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Desiro City

Electrical Multiple Unit for Thameslink

The Thameslink Rolling Stock Programme is a key element of the Department for Transport's (DfT's) strategy for rail in the UK. Siemens will be supplying 1,140 Desiro City vehicles to DfT, designed specifically to meet the needs of the UK market.

The Desiro City is the UK's first, second generation commuter platform, providing an outstanding solution for London mass transit systems and regional lines. It has been developed using the expertise and feedback of UK train operators, maintenance, and cleaning crew.

Designed to be lightweight (both train and bogie) and featuring an innovative single car concept, the Desiro City provides optimised maintenance friendliness and a customisable, modular interior design.

The trains are compliant with the latest safety standards, protecting both passenger and driver. They have also been designed with the environment in mind, offering energy savings of up to 50% compared to existing platforms.

Based on the proven track record of the Siemens Desiro fleet in the UK – which travels in excess of 50 million passenger miles each year – the Desiro City takes reliability to new heights. The new trains will be maintained at two new depots in Three Bridges (Crawley) and Hornsey (London Borough of Haringey) where Siemens has been contracted to provide new maintenance depots with leading edge facilities tailored for trains featuring the very latest technology solutions.

Technical Data

| | |
|------------------------|---|
| Axle arrangement | Bo'Bo'+2'2'+Bo'Bo'+2'2'+2'2'+ Bo'Bo'+2'2'+Bo'Bo' (8-car-EMU) Bo'Bo'+2'2'+Bo'Bo'+Bo'Bo'+2'2'+ 2'2'+2'2'+2'2'+Bo'Bo'+Bo'Bo'+ 2'2'+Bo'Bo' (12-car EMU) |
| Power supply | AC 25 kV/50 Hz (catenary) / DC 750 V (third-rail) |
| Maximum speed | 160 km/h (100 mph) |
| Power at wheel | 3,3 MW (8-car) / 5,0 MW (12-car) |
| Wheel diameter | 820 mm (new) / 760 mm (worn) |
| Gauge | 1,435 mm |
| Nominal vehicle length | 20 m |
| Unit length | 162,000 mm (8-car) 242,600 mm (12-car) |
| Width | 2,800 mm |
| Floor height (a.r.l.) | 1,100 mm |
| Weight | 278 t (8-car) / 410 t (12-car) |
| Passenger seats | 416 (8-car) / 654 (12-car) |
| Crashworthiness | TSI |



■ Motor Car
■ Trailer Car



Reliability

Siemens trains are synonymous with reliability. Experience with existing Siemens units in the United Kingdom shows them to be four times more reliable than the existing fleets currently in use on the Thameslink routes. The Desiro City has been designed using the feedback of existing maintenance crews as well as the experience of train operators and drivers to create a solution that takes the very best and makes it even better.

Accessibility

The Desiro City meets new European standards which were created to improve the travel experience of persons with reduced mobility (PRM TSI). This includes mothers with pushchairs and people carrying heavy luggage as well as wheelchair users, those with visual impairment, the hard-of-hearing, and people suffering from arthritis.

Safety

High levels of safety are achieved by early fire detection in combination with an intelligent ventilation system. The trains are also designed to meet or exceed the very latest safety standards.

Passenger experience and environment

Spacious interiors, comfortable seats and wide, open and unobstructed gangways create a feeling of space in the train.

The large windows give an airy feel to the trains. The new trains feature a new air conditioning, ventilation and heating unit on the roof which is equipped with CO₂ sensors that control the flow of fresh air according to the number of passenger in each car. This mode is one out of many possibilities to reduce the total energy consumption. Modern toilet facilities are provided with wheelchair access and baby changing table- universal toilet are fully compliant with the requirements of PRM TSI.

Flexibility

FLU (12 car unit) and RLU (8 car unit) are two variants of the Desiro City platform. The interior of the train is designed for flexibility according to the service requirements. Seats can be re-configured due to the cantilever design and luggage stacks are located at every vestibule.

Protecting the environment

Railways are inherently more energy efficient than road traffic. These new trains raise energy efficiency to new levels. But energy efficiency does not stop at regenerative braking.

The trains are made of aluminium bodyshells designed to be lightweight. The fly-by-wire technology saves much of the weight of traditional control cables running along the entire length of the train. Further innovations e.g. lightweight bogie, intelligent air conditioning system with CO₂, Driver Advisory system, etc. drastically reduce energy consumption.

Environmental considerations must also cover the entire life cycle from production to eventual disposal. These trains are painted with water based paint reducing the environmental impact during production and also at the depot when repairs become necessary. Wherever possible, recyclable materials are used and processes are in place to ensure the safe disposal of electronic equipment (RoHS and WEEE).

Safety

Modern signalling technology has significantly reduced the number of incidents involving trains. Nevertheless, the Thameslink trains will meet the latest European TSI standards to the UK, protecting both drivers and passengers in the unlikely event of a crash. Additionally, the new trains feature many advanced safety features.

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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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