaborative and helpful experience from the outset. Their great expertise in powder coating and materials met all our requirements and provided the best solutions. They didn't just sell us powder coatings: they also paid attention to our processes, ranging from purchasing to storage, coating and finishing. This represents a strong performance across all areas, which we appreciate very much," enthuse Palfinger's Marion Wendelken and Rudolf Johannes Michalski. The latter also explicitly emphasises how efficient the powder coatings from KARL BUBENHOFER AG are out in the field. One kilogram of powder can coat almost seven square metres of surface!

Today, Palfinger is enthusiastic about powder coating and can well imagine relying on powder coatings from KARL BUBENHOFER AG for further projects. With Palfinger's innovative lifts already attracting a great deal of interest in terms of enquiries from home and abroad, many more new projects and colour variants are likely to be added!



Marion Wendelken, Senior Sales Manager at PALFINGER Tail Lifts GmbH and Herbert Lohmann from KARL BUBENHOFER AG with the prototype of the Trainlift TRV-2-800.



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