

Cost-Effective Application of Multiple Coats

Applying several coats of paint can lead to a fall in productivity because of the long drying times required. A new system for coating rail vehicles is both more cost-effective and more environmentally friendly than many existing products.

Rail vehicles have to meet high corrosion protection standards and must also have a smart appearance. In the case of passenger trains and trams in particular, design is becoming an increasingly important consideration. As a result, the painting processes are now more time-consuming and expensive. Paint shops and drying systems for rail vehicles are on average 75 metres long and the vehicles that are painted are up to 27 metres in length. The latest paint systems for rail vehicles are guaranteed to provide reliable corrosion protection and a high level of resistance to chemicals and mechanical impacts. They are also resistant to graffiti, stone chips and the cleaning agents used for washing the vehicles. At the same time, customers also want a wide range of colours and special effects.

Rapid drying required

The more colours that are used, the more coats need to be applied. Masking and drying often become time-consuming and result in lower productivity. This means

that, as well as suitable paint shops, coatings with a short drying time are needed, which allow the components to move on to the next stage of the process quickly, while still meeting the high standards required for rail vehicles.

Rembrandtin, a company specialising in water-based paints, has developed a complete solution which includes a primer, filler, base coat and clear coat. The majority of the paints are water-based. They can be used on steel and aluminium substrates and are suitable for both manual and robotic application. They meet the required high standards and have been approved by Deutsche Bahn.

Primer including filler

The combined primer and filler (epoxy-based) uses a special combination of binders. It fills small cavities in the surface of the substrate and creates a smooth, pore-free surface for the subsequent base coat. The primer meets the requirements of the DB standard DB TL 918300, sections 2 and 39. It can be applied in coats of any thick-

ness, because there is no risk of solvent boil, which often occurs with polyurethane fillers. This prevents faults from occurring during the first pass and the need for costly reworking. The very short drying time of the primer means that the components can be sanded or filled, for example, very quickly.

Masking after 45 minutes

The base coat (Aqua Basecoat 101) has high-quality pigmentation, very good colour stability and excellent UV resistance in all colours. It dries after 45 to 60 minutes at room temperature (20°C) and the next colour coat can then be applied. If an accelerated drying process is used, the drying period is even shorter.

The new clear coat (REM PUR 310) is suitable for manual application and for use with hand-held spray guns and robots (two-component airmix systems). Because of its high solvent boil threshold, the paint does not form orange peel and has a very high level of gloss (>90 at 60). The clear coat is highly resistant to graffiti and cleaning products, such as the agents using in train cleaning machines in different concentrations. //



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The latest paints for rail vehicles have to meet high standards. This includes not only excellent chemical and mechanical resistance, but also an attractive appearance.

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