PRODUCED BY THE OPERATIONS DIRECTORATE OF ENERGY NETWORKS ASSOCIATION

# Technical Specification 43-12

Issue 2 2013

# Insulated Aerial Bundled Conductors for Low Voltage Overhead Distribution Systems – Erection Requirements

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# INSULATED AERIAL BUNDLED CONDUCTORS FOR LOW VOLTAGE OVERHEAD DISTRIBUTION SYSTEMS – ERECTION REQUIREMENTS

## FOREWORD

This technical specification supersedes ENATS 43-12 issue 1 1986 and covers the design and erection requirements of insulated Aerial Bundled Conductors (ABC) for Low Voltage (LV) overhead distribution systems for use by Distribution Network Operators (DNOs).

The data tables for this issue have been generated using ENATS 43-40 software, although this is not mandatory for voltages below 1000V.

## 1 SCOPE

This specification covers the constructional requirements for the erection, on poles and attached to buildings, of the following insulated LV ABC:

- $25mm^2$ – 2 and 4 conductor bundles.
- $35mm^2$ – 2 and 4 conductor bundles.
- $50mm^2$ – 2 and 4 conductor bundles.
- $70mm^2$ – 4 conductor bundles.
- $95mm^2$ – 2 and 4 conductor bundles.
- $120mm^2$ – 4 conductor bundles.
- Additionally, the following 4-conductor bundles may incorporate 1 or 2, $25mm^2$ control conductors, or one $50mm^2$ bare copper conductor:

  $50mm^2$; $70mm^2$; $95mm^2$; $120mm^2$.

The above conductors are specified in ENATS 43-13.

General arrangements are illustrated in Clause 16. Each general arrangement incorporates a schedule of components. The data included in Clause 17 are based on these general arrangements.

This specification is written to comply with the Electricity Safety, Quality and Continuity Regulations (ESQCR) as amended.

Other conductor bundles may be used in conjunction with this specification, subject to users supplying their own erection data and verifying that the strengths of components are adequate.

## 2 REFERENCES

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

Electricity Safety, Quality and Continuity Regulations

| | |
|---|---|
| BS EN 14229 | Structural timber – Wood poles for overhead lines |
| BS 3288-1 | Insulator and conductor fittings for overhead power lines. |
| BS 7656 | Specification for low-voltage pole-mounting fuses (cut-outs). 315 A rating |
| ENATS 43-8 | Overhead Line Clearances |
| ENATS 43-13 | Aerial Bundled Conductors Insulated with Cross-Linked Polyethylene for Low Voltage Overhead Distribution |
| ENATS 43-14 | Insulated Aerial Bundled Conductors for Low Voltage Overhead Distribution Systems - Conductor Fittings and Associated Apparatus |
| ENATS 35-1 | Distribution Transformers (from 16 kVA to 1000 kVA) |
| ENATS 43-40 | High Voltage Single Circuit Overhead Lines on Wood Poles |
| ENATS 43-88 | Treatment of wood poles and associated timber for overhead lines |
| ENATS 43-91 | Stay strands and stay fittings for overhead lines |
| 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 |

## 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 Control Cores

Additional cores which are carried by the ABC system laid up in the outer interstices.