

Railway-certified rugged racks

RAILWAY CABINET

M1 CABINET

- By starting with a standard M1 design, Optima was able to provide a set of cabinets tailored to specific uses both on-board the railcar as well as trackside
- Optima has the expertise and capability to test cabinets to a customer's environmental requirements, ensuring that the designs met or surpassed those tests before shipment, resulting in significant time savings for the customer
- Videos of several vibration tests can be found on our website



Requirements

Provide complete, tested cabinet platforms in different sizes to house rackmount equipment located on-board railway locomotive trains intended for public transportation and off-board applications like signal control rooms and cable management. Control room and wayside racks had to be shielded to meet IP42, IP 54 and applicable IEC standards. All cabinets also had to meet earthquake requirements as well as AREMA and CENELEC standardized tests for shock and vibration.

Solution

Optima Stantron stepped up to the challenge using the standard M1 welded aluminum cabinet series as the base for the customer's design. Our engineering team designed several rugged cabinets to meet the specs. The cabinets were then test to meet the various requirements before shipping to the customer, saving them valuable time in the process of both design and testing. The cabinets were tested to AREMA C&S Manual, Part 11.5.1 (Recommended Environmental Requirements for Electrical and Electronic Railroad Signal System Equipment), Section D.4 (Vibration) and D.5 (Shock, Class II) and CENELEC rail specification standards for shock and vibration (EN 61373:2010). The vibration was an especially severe endurance test.

Benefits

What made the solution unique is that it was able to pass the testing without the assistance of shock and vibration damping (isolators) typically needed for this type of cabinet construction. The customer was very satisfied and Optima Stantron is now positioned to provide racks that will protect sensitive, on-board and wayside rail applications worldwide.

