In mid-September 2009, the Zentralbahn in Switzerland ordered four seven-car electrical rack and adhesion railcars, as well as six three-car electrical rack and adhesion railcars for interregional rail services between Lucerne and Interlaken Ost. The first trains will roll across the Brünig from mid-2012. The four seven-car shuttle-service trains consist of two three-car drive modules, each with a driver’s cab and a buffet car inbetween. The trains, weighing roughly 200 tonnes, are 126 metres long with 307 seats, 74 of which are located in the first class compartment and 30 in the buffet area. Their maximum speed is 120 km/h. The shuttle-service trains can also be used in multi-traction systems with a three-car shuttle-service train. The modern vehicle concept with fully air-conditioned railcars, panoramic windows, buffet cars, customer information systems and low-floor entrance areas will no doubt impress rail passengers.
Technical features

- Car body with an integral aluminium construction
- Low-floor and high-floor entrance areas with folding step
- Large, double glazed windows and panoramic compartments guarantee superior brightness
- Air-conditioned passenger compartments and drivers’ cabs
- Wheelchair spaces
- 4 WCs per 7-car vehicle with 1 barrier-free WC in the low-floor area and 3 standard WCs
- Fire alarm and fire extinguishing system in the passenger compartments
- Modern flat-screen passenger information system
- Seat reservation system
- Height-adjustable gear drives to compensate for wheel wear
- Powerful drive system with 2 two-motor pure adhesion bogies as well as 2 individual, pure gear drives per 3-car drive module
- Buffet car with attractive design and modern catering concept

Vehicle data

Customer
Zentralbahn (ZB), Switzerland

Lines operated
Lucerne – Interlaken Ost

Track gauge
1000 mm

Designation
ABeh 150 xyz

Axle arrangement
B0’1Az’Az1’B0’ + 2’2’ + B0’1Az’Az1’B0’

Number of vehicles
4

Commissioning
2012/2013

Seats
317

Of which are tip up seats
10

Floor height
Low-floor 420
High-floor 1100

Entry width
1300 mm

Axial thrust
800 kN

Overall length
12600 mm

Vehicle width
2650 mm

Vehicle height
4050 mm

Service weight, tare
approx. 200 t

Bogie wheelbase
Adhesion bogie 2000 mm
Trailer/rack motor bogie 2380 mm
Brake bogie 1900 mm

Wheel diameter, new
810 mm

Wheel diameter, worn
740 mm

Traction motor three-phase current
TMF42-38-4

Power max.: 2800 kW (adhesion)
3200 kW (rack)

Starting tractive force
Adhesion 240 kN
Rack 440 kN

Maximum speed
40 km/h uphill
29.0 km/h (105%) downhill
27.5 km/h (120%) downhill

Maximum speed, adhesion
120 km/h

Maximum grade, rack
120%

Maximum grade, adhesion
35%