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Plastics piping systems for the transport of water intended for human consumption - Migration assessment - Guidance on the interpretation of laboratory derived migration values

Systèmes de canalisations plastiques pour le transport d'eau destinée à la consommation humaine - Évaluation de la migration - Guide d'interprétation des valeurs de migration déterminées en laboratoire

Kunststoff-Rohrleitungssysteme für den Transport von Trinkwasser für den menschlichen Verzehr - Bewertung der Migration - Anleitung für die Beurteilung von aus Laborversuchen abgeleiteten Migrationswerten

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Contents

Page

Foreword 3

Introduction 3

1 Scope 4

2 Normative references 4

3 Terms, definitions and symbols 4
3.1 Terms and definitions 4
3.2 Symbols 6

4 Principle 6

5 Field use 6
5.1 General 6
5.2 Factors 7
5.3 Determination of the conversion factor, *F*, for pipes, fittings and joints 8

6 Number of migration periods and assessment procedure 8
6.1 Number of migrations 8
6.2 Assessment procedure 9

7 Calculation of the field concentration, $C_{f;n}$ and the acceptance migration limit, M_{al} 10
7.1 Calculation of the field concentration, $C_{f;n}$ 10
7.2 Calculation of the acceptance migration limit, M_{al} 10

8 Assessment report 10

Annex A (informative) **Alternative schedules for successive migration periods** 12

Annex B (informative) **Determination of the operational factor** 13
B.1 General 13
B.2 Pipes 13
B.3 Fittings and joints 14

Annex C (informative) **Example of the determination of the conversion factor, *F*, for pipes, fittings and joints** 16

Bibliography 17

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Foreword

This document (CEN/TR 852:2010) has been prepared by Technical Committee CEN/TC 155 “Plastics piping systems and ducting systems”, the secretariat of which is held by NEN.

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

This document supersedes ENV 852:2001.

Introduction

This document was originally issued by CEN/TC 155/WG 2 as an ENV. Because of the current developments relating to contact with water intended for human consumption, CEN/TC 155 has decided not to ask for a revision of this document as a standard, but to propose instead to keep it as a Technical Report. The main objective of this is to make the information available as quickly as possible to interested groups, particularly those involved in designing the regulatory framework of harmonised standards, such as a European acceptance scheme.

EN ISO 8795 provides instructions on how to produce a migration liquid and how to calculate a migration value (M) after analysis of a migrating substance. However, EN ISO 8795 does not give information on:

a) the number of successive migration periods to be carried out;

b) how to interpret *M* values calculated from successive migration periods;

c) a method for converting the calculated *M* values into values that reflect field use conditions;

d) acceptance criteria for the duplicate *M* values obtained by testing in accordance with EN ISO 8795.

This information is included in this document (CEN/TR 852:2010). In the case of the conversion of *M* values (point c), two factors have been considered:

— a geometrical factor F_g , which is a property of the product;

— an operational factor F_o, which is calculated from the residence time of the water in contact with the product. The values of F_o quoted in this document are based on certain assumptions and/or risk analysis. These are explained in the document.

1 Scope

This Technical Report is applicable to plastics pipes, joints and fittings to be used for the transport of water intended for human consumption and raw water used for the manufacture of water intended for human consumption.

It gives guidance on:

a) the number of successive migration periods to be carried out;

b) how to interpret *M* values calculated from successive migration periods;

c) a method for converting *M* values into values that reflect field use conditions;

d) acceptance criteria for the duplicate *M* values obtained by testing in accordance with EN ISO 8795.

2 Normative references

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.

EN ISO 8795, *Plastics piping systems for the transport of water intended for human consumption — Migration assessment — Determination of migration values of plastics pipes and fittings and their joints (ISO 8795:2001)*

3 Terms, definitions and symbols

For the purposes of this document, the following terms, definitions and symbols apply.

3.1 Terms and definitions

3.1.1 Terms and definitions related to acceptance limits

3.1.1.1
concentration acceptance limit (C_{al})
concentration of a constituent which shall not be exceeded

NOTE 1 It is expressed in milligrams per litre (mg/l).

NOTE 2 The limit is specified elsewhere, e.g. in national regulations.

3.1.1.2
migration acceptance limit (M_{al})
migration value for a constituent which shall not be exceeded

NOTE 1 It is expressed in milligrams per square decimetres per 24 h [mg/(dm$^2 \times$ 24 h)].

NOTE 2 The value is either specified elsewhere e.g. in national regulations or calculated from a concentration acceptance limit C_{al} (see 3.1.1.1) and a conversion factor *F* (see 3.1.3.1).

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