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NR/L2/ELP/21088

Module 08 – Mark 3D Maintenance Parameters

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1 Scope

This module of NR/L2/ELP/21088 covers:

- a) Equipment Design;
- b) Equipment Design Variations;
- c) Equipment Design Designations;
- d) Environmental Conditions;
- e) Maximum Pantograph Operational Speeds;
- f) Continuous Current Carrying Capacity;
- g) Design Staggers and Deviation;
- h) Minimum Staggers;
- i) Design Heights;
- j) Heel Settings;
- k) Track Tolerances;
- l) Maximum Dropper Spacing;
- m) Conductor Particulars;
- n) Conductor Tensions;
- o) Factor of Safety.

2 Definitions

See Glossary (NR/L2/ELP/21088/01)

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3 Equipment Design Definition

The Mk3D design is defined as a Simple Catenary system for main lines.

The Mk3D system design is an updated replacement to the Mk3B system. The major changes being the upgrade of the catenary wire from AWAC to copper bronze and the introduction of current carrying flexible droppers.

4 Equipment Design Variations

The design range of Mk3D equipment includes auto-tensioned and fixed termination simple equipment. The equipment design variations are detailed in table 1.

Variation	Description
Mk3D-00	Upgrade of original Mk3B design. Installed as a test at Claypole on the ECML
Mk3D-01	Upgrade of original Mk3A super-tensioned design
Mk3D-02	Upgrade of original Mk3A design

Table 1 – Equipment design variations

5 Equipment Design Designations

The equipment design designations are detailed in table 2.

Variation	Designation
Mk3D-00	Mk3D-00-AT-S
Mk3D-01	Mk3D-01-AT-S-ST
Mk3D-02	Mk3D-02-AT-S
	Mk3D-02-FT-S

Table 1 – Equipment designations

6 Environmental Conditions

The Equipment is designed for the environmental conditions detailed in table 3.

Designation	Temperature Ranges (Deg C)			Wind Speed (m/s)
	Min	Max	Design	
Mk3D-00-AT-S	-18	38	10	31.3
Mk3D-01-AT-S-ST	-18	38	10	31.3
Mk3D-02-AT-S	-18	38	10	31.3
Mk3D-02-FT-S	-18	38	10	31.3

Table 2 – Environmental Conditions