



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS E 2002 : 2020

(JREEA/JSA)

**Electric traction overhead lines — Fittings
— Test methods**

ICS 29.280 ; 45.080

Reference number : JIS E 2002 : 2020 (E)

PROTECTED BY COPYRIGHT

E 2002 : 2020

Date of Establishment: 1970-03-01

Date of Revision: 2020-11-20

Date of Public Notice in Official Gazette: 2020-11-20

Investigated by: Japanese Industrial Standards Committee
Standards Board for ISO area

JIS E 2002 : 2020, First English edition published in 2022-05

Translated and published by: Japanese Standards Association
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2022

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

HN

PROTECTED BY COPYRIGHT

Contents

	Page
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Classification, types and symbols of fittings	2
5 Types of tests and measurement items	2
5.1 Types of tests	2
5.2 Measurement items of fittings	3
6 Test methods	4
6.1 General	4
6.2 Mechanical test	7
6.3 Electrical test	10
6.4 Material test	14
7 Arrangement of test results	14
7.1 Rounding off of measured values	14
7.2 Units of the measured values	14
7.3 Items to be included in test result table and its format	15
Annex A (normative) Tensile load test and compressive load test	16
Annex B (normative) Torsional test	25
Annex C (normative) Sliding test	27
Annex D (normative) Vibration test	28
Annex E (normative) Reverse bend test	29
Annex F (normative) Adjusting torque test	30
Annex G (normative) Joint electric resistance test	31
Annex H (normative) Temperature rise test	35
Annex I (normative) Withstand voltage test and puncture voltage test	37
Annex J (informative) Test result table	38

Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Railway Electrical Engineering Association (JREEA)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS E 2002 : 2010**), which has been technically revised.

This **JIS** document is protected by the Copyright Act.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, published patent application or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, published patent application or utility model rights.

Electric traction overhead lines — Fittings — Test methods

1 Scope

This Japanese Industrial Standard specifies the mechanical test, electrical test, and material test of electric traction overhead line fittings (hereafter referred to as fittings) used for electric traction overhead lines of railways and tracks, and line feeder (including overhead return circuits). The fittings to which this Standard applies shall be as follows :

- a) **Electric traction overhead lines** — Fittings (see **JIS E 2201**)
- b) **Electric traction overhead lines** — Section insulators (see **JIS E 2219**)
- c) **Electric traction overhead lines** — Connecting sleeves of stranded conductors (see **JIS E 2220**)

This Standard is also applicable to fittings other than the above, provided that they are used for the same application.

2 Normative references

Part or all of the provisions of the following standards, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 4652 *Hand torque tools — Requirements and test methods*

JIS B 7502 *Micrometers*

JIS B 7503 *Mechanical dial gauges*

JIS B 7507 *Vernier, dial and digital callipers*

JIS B 7512 *Steel tape measures*

JIS B 7516 *Metal rules*

JIS B 7721 *Tension/compression testing machines — Calibration and verification of the force-measuring system*

JIS C 1102-1 *Direct acting indicating analogue electrical measuring instruments and their accessories — Part 1 : Definitions and general requirements common to all parts*

JIS C 1102-2 *Direct acting indicating analogue electrical measuring instruments and their accessories Part 2 : Special requirements for ammeters and voltmeters*

JIS C 1102-9 *Direct acting indicating analogue electrical measuring instruments and their accessories Part 9 : Recommended test methods*

JIS C 1302 *Insulation resistance testers*