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Plastics piping and ducting systems — Plastics pipes and fittings — Method for exposure to direct (natural) weathering

*Systèmes de canalisations et de gaines en matières plastiques —
Tubes et raccords en matières plastiques — Méthode pour l'exposition
directe aux intempéries*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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

ISO 16871 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 5, *General properties of pipes, fittings and valves of plastic materials and their accessories — Test methods and basic specifications*.

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Introduction

Outdoor exposure tests of the type specified in this International Standard are needed to evaluate the performance of plastics piping components or materials when exposed to direct sunlight. The results of such tests should be regarded only as an indication of the effect of exposure to direct weathering by the method described. Results obtained after exposure for a given time may not be comparable to those obtained after other exposures of equal time using the same method. When identical materials are exposed at different times for extended periods of several years, they generally show comparable behaviour after equal exposure intervals. However, even in long-term tests, the results may be affected by the season in which the tests are started.

The results of short-term direct-weathering tests can give an indication of the relative outdoor performance, but should not be used to predict the absolute long-term performance of a pipe, fitting or joint. Even results of tests carried out for longer than 24 months can show an effect of the season in which the exposure started. Comparisons of non-full-year exposures will exhibit seasonable effects.

The test method chosen is usually designed to expose the material to the most severe conditions associated with any particular climate. It should, therefore, be borne in mind that the severity of exposure in actual use is, in most cases, likely to be less than that specified in this International Standard, and allowance should be made accordingly when interpreting the results. For example, vertical exposure at 90° from the horizontal is considerably less severe in its effects on plastics than near-horizontal exposure, particularly in tropical regions, where the sun is most powerful at high zenith angles.

Surfaces facing away from the equator are much less likely to be degraded than equator-facing surfaces because they are less exposed to solar radiation. However, the fact that they may remain wet for longer periods may be of significance for materials affected by moisture.