



Technical Specification 43-14

Issue 3 2013

Insulated Aerial Bundled Conductors for Low
Voltage Overhead Distribution Systems –
Conductor Fittings and Associated Apparatus

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INSULATED AERIAL BUNDLED CONDUCTORS FOR LOW VOLTAGE OVERHEAD DISTRIBUTION SYSTEMS – CONDUCTOR FITTINGS AND ASSOCIATED APPARATUS

FOREWORD

This Specification supersedes ENATS 43-14 issue 2 1990. It specifies the requirements for fittings and apparatus used on the Low Voltage (LV) Aerial Bundled Conductor (ABC) Systems specified in ENATS 43-12.

The Specification has been prepared as a performance specification rather than a design specification. Consequently, specific details of materials and dimensions of fittings have only been included where they are considered essential to ensure the required performance in the situations envisaged on the UK LV overhead system. This enables manufacturers to develop fittings and apparatus for ABC systems without constraints on design and choice of materials, other than those dictated by good engineering practice.

1 SCOPE

This Specification covers the design, performance and test requirements for fittings and apparatus for LV ABC systems as detailed in ENATS 43-12. Some fittings are referred out to more appropriate specifications, for example, steelwork items have been moved to ENATS 43-95.

2 REFERENCES

This specification makes reference to, or should be read in conjunction with, the following documents:

BS 3288-1	Insulator and conductor fittings for overhead power lines – Part 1: Performance and general requirements
BS 4190	ISO metric black hexagon bolts, screws and nuts. Specification
BS 6001-1	Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection
BS 6469: 1984	Methods of test for insulation and sheaths of electric cables
BS 7656	Low-voltage pole-mounting fuses (cut-outs) — 315 A rating
BS 7870	LV and MV polymeric insulated cables for use by distribution and generation utilities.

BS EN 6095-11-5	Fire hazard testing. Test flames. Needle-flame test method. Apparatus, confirmatory test arrangement and guidance
BS EN 60529	Specification for degrees of protection provided by enclosures (IP code)
BS EN 61284	Overhead lines — Requirements and tests for fittings
BS EN ISO 1461	Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods
BS ISO 7010	Graphical symbols. Safety colours and safety signs. Registered safety signs
ENATS 09-9	Low Voltage 3-Phase Polymeric Insulated Copper Wire Concentric Cables with Solid Aluminium Phase Conductors
ENATS 09-11	Heat Shrinkable Insulating Materials for use with 600/1000V Cables and Accessories
ENATS 26-4	Overhead Line Conductor Erection Clamps – Test Specification and Test Certificates
ENATS 43-12	Insulated Aerial Bundled Conductors For Low Voltage Overhead Distribution Systems – Erection Requirements
ENATS 43-13	Aerial Bundled Conductors Insulated with Cross-Linked Polyethylene for Low Voltage Overhead Distribution
ENATS 43-92	Conductor Fittings for Overhead Lines
ENATS 43-95	Steelwork for overhead lines
ENATS 43-96	Fasteners and washers for wood pole overhead lines
ENAER C79	Type Approval tests for connectors and terminations for aluminium conductors of insulated power cables

3 DEFINITIONS

3.1 Aerial Bundled Conductors (ABC)

The term ABC in this Specification refers to the assembly of 2 or 4 conductors to ENATS 43-13.

3.2 Anchor Clamp

A fitting which transfers the tensile forces within the tensioned conductor cores to the supporting structure.

3.3 Come-along clamp

A clamping device to temporarily hold the ABC under tension during installation.

3.4 Conductor fitting

A generalised term for any fitting designed for application to an overhead line conductor.

3.5 Fitting

The generalised term for any item in this Specification.

NOTE: The term 'fitting' without qualification is used in this Specification only where the nature of the fitting is obvious from the text.

3.6 Insulated wall fitting

A fitting which supports the ABC when attached to a building or structure.

3.7 Insulation piercing compression connector

An Insulation piercing compression connector (IPCC) is one that can be applied to an insulated conductor without prior removal of the insulation.

3.8 Manufacturer's identification mark

A marking to include the manufacturer's name or trade mark, fitting reference and date of production, or code to indicate week of production.

3.9 Service distribution box

Weatherproof enclosures to attach to poles or flat surfaces to provide multiple service connections.

3.10 Stringing Roller

A wheel suspended at all overhead line supports which allows the ABC to run freely and without damage during installation.

3.11 Suspension Clamp

A fitting which encloses and supports all ABC cores at an intermediate support. This type of fitting can also incorporate a stringing roller.

3.12 Weak link

A fitting which is designed to fail at a predetermined load, generally less than the ultimate tensile strength of the ABC or the support.