

Technical Description - MR-08

MR-08 trains are configured as 9 car sets with inter-car gangways for passenger circulation throughout the entire length of the train. End cars are equipped with a full width control cab. The two end cars are trailer cars and the 7 intermediate cars are motorized.

MR-08 trains are equipped with rubber-tired bogies. The guiding wheels are also rubber-tired.

Traction power supply is through collector shoe contact with the guiding rail.

Car Body

Car body structure is built from carbon steel, stainless steel or aluminum alloy. Specific structural parts can use composite material. The car body structure has a 10-year warranty.

Crashworthiness and energy absorption

A collision between two MR-08 trains in W1 condition, with one train brakes applied and the other train moving at a speed of 15 km/h, must not cause a permanent deformation to the car structure. For collisions at relative speeds over 15 km/h, the energy exceeding the capacity of the energy absorption device will cause a progressive deformation of the car body structure from the end of the train. The cabs are crushed before the passenger compartment.

Exterior finish

Exterior finish of the cars is metallic finish vinyl film with screen printed graphics and painted cab module. The paint scheme is identical for all the trains. Each type of car has the same paint scheme. The life of the film is at least 7 years.

Noise level

Stationary train maximum interior noise level is less than 65 dBA. All other noise levels are based on the

Network

Track gauge, safety wheels	1435 mm
Maximum gradient.....	6,5%
Third rail supply voltage	750 Vcc

Performances

Maximum speed	72,4 km/h
Starting acceleration	1,207 m/s ²
Service brake deceleration	1,23 m/s ²
Emergency brake deceleration	1,79 m/s ²

Dimensions

9 cars train length over coupler	152 437 mm
End car length	17 387 mm
Intermediate car length	16 809 mm
Distance between bogie pivots	11 125 mm
Floor height above rail level.....	1 150 mm
Passenger doorway width.....	1 650 mm
Passenger doorway height	1 950 mm
Height above rail level.....	3 735 mm
Car width	2 514 mm

existing MR73 trains with an improvement of around 3 dBA.

Electromagnetic compatibility

The EMC requirements for MR-08 trains are based on international standards IEC 62236 and IEC 61000.

Gangway

The minimum gangway passageway dimensions are 1300 mm wide by 1950 mm high. The life of the bellow is at least 10 years.

Ventilation

The passenger compartment ventilation is by a forced air ventilation system with 13000 m³/h maximum output. Cab cars are equipped with independent HVAC system.

Passenger side doors

Each car is equipped with 3 bi-parting outside sliding doors per side. All doors on one side open at each station. Door operators are electric with obstruction detection and audio and visual closing signals.

Interiors

The interior design concepts were developed by STM. The seats are

cantilevered and made of a rigid fibre reinforced plastic shell. End cars are equipped with 22 seats, 2 flip-up seats and 2 dedicated spaces with ischiatic supports. Intermediate cars are equipped with 28 seats and 4 flip-up seats. Interior design meets universal accessibility requirements.

Traction and braking system

Each motor car is equipped with one IGBT traction inverter module. Service braking is mainly using electric regenerative braking reducing the use of friction braking and power consumption. An open circuit detection system (option) is used to inhibit electric regeneration on an unpowered section of track.

Communication system

Each car is equipped with 4 flat screens (size 19 inches; 16:9 format) in the passenger compartment for passenger information. Each car is also equipped with 3 passenger intercom modules (5 in each end car), an automatic announcement system and 4 CCTV cameras.