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Geosynthetics — Guidelines for the assessment of durability

Géosynthétiques — Lignes directrices concernant la durabilité

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Contents

Page

Foreword vi
1 Scope 1
2 Normative references 1
3 Terms, definitions, symbols and abbreviated terms 1
3.1 Terms and definitions 1
3.2 Symbols 1
3.3 Abbreviated items 2
4 Generalized procedure 3
4.1 Introduction 3
4.2 Available and required properties 4
4.2.1 Condition of acceptability 4
4.2.2 Development of the required and available properties with time 5
4.3 Design life 6
4.4 Margin of safety 6
4.5 End of life (function) 7
4.6 Durability study 7
5 Constituents of geosynthetics 7
5.1 Types of geosynthetic 7
5.1.1 Polymeric durability considerations 7
5.1.2 Geotextiles 8
5.1.3 Geosynthetic barriers or polymeric and bituminous geosynthetic barriers 8
5.1.4 GSB-C 8
5.1.5 Geogrids 9
5.1.6 Geonets 9
5.1.7 Geocells 9
5.1.8 Geomats 9
5.1.9 Geocomposites 9
5.1.10 Geofoam 9
5.2 Individual polymer types 9
5.2.1 General 9
5.2.2 Polypropylene (PP) 9
5.2.3 Flexible polypropylene (fPP) 10
5.2.4 Polyethylene (PE) 10
5.2.5 Polyesters (i.e. PET, PEN) 10
5.2.6 Polyvinyl chloride (PVC) 10
5.2.7 Polyamides (PA) 10
5.2.8 Ethylene propylene diene monomer (EPDM) 10
5.2.9 Ethylene interpolymer alloy (EIA) 11
5.2.10 Chlorinated polyethylene (CPE) 11
5.2.11 Chlorosulfonated polyethylene (CSPE) 11
5.2.12 Bitumen (MB) 11
5.2.13 Aramid 11
5.2.14 Polyvinyl alcohol (PVA) 12
5.2.15 Polystyrene (PS) 12
5.3 Manufacturing process 12
5.3.1 General 12
5.3.2 Geotextiles 12
5.3.3 Geosynthetic barriers 14
5.3.4 Geogrids 14
5.3.5 Geonets 15

5.3.6 Geocomposites 15
5.3.7 Geocells 15
5.3.8 GBR-C 15
5.4 Recycled and reworked materials 15
5.5 Additives, stabilizers, fillers and reinforcement scrims 16
5.5.1 General 16
5.5.2 Antioxidants 16
5.5.3 Acid scavengers 16
5.5.4 Metal ion deactivators 16
5.5.5 UV stabilizers 16
5.5.6 Plasticizers 17
5.5.7 Lubricants 17
5.5.8 Mineral fillers 17
5.5.9 Scrims 17

6 Environmental factors that may lead to degradation 17
6.1 The environment above ground 17
6.2 The environment below ground 18
6.3 Chemical and biological effects on a geosynthetic 19
6.3.1 General 19
6.3.2 Hydrolysis of PET and PA 19
6.3.3 Oxidation of PE and PP 20
6.3.4 Biochemical attack 20
6.3.5 Chemical effects on other geosynthetic barriers 20
6.4 Effects of load and mechanical damage 22
6.4.1 Tensile load: creep and creep-rupture 22
6.4.2 Synergy of tensile load with environmental effects (environmental stress cracking) 22
6.4.3 Effect of mechanical load on weathering and oxidation 23
6.4.4 Loading during installation: mechanical damage 23
6.4.5 Normal pressure: compressive creep and penetration 23
6.4.6 Abrasion and dynamic loading 23

7 Evidence of the durability of geosynthetics 24
7.1 Historical development 24
7.2 Empirical evidence of durability from geosynthetics extracted from the soil 24
7.2.1 Geotextiles 24
7.2.2 Geosynthetic barriers 25
7.2.3 Geogrids 27
7.3 Summary 28

8 Procedure for assessment of durability 28
8.1 Introduction 28
8.1.1 Need for testing 28
8.1.2 Scope of durability assessment 28
8.2 Procedure 29
8.2.1 Material 29
8.2.2 Function and application 29
8.2.3 Environment 29
8.2.4 Mechanism of degradation 30
8.2.5 Design life 30
8.2.6 The “end-of-life” criterion 30
8.3 Degradation during storage and installation 31
8.3.1 Weathering 31
8.3.2 Mechanical damage 31
8.4 Short- and medium-term applications of up to 25 years 32
8.5 Assessment of long-term durability 32
8.5.1 General 32
8.5.2 Index test for long-term durability of polyester geosynthetics 33
8.5.3 Evidence from service 33
8.5.4 Accelerated testing 34
8.6 Prediction of durability 37

8.6.1 Statement of the durability **37**
8.6.2 Level of confidence **37**
8.7 Planning for future inspection **37**
Bibliography **39**

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of document:

— an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;

— an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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/TS 13434 was prepared by Technical Committee ISO/TC 221, *Geosynthetics*.

This first edition cancels and replaces ISO/TR 13434:1998, which has been technically revised.

Geosynthetics — Guidelines for the assessment of durability

1 Scope

This Technical Specification provides guidelines for the assessment of the durability of geosynthetics, the object of which is to provide the design engineer with the necessary information, generally defined as changes in material properties or as partial safety factors, to ensure that the expected design life of a geosynthetic can be achieved with confidence.

This Technical Specification is not applicable to products designed to survive for only a limited time, such as erosion-control fabric based on natural fibres, or geotextiles for asphalt reinforcement.

This Technical Specification is applicable to the durability of the geosynthetics and not to the durability of the geotechnical structure as a whole.

NOTE The calculation of reduction factors for soil reinforcement applications is described in ISO/TR 20432.

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.

ISO 10318, *Geosynthetics — Terms and definitions*

ISO 13431, *Geotextiles and geotextile-related products — Determination of tensile creep and creep rupture behaviour*

ISO 13438:2004, *Geotextiles and geotextile-related products — Screening test method for determining the resistance to oxidation*

ISO/TR 20432:2007, *Guidelines for the determination of long-term strength of geosynthetics for soil reinforcement*

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10318 apply.

3.2 Symbols

A rate of degradation

A_0 constant in Arrhenius equation

d_{50} 50 % soil gradation

