

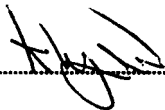
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Business Process Document

Paired core compound filled supervisory cable

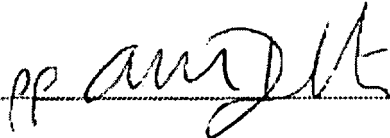
Endorsement & Authorisation

Endorsed by:


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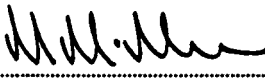
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Issue record

Issue	Date	Comments
2	April 2006	Re-issued as a SAF3 Business Process Document (<i>formerly RT/E/S/27220</i>)

Implementation

1 April 2006

Compliance

This Network Rail product specification is mandatory and must be complied with by Network Rail and its contractors from 1 April 2006

When this product specification is implemented, it is permissible for all projects, which have formally completed GRIP Level 4 to continue to comply with the Issue of any relevant Network Rail standards current when GRIP Level 4 was reached and not to comply with requirements contained herein unless the head of electrification and plant has stipulated otherwise in the accompanying briefing note.

Where the head of electrification and plant has specified that all projects will comply with the requirements, specific authority not to comply can be sought in the usual manner using the appropriate non-compliance authority processes described in Network Rail standard, [NR/SP/STP/045](#) *Managing the process for non-compliance authority* (formerly RT/LS/P/045).

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1 Purpose

Not used

2 Scope

This specification details the requirements for paired core compound filled supervisory cables for modem based supervisory systems operating in the VF range 300 to 3000 Hz.

3 Reference documentation

BS 3573	Specification for polyolefin copper-conductor telecommunication cables
BS 6234	Specification for polyethylene insulation and sheath of electric cables
BS 6360	Specification for conductors in insulated cables and cords
BS 6746	Specification for PVC insulation and sheath of electric cables

4 Definitions

Not used

5 Installation conditions

5.1 Route

Details of the route to be used shall be provided in the Technical Workslope.

5.2 Temperature

The temperature inside the cable route will vary from -15 °C to +35 °C and the cable must operate satisfactorily throughout this range.

6 Details of supervisory cables

The cable shall have the number of pairs detailed in the Technical Workslope and shall be of the telephone type with solid 0.9 mm diameter copper conductor, insulated with solid polyethylene to achieve an average mutual capacitance of 71 nF per kilometre and a maximum capacitance unbalance between pairs of 275 pF per 500 m. The pairs laid up as per Table I and lapped with not less than two layers of polyethylene terephthalate or similar tape; the radial thickness of this lapping may be increased if necessary by the addition of polythene tape(s) between the polyethylene terephthalate tape. The cores shall be protected against moisture permeation by a polythene/aluminium laminate, nominal aluminium thickness 0.15 mm, filled with compound and sheathed with polythene, minimum radial thickness 1.40 mm and screened with aluminium wires designed for a maximum resistance of 0.27 ohm per kilometre and heavily compounded. Oversheathed with PVC minimum radial thickness 1.6 mm, embossed at frequent intervals to indicate cable manufacturer's name and legend "..... CORE PILOT CABLE" (the appropriate number [of] cores to be inserted).