KZ8A

TO OPERATE IN EXTREME CONDITIONS

Installing the high thermal insulation inside the cabin.

THE CHALLENGE

The KZ8A project is a stepping stone into the market of CIS countries that comply with GOST standards.

The challenge for Alstom consisted in quickly understanding the needs of a new customer: its travelling and maintenance rules, its extreme operating conditions, his GOST standards and its certification process.

The 1st challenge came from the development time for the new KZ8A locomotive, i.e. 19 months to design, manufacture and deliver an initial locomotive meeting all customer expectations and fully complying with GOST requirements.

The 2nd challenge was to adapt to the extreme operating conditions facing the locomotives, i.e. temperatures ranging from 50°C below zero to 40°C above, frost, snow, condensation and dust.

THE PRODUCT

In order to meet the extreme operating conditions, Alstom has developed a locomotive featuring:

- A body structure with high mechanical performance at low temperatures
- High thermal insulation within the cabin and the machine compartment
- Preheating capability for the equipment to ensure cold starts at very low temperatures (minus 50°C)

Great attention has been given to driver's comfort and to safety, in particular through:

- Heated cabin floors and seating, with spare heaters in the cabin and the machine compartment
- Toilets, a microwave oven, a fridge and a locker
- A fire-detection and fire-extinguishing system

The KZ8A locomotive features Russian signalling equipment as well as proven and tested technical solutions:

- An IGBT asynchronous traction drive
- An automatic pilot system
- An energy meter
- A workshop socket for testing auxiliaries, moving the locomotive inside workshops, and preheating without overhead lines
- The possibility of a triple BoBo configuration

KEY FIGURES

Type: Double BoBo

Length: 2 x 17,500 mm

Gauge: 1,520 mm

Weight: 2 x 100 tons

Top speed: 120 km/h

Power output: 8,800 kW

Overhead wire voltage: 25 kV/50 Hz

Starting tractive effort: 833 kN

Regenerative braking: 7,600 kW

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