

## User report

### Top priority: Low maintenance required

#### Frankfurt S-Bahn decides for EFAFLEX doors for a 35 million project

It's a flagship and it's ultra-modern – the new workshop for electric railcars at Frankfurt main station. Up to 50 trains can be serviced or repaired here every day. It is clear, that a repair specialist relies on low-maintenance equipment. In order to guarantee a smooth workflow, nothing may get stuck, especially not the doors. Nearly 200 electric railcar trains from the entire Rhine-Main region regularly come to the workshop for being serviced. Nine large, transparent EFAFLEX high-speed folding doors make sure that these trains can freely enter and leave the workshop. "Selecting these doors was quite easy for our planners", says Wilhelm Auth, the plant manager.

Since the old workshop in Griesheim had clearly reached its capacity limit with servicing 30 vehicles per day, it was decided in September 2002 to extend the former post station in Frankfurt. From that point in time, the planners had lots of work to do. The workshop was to be equipped with the most modern technology. And also the doors had to meet these high demands. "We have already fared very well with Efaflex high-speed door systems at several locations of Deutsche Bahn", says Auth. "The electric drives of the doors are very powerful and hardly require any maintenance. As repair specialists, we pay special attention to low-maintenance equipment." The design of the doors was appealing. By painting the doors in blue, the manufacturer was able to adjust them optimally to the outward appearance of the building. Thanks to numerous transparent segments, much daylight entered the hall.

Building the 20,000 m<sup>2</sup> big workshop cost 35 million Euro. The massive hall of the former post station was gutted completely. Broken concrete of 10,000 m<sup>2</sup> was crushed and recycling material was re-used for the construction. 1,250 tons of steel were used, 13 kilometres of supply lines were laid, and together with the approach area of the hall, 3,000 metres of new rails were laid. 27 points guarantee flexibility in the dead-end railway station. An own signal box is operated from a control desk in the middle of the hall. After merely one and a half

years of construction time, the workshop could move from Frankfurt-Griesheim to the former post station which nowhere reminds of its former use. Coloured markings on the ground indicate the different use of the individual zones: green zones are working zones, transport routes are marked in orange-red, grey zones are stabling zones. The accesses for fire brigade and ambulance cars are marked in dark red. Doors, seats, panes and as well as the electrical equipment of the electric railcar trains are repaired on a total of 14 tracks. The tracks, most of which are elevated, dispose of working platforms for working on the roofs of the trains. Three tracks are additionally equipped with walkways in order to carry out works in the door area from outside. Thus, works on the trains can be carried out at five different levels. Also the axes and the traction motors can be exchanged in this way. The brakes are checked and flat spots on wheel sets are removed, if necessary.

In the rear area of the hall there are five, and in the front area of the hall there are nine tracks which leave the hall through the 4,800 mm wide doors and lead to the approach area of the hall. Eight of the doors are driven by an electric motor. Due to its size of 7,500 x 5,460 mm, the ninth of the doors is equipped with an electro-pneumatic drive. For the fixed overhead wires, there is a special overhead opening in the doors. "This is why we have decided for folding doors", explains Wilhelm Auth. "If we had used roll-up doors, we would have had to use foldable contact rails. Since we have 4,000 metres of overhead wiring, this would have made the construction project much more expensive." Because the workers work on the roofs of the trains, the overhead wires in the hall are installed in a greater height than normal for reasons of working safety. Therefore, the doors have a height of 5,425 mm. "In spite of this enormous height, they do not distort as much as other doors", says the workshop manager. He and his colleagues like working together with EFAFLEX. "Is their relation a customer-service provider relationship? I think the cooperation is more like partners working together."

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