

## AWS Signalling Works Test Specification

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| <b>Includes:</b>                    | All electro and suppressor inductors, all permanent magnets (depot test magnets and speed restrictions).                                                                                                                               |
| <b>Excludes:</b>                    | Not Applicable                                                                                                                                                                                                                         |
| <b>Related Test Specifications:</b> | None                                                                                                                                                                                                                                   |
| <b>Related Standards:</b>           | NR/GN/SIG/19040 ((SIGTAN 040) (Train protection Systems)).<br>Note: all relevant Technical Instructions and Notice Boards are to be checked for new instructions                                                                       |
| <b>Related Design details:</b>      | Scheme plan, SSF, Loc area plan, REB/Location drawings.                                                                                                                                                                                |
| <b>Recording of Testing:</b>        | Completion of tests shall be by application of the check marks and recording of values on test copy diagrams and audit sheets, by recording of values on the appropriate record card, and by signing the appropriate test certificate. |
| <b>Pre-requisites:</b>              | Cables tested.<br>REB / Location case sufficiently tested prior to Function testing.                                                                                                                                                   |

### Warning

Relays, Test Equipment (other than S & P meters), electro Inductors and other magnets are not to be stored, transported or brought within 600mm of a Yellow and 1200mm of a Green permanent magnet. This also applies to both types of Suppressor magnets.

Watches and credit cards are to be kept well clear of all magnets and Inductors.

### General

This test specification is formed of the following sections, which correlate to the competency levels identified in NR/L2/SIG/30014/B410 for this type of equipment or testing.

1. Inspection
2. Wire Count and Continuity
3. Function Tests
4. Correspond

General definitions of terms are given in NR/L2/SIG/30014, however terms specific to this specification are defined in the last section of this specification.

## 1. INSPECTION

1.1. *CHECK for CORRECT TYPE:* is either the correct 'PSR', 'Yellow' or 'Green' type depending on 3<sup>rd</sup> rail electrification and has the required ramp(s) fitted. (Bi-direction lines require ramps at each end).

1.2. *CHECK for NO DAMAGE:*

1.2.1. Check that there is no obvious signs of cracks, terminal chamber access bolts operate smoothly and the cable entry is intact,

1.2.2. Check for safe Insulation; the cable sheath and cores are undamaged and the cable is either new or not suffering from 'wet' or 'dry' insulation defects.

1.3. *CHECK for CORRECT POSITION:*

1.3.1. Check the AWS is in the correct longitudinal position required by the Scheme Plan and Sighting Form and:

1.3.2. Check that there are no impedance bonds or DC traction cables across the 4ft either 3.5m on the approach side or within a distance beyond relating to 1.5 sec depending on line speed.

| Speed<br>Mph | Distance<br>m | Speed<br>Mph | Distance<br>m |
|--------------|---------------|--------------|---------------|
| 125          | 84            | 60           | 41            |
| 120          | 81            | 50           | 34            |
| 110          | 73            | 40           | 27            |
| 100          | 67            | 30           | 21            |
| 90           | 61            | 20           | 14            |
| 80           | 54            | 10           | 7             |
| 70           | 47            |              |               |

1.3.3. Check that there are no other unsuppressed AWS within a distance relating to 4 sec depending on line speed.

| Speed<br>Mph | Distance<br>m | Speed<br>Mph | Distance<br>m |
|--------------|---------------|--------------|---------------|
| 125          | 224           | 60           | 107           |
| 120          | 215           | 50           | 90            |
| 110          | 197           | 40           | 72            |
| 100          | 179           | 30           | 54            |
| 90           | 161           | 20           | 36            |
| 80           | 143           | 10           | 18            |
| 70           | 126           |              |               |

1.3.4. Check the maximum length of tail cable as listed in the table depending on type of electro inductor in use.

| Inductor                   | Max Distance (Using 2.5mm <sup>2</sup> Cable) |
|----------------------------|-----------------------------------------------|
| Yellow Standard Inductor   | 500m                                          |
| Yellow Standard Suppressor | 300m                                          |
| Green Inductor             | 500m (110V AC Circuit)                        |
|                            | 50m (60V AC Circuit)                          |
| Green Suppressor           | 50m                                           |