



# SLOVENSKI STANDARD

## SIST IEC 60121:1999

01-november-1999

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### Recommendation for commercial annealed electrical conductor wires

Recommendation for commercial annealed aluminium electrical conductor wire

Recommandation concernant les fils en aluminium recuit industriel pour conducteurs électriques

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#### ICS:

|           |             |                                           |
|-----------|-------------|-------------------------------------------|
| 29.060.10 | Žice        | Wires                                     |
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

RECOMMENDATION FOR COMMERCIAL  
ANNEALED ALUMINIUM ELECTRICAL CONDUCTOR WIRE

## FOREWORD

- (1) The formal decisions or agreements of the I.E.C. on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- (2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- (3) In order to promote this international unification, the I.E.C. expresses the wish that all National Committees having as yet no national rules, when preparing such rules, should use the I.E.C. recommendations as the fundamental basis for these rules in so far as national conditions will permit.
- (4) The desirability is recognized of extending international agreement on these matters through an endeavour to harmonize national standardization rules with these recommendations in so far as national conditions will permit. The National Committees pledge their influence towards that end.

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## PREFACE

During the past few years I.E.C. Technical Committee No. 7: Aluminium, has discussed at various times the necessity of preparing recommendations to cover properties for commercial aluminium electrical conductor wire having tempers other than hard. No agreement has been reached as yet for such wire having intermediate tempers, but at the Stockholm meeting in July 1958 agreement was obtained on properties for annealed wire. Subsequent to this meeting a draft specification was prepared and submitted to the National Committees in November 1958 for approval under the Six Months' Rule.

The following countries voted explicitly in favour of publication:

|         |                                     |
|---------|-------------------------------------|
| Austria | Romania                             |
| Canada  | Sweden                              |
| Denmark | Switzerland                         |
| Finland | Union of South Africa               |
| France  | Union of Soviet Socialist Republics |
| Germany | United Kingdom                      |
| Italy   | United States of America            |
| Norway  |                                     |

## RECOMMENDATION FOR COMMERCIAL ANNEALED ALUMINIUM ELECTRICAL CONDUCTOR WIRE

### 1. Scope

This recommendation applies to commercial annealed aluminium electrical conductor wire having a diameter greater than 1 mm (0.0394 in).

### 2. Object

The object of this recommendation is to prescribe physical and mechanical property values which may be used internationally for this type of wire.

### 3. Resistivity

- 3.1 The volume resistivity at 20°C shall not exceed 0.0280 ohm.mm<sup>2</sup>/m (16.843 ohm.circ mil/ft).
- 3.2 The errors of measurement, which, taken together, shall not be greater than three parts in one thousand, are included in this value.
- 3.3 When determining the resistivity, measurements shall be made at a temperature not less than 10°C nor more than 30°C. The values obtained shall be corrected to 20°C.

### 4. Mechanical properties

- 4.1 The tensile strength shall not exceed 10 kg/mm<sup>2</sup> (14 220 lb/in<sup>2</sup>).
- 4.2 The elongation after fracture shall be not less than 20 % in 200 mm (8 in).

*Note.*—For the purposes of this recommendation and for calculation, the following physical properties at 20°C shall be taken:

|                                                                           |                                                         |
|---------------------------------------------------------------------------|---------------------------------------------------------|
| Density                                                                   | 2.703 kg/dm <sup>3</sup> (0.097 65 lb/in <sup>3</sup> ) |
| Constant mass temperature coefficient of resistance per centigrade degree | 0.004 07                                                |
| Coefficient of linear expansion per centigrade degree                     | 0.000 023                                               |