

## **Bombardier FLEXITY Swift**

*London-Croydon, United Kingdom*



The London-Croydon Tramlink System operates 24 *Bombardier\* FLEXITY\* Swift* light rail vehicles, which run between Croydon, Wimbledon, New Addington, Elmers End and Beckenham in the South of London. Bombardier also carries out the maintenance of the fleet.

The 28-kilometer network is the first of its kind under the Government's Private Finance Initiative (PFI), and in November 1996, London Transport awarded Tramtrack Croydon the right to design, build, operate, maintain and finance the system independently. These cars are based on the *FLEXITY Swift* light rail vehicles in operation in Cologne featuring level entrances, modern interiors and a high passenger capacity. The Croydon vehicles are in successful revenue service since spring 2000.

# Bombardier FLEXITY Swift



## GENERAL DATA

Contract award	November 1996
Type of vehicle	Bombardier FLEXITY Swift
Model	bi-directional vehicle
Owner	Croydon Tramlink
Quantity	24
Train consist	3 modules

## DIMENSIONS AND WEIGHT

Length of vehicle	30.1 m
Height	3.6 m
Width	2.65 m
Floor height above TOR	
- low-floor entrance	350 mm
- low-floor area	400 mm
- above powered bogie	580 mm
Percentage of low-floor area	76 %
Doors	
Electric double-sliding doors	4 per side
- door clearance height	2,061 mm
- door clearance width	1,300 mm
Aisle width	600 mm
Wheel diameter (new / worn)	630 / 550 mm
Bogie center distance	10,850 mm
Gauge	1,435 mm
Minimum horizontal curve radius	20 m
Minimum vertical curve radius, crest	275 m
Minimum vertical curve radius, sag	400 m
Car weight (empty)	36.3 t
Car weight (loaded) (4 pass./m <sup>2</sup> )	50.8 t
Maximum axle load	104 kN
Buffer load	600 kN

## TECHNICAL CHARACTERISTICS

- Nominal current supply: 750 V=
- Energy recuperation
- Low voltage: 24 V=
- Four 3-phase asynchronous motors
- 120 kW Motor power
- Air-cooled motor
- Two powered bogies / one trailer bogie
  - Rubber/metal primary suspension
  - Coil spring secondary suspension
  - 8 sanders
  - Anti slip, anti skid system
- Electrical service brake: regenerating motor
- Mechanical service brake: disc-brakes
- Parking brake: disc-brakes
- Magnetic brake: 6 x 66 kN

## PERFORMANCE AND CAPACITY

Maximum speed	80 km/h
Medium acceleration (2/3 load)	1.2 m/s <sup>2</sup>
Deceleration	
- maximum deceleration (service brake) (3/3 load)	1.3 m/s <sup>2</sup>
- emergency braking rate	2.73 m/s <sup>2</sup>
Maximum gradient	80 ‰
Seated passengers	70
Standing passengers (4 pass./m <sup>2</sup> )	138
Bicycle, pram and wheelchair locations	2

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