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Design using geosynthetics

Part 2: Separation

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Different concepts **1**
4.1 General 1
4.2 GRK classification 1
4.2.1 General 1
4.2.2 Stresses resulting from fill material 2
4.2.3 Stresses resulting from installation and construction operation 2
4.2.4 Determination of required geotextile robustness class “GRK” 3
4.3 American Association of State Highway and Transportation Officials (AASHTO) M288 4
4.3.1 General 4
4.3.2 General properties 4
4.4 Other concepts 6
5 Installation **7**
Bibliography **8**

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 221, *Geosynthetics*.

A list of all parts in the ISO/TR 18228 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The ISO/TR 18228 series provides guidance for designs using geosynthetics for soils and below ground structures in contact with natural soils, fills and asphalt. The series contains 10 parts which cover designs using geosynthetics, including guidance for characterization of the materials to be used and other factors affecting the design and performance of the systems which are particular to each part, with ISO/TR 18228-1 providing general guidance relevant to the subsequent parts of the series.

The series is generally written in a limit state format and guidelines are provided in terms of partial material factors and load factors for various applications and design lives, where appropriate.

This document includes information relating to the separation function. Details of design methodology adopted in a number of regions are provided.

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TECHNICAL REPORT **ISO/TR 18228-2:2021**

Design using geosynthetics —

Part 2: Separation

1 Scope

This document provides general considerations to support the design guidance to geotechnical and civil engineers involved in the design of structures in which a geotextile is used to fulfil the function of separation of soils and below ground structures in contact with natural soils and fills.

These considerations are always based on installed soils, the installation process and on the strength and/or deformation behaviour of geosynthetics.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 10318-1, *Geosynthetics — Part 1: Terms and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10318-1 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Different concepts

4.1 General

There are several different concepts available worldwide for the design and application of geosynthetics for separation; several are presented in this document. The contents of the original documents are reproduced. However other concepts and approaches might also be available or applicable. The user of this document is intended to always refer to the most up to date version of the documents quoted.

4.2 GRK classification

4.2.1 General

This subclause presents a summary of the German GRK (Geotextilrobustheitsklasse)[22] guidance for the use of geosynthetics and geosynthetic-related products mainly in separation.

The GRK is based on two characteristics, mass per unit area and strength. The development of this system is based on on-site testing and evaluation of robustness.

The mass per unit area is usually determined in accordance with ISO 9864.

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