

BS EN 62716:2013

Incorporating corrigendum May 2014



BSI Standards Publication

Photovoltaic (PV) modules — Ammonia corrosion testing

bsi.

...making excellence a habit.
AVA Documents™
Document Sharing Hub

National foreword

This British Standard is the UK implementation of EN 62716:2013. It is identical to IEC 62716:2013, incorporating corrigendum May 2014.

The UK participation in its preparation was entrusted to Technical Committee GEL/82, Photovoltaic Energy Systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2014.

Published by BSI Standards Limited 2014

ISBN 978 0 580 88427 6

ICS 27.160

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 September 2013.

Amendments/corrigenda issued since publication

Date	Text affected
31 October 2014	Implementation of IEC corrigendum May 2014: Note 2 in Figure 1 amended

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 62716

August 2013

ICS 27.160

English version

**Photovoltaic (PV) modules -
Ammonia corrosion testing
(IEC 62716:2013)**

Modules photovoltaïques (PV) -
Essai de corrosion à l'ammoniac
(CEI 62716:2013)

Photovoltaische (PV-)Module -
Ammoniak-Korrosionsprüfung
(IEC 62716:2013)

This European Standard was approved by CENELEC on 2013-08-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

© 2013 CENELEC - All rights of exploitation in any form and by any means reserved worldwide for CENELEC members.

Ref. No. EN 62716:2013 E

AVA Documents
Document Sharing Hub

Foreword

The text of document 82/769/FDIS, future edition 1 of IEC 62716, prepared by IEC/TC 82 "Solar photovoltaic energy systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62716:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-05-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-08-01

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62716:2013 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)
**Normative references to international publications
with their corresponding European publications**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 61215	2005	Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval	EN 61215	2005
IEC 61646	2008	Thin-film terrestrial photovoltaic (PV) modules - Design qualification and type approval	EN 61646	2008
IEC 61730-2 (mod)	2004	Photovoltaic (PV) module safety qualification - Part 2: Requirements for construction	EN 61730-2	2007
ISO/IEC 17025	-	General requirements for the competence of testing and calibration laboratories	EN ISO/IEC 17025	-
ISO 6988	1985	Metallic and other non-organic coatings - Sulfur dioxide test with general condensation of moisture	EN ISO 6988	1994

CONTENTS

1	Scope and object.....	5
2	Normative references	5
3	Samples	5
4	Test procedures	9
4.1	General	9
4.2	Bypass diode functionality test	9
4.2.1	Purpose	9
4.2.2	Apparatus	9
4.2.3	Procedure.....	9
4.2.4	Requirements	9
5	Preconditioning	10
6	Initial measurements	10
6.1	General	10
6.2	Crystalline silicon	10
6.3	Thin-film technologies	10
7	Ammonia resistance test procedure.....	10
7.1	Testing facility and material.....	10
7.2	Test conditions and execution	10
8	Cleaning and recovery.....	11
9	Final measurements	11
9.1	General	11
9.2	Crystalline silicon	11
9.3	Thin-film technologies	12
10	Requirements	12
10.1	General	12
10.2	Crystalline silicon	12
10.3	Thin-film technologies	12
11	Test report.....	13
	Figure 1 – Ammonia resistance test sequence for crystalline PV modules.....	7
	Figure 2 – Ammonia resistance test sequence for thin-film PV modules	8
	Table 1 – Test conditions	11