



SLOVENSKI STANDARD
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Navodila za proizvodnjo, preskušanje in diagnosticiranje polimernih izolatorjev glede na krhki prelom jedrnih materialov (IEC/TR 62662:2010)

Guidance for production, testing and diagnostics of polymer insulators with respect to brittle fracture of core materials (IEC/TR 62662:2010)

Empfehlungen und Anleitungen für die Herstellung, Prüfung und Diagnose von Polymerisolatoren hinsichtlich Sprödbbruch des Kernwerkstoffes (IEC/TR 62662:2010)

Guide pour la production, les essais et diagnostics des isolateurs polymériques en rapport avec les ébréchures des matériaux du noyau (CEI/TR 62662:2010)

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29.080.10 Izolatorji Insulators

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**Guidance for production, testing and diagnostics of polymer insulators
with respect to brittle fracture of core materials
(IEC/TR 62662:2010)**

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
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Foreword

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IEC 60812:2006 NOTE Harmonized as EN 60812:2006 (not modified).

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61109	-	Insulators for overhead lines - Composite suspension and tension insulators for a.c. systems with a nominal voltage greater than 1 000 V - Definitions, test methods and acceptance criteria	EN 61109	-
IEC/TR 62039	-	Selection guide for polymeric materials for outdoor use under HV stress	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**GUIDANCE FOR PRODUCTION, TESTING
AND DIAGNOSTICS OF POLYMER INSULATORS
WITH RESPECT TO BRITTLE FRACTURE OF CORE MATERIALS**

FOREWORD

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IEC 62662, which is a technical report, has been prepared by IEC technical committee 36: Insulators.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
36/294/DTR	36/297/RVC

Full information on the voting for the approval of this technical report can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

There is an urgent need within utilities and industry for material standards, which define the physical properties of the polymers applied for outdoor insulation. As a first step, a state-of-the-art report was issued by CIGRE which led to the publication of IEC 62039. This IEC technical report presents – as a conclusion of the CIGRE-report – the important material properties for polymeric materials used in outdoor insulation and, where applicable, lists the standardized test methods including the minimum requirements. The acid (brittle fracture) resistance of FRP core materials (see 3.7) was recognized as an important property for suspension/tension composite insulators. This technical report presents more detailed guidance on this subject taking into account different insulator designs and production techniques. The risk of occurrence and the influencing parameters were evaluated by failure mode effect analysis (FMEA). Brittle fracture is not the only failure mechanism for insulators in service and is generally less frequently observed than other modes, such as failure due to tracking and erosion. However, this subject is not yet covered by any IEC test procedures specifically designed to detect or prevent brittle fracture.

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