



LORDGATE ENGINEERING

## PRODUCT PROFILE

# BATTERY RAFT SYSTEMS FOR RAIL APPLICATIONS

### •PROJECT

### ELECTROSTAR EMU

### •OBJECTIVE

To design, validate and manufacture the structural elements of a Battery Stowage system, to envelop in a single module, the battery cells, electrical and Management systems of the Electrostar project. Providing a constant electrical power supply for the heating, lighting and emergency services etc.

### •DESIGN CONSTRAINTS

With the modern approach to Rail vehicle manufacture and recognising the financial impact of revenue loss due to maintenance, coupled with the actual maintenance timescale costs, our customer demanded the following requirements were achieved.

- Compliance of structural and Mechanical Group Standards
- Compliance of Space Envelope
- Achievement of Target Weight
- Utilisation of Telescopic slides for Battery Cell Maintenance
- Utilisation of Standard fixing parameters
- Compliance with environmental legislation
- Minimum installation costs
- Avoidance of specialist lifting/installation costs.

### •DIMENSIONS

- Height - 604.70mm
- Width - 1095.00mm
- Length - 2328.00mm closed  
- 3418.00mm fully extended
- Weight - 1300Kg Operational, including Electrics and Batteries

### •PROCEDURE

Detailed overleaf is the specific requirements of the sub-assembly parts and completed assembly, with the compliance specification identified against the individual component unit.

### •OPTIONS

Elements of size, capacity, loading levels and battery access management, can be adapted to suit similar project applications, however, the parameters of the product design and procedure will be as detailed.

LONDON ROAD, ST. IVES, HUNTINGDON, CAMBRIDGESHIRE, PE27 5EZ, UNITED KINGDOM

TEL: +44 (0) 1480 300111 FAX: +44 (0) 1480 494880 (SALES) +44 (0) 1480 494614 (TECHNICAL) E-mail: info@lordgate.com

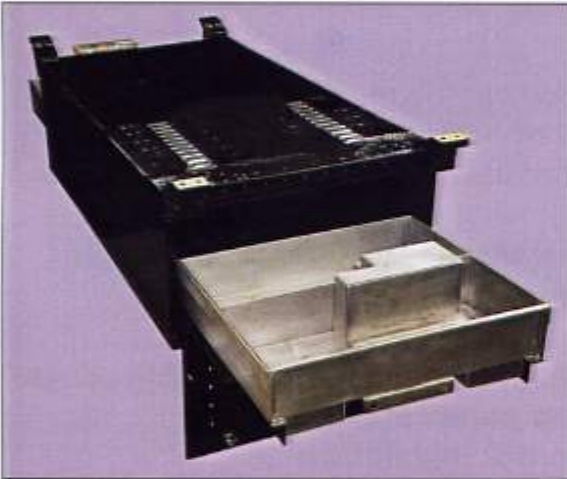
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## BATTERY CRATE



- Stainless Steel Construction
- Coded Welding in accordance to BS4872, Part 1, Tests 1&2
- Pickled & Passivated pre treatment
- Battery ventilation system
- Fork Truckable
- Inclusive Battery Isolator/Terminal Housing
- Telescopic slide & locking mountings

## RAFT ENCLOSURE



- Integral framework & structural cladding
- Environmentally compliant paint system
- Fire screening
- Integral water screening & Management system
- Multiple crate latching system
- Integral electronic management housing with glanded access panelling
- Galvanic & crevice resistant design
- Forced ventilation

## RAFT ASSEMBLY



- Compliant longitudinal transverse and vertical critical loadings
- 100% extension on telescopic slide arrangement
- Pull-out force operable by one man
- Maintenance access for batteries in or out of depot
- Vehicle interface on Sole-bar mounting
- Ease of access for electrolyte & systems maintenance