



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS C 3612 : 2002

(JCMA)

600V Flame retardant polyethylene insulated wires

ICS 29.060.20

Reference number : JIS C 3612 : 2002 (E)

Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee, as the result of proposal for establishment of Japanese Industrial Standard submitted by the Japanese Electric Wire and Cable Maker's Association (JCMA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

Date of Establishment: 2002-10-20

Date of Public Notice in Official Gazette: 2002-10-21

Investigated by: Japanese Industrial Standards Committee

Standards Board

Technical Committee on Electricity
Technology

JIS C 3612:2002, First English edition published in 2003-08

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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

© JSA 2003

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

Contents

	Page
1 Scope	1
2 Normative references	1
3 Symbol	1
4 Characteristics	1
5 Materials, construction and manufacturing methods	2
6 Test methods	3
6.1 Appearance	3
6.2 Construction	3
6.3 Conductor resistance	3
6.4 Dielectric withstand voltage	3
6.5 Insulation resistance	3
6.6 Tensile properties of insulation	4
6.7 Thermal aging	4
6.8 Heat deformation	4
6.9 Flame retardance	4
6.10 Smoke concentration	4
6.11 Acidity and conductivity of gases evolved during combustion	4
7 Inspection	4
8 Designation of product	5
9 Marking and packaging	5
9.1 Marking on wire	5
9.2 Marking on package	5
9.3 Packaging	6

600V Flame retardant polyethylene insulated wires

1 Scope This Japanese Industrial Standard specifies single core wires insulated with flame retardant compound mainly composed of polyethylene resin (hereafter referred to as “flame retardant polyethylene”) which are mainly used for wiring of general electrical structures and electric machinery and equipment not exceeding 600 V (hereafter these wires are referred to as “wires”).

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS C 0081 *Environmental testing—Electrotechnical products—Fire hazard testing—Smoke obscuration—Small scale static method—Materials*

Remarks : **IEC 60695-6-31** : 1999 *Fire hazard testing—Part 6-31 : Smoke obscuration—Small-scale static test—Materials* is identical with the said standard.

JIS C 3005 *Test methods for rubber or plastic insulated wires and cables*

JIS C 3101 *Hard-drawn copper wires for electrical purposes*

JIS C 3102 *Annealed copper wires for electrical purposes*

JIS C 3666-2 *Test on gases evolved during combustion of electric cables—Part 2 : Determination of degree of acidity of gases evolved during the combustion of materials taken from electric cables by measuring pH and conductivity*

Remarks : **IEC 60754-2** : 1991 *Test on gases evolved during combustion of electric cables—Part 2 : Determination of degree of acidity of gases evolved during the combustion of materials taken from electric cables by measuring pH and conductivity*, Amendment 1 (1997) is identical with the said standard.

3 Symbol The symbol is IE/F⁽¹⁾ ⁽²⁾.

Notes ⁽¹⁾ The meaning of the symbol is as follows:

IE : polyethylene insulated wire

/F : flame retardance (limited to those not containing halogen elements and of low smoke-evolution)

⁽²⁾ The popular name is EM-IE.

4 Characteristics The characteristics of the cables shall be as stated in Table 1 when the tests of clause 6 are carried out.