BS IEC 61196-1-212:2021

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Coaxial communication cables

Part 1-212: Environmental test methods — UV stability

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The UK participation in its preparation was entrusted to Technical Committee EPL/46, Cables, wires and waveguides, radio frequency connectors and accessories for communication and signalling.

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

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CONTENTS

FOREWORD 3
INTRODUCTION 5
1 Scope 6
2 Normative references 6
3 Terms and definitions 7
4 Test methods 7
4.1 Test methods for outdoor application 7
4.1.1 Method A: xenon arc source 7
4.1.2 Method B: fluorescent UV lamp 8
4.1.3 Method C: mercury vapour lamp 10
4.2 Test methods for indoor application 11
4.2.1 Method A: xenon arc source 11
4.2.2 Method B: fluorescent UV lamp 11
4.2.3 Method C: mercury vapour lamp 11
5 Measurements 12
5.1 Loss in mechanical properties 12
5.1.1 General 12
5.1.2 Defined test duration 12
5.1.3 Defined loss in property 12
5.2 Change in appearance 12
5.3 Change in colour 12
6 Evaluation of results 12
7 Test report 13
Annex A (informative) Example of UV test apparatus with mercury vapour lamp source 14
Annex B (informative) Guidelines to the interpretation and use 16
Bibliography 19

Figure A.1 – Vapour mercury test apparatus 14
Figure A.2 – Vapour mercury test apparatus – Details of construction 15

Table B.1 – Excerpt from MICE table 17
Table B.2 – Measurement units and conversion [a] 17

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COAXIAL COMMUNICATION CABLES –

Part 1-212: Environmental test methods – UV stability

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Draft	Report on voting
46A/1452/CDV	46A/1487/RVC

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

The language used for the development of this International Standard is English.

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INTRODUCTION

UV hazard assessment for synthetic compounds is possible using a number of UV sources. For the purposes of this document, three alternative methods are given.

1) Method A uses a xenon arc source to simulate the UV effect on cable sheath. The effect is measured by the variation of mechanical characteristics and/or change in colour after exposure.
2) Method B uses a fluorescent lamp to simulate the UV effect on cable sheath. Two different lamps may be used: type I (called UV-A lamps) and type II (called UV-B lamps). The effect is measured, as for method A, by the variation of mechanical characteristics and/or change in colour after exposure.
3) Method C uses a mercury vapour lamp to simulate the UV effect on cable sheath. As for methods A and B, the effect is determined by the variation of mechanical characteristics and/or change in colour after exposure. This test has been typically used for telecommunication cables.

For outdoor cable application only, the test specimens are periodically subjected to water attack, for methods A and B. A recent modification of method C now allows for a water immersion cycle.

For method C, the round robin tests made without water (see Annex B) indicate the method may be applicable to outdoor environments.

Other sources and determination methods are capable of detecting and analysing the UV hazard for a cable sheath. Examples of such methods are metal halide lamps or sunshine carbon arc lamps, in combination with proper filters in order to cut off most radiation having wavelengths lower than 290 nm. Contracting parties may agree to use such other methods, but such methods cannot claim conformity to this document. If used, it is recommended that such methods have at least equivalent sensitivity and detection levels as those in this document.

Informative Annex B gives guidelines for the use and interpretation of results.

NOTE It is useful to recall the introduction to ISO 4892-1:2016, which says, "*The relative durability of materials in actual-use exposures can be very different depending on the location of the exposure because of differences in UV radiation, time of wetness, temperature, pollutants and other factors. Therefore, even if results from a specific accelerated laboratory test are found to be useful for comparing the relative durability of materials exposed in a particular outdoor location or in particular actual-use conditions, it cannot be assumed that they will be useful for determining the relative durability of materials exposed in a different outdoor location or in different actual-use conditions.*"

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