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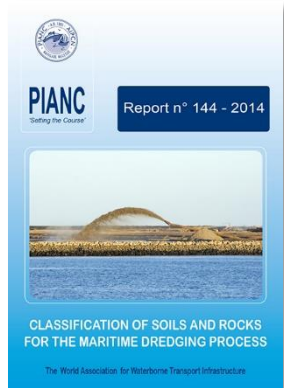


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NEW PIANC PUBLICATION AVAILABLE

PIANC

The World Association for Waterborne
Transport Infrastructure



Title: "Classification of Soils and Rocks for the Maritime Dredging Process"
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Introduction:

The World Association for Waterborne Transport Infrastructure (PIANC) established the MarCom Working Group (WG) 144 in November 2009. The objectives are the reviewing of previous classifications of soils and rocks for the maritime dredging process and the production of an updated document. The rationale for the revision is the considerable evolution of the dredging techniques since the last PIANC classification was issued in 1984. In addition to the classification itself, the Terms of Reference specify that the interaction of soils and rocks with the dredging, loading, transport and re-use processes should be covered. Environmental aspects are treated by another Working Group and excluded from the present document.

Chapter 1 is introductory. It defines the objectives, gives important definitions, sets the framework and lists a selection of standards and related literature.

Chapter 2 gives a brief overview of the ground investigation techniques: hydrographic and geophysical techniques, boreholes, in-situ geotechnical tests and laboratory tests. The quality aspects are addressed because it is the ground investigation which provides the input data required for the classification of soils and rocks.

Chapters 3, 4 and 5 cover the classification of soils, rocks and intermediate material. They constitute the core of the document. The general position of the WG regarding the classification of soils and rocks is that they should be classified according to current and applicable national standards. In addition, it is essential to provide adequate qualitative detail (description) and quantitative detail (test results) in order to make a reasonable estimate of the dredgeability of the material, of its behaviour during loading and transport and its suitability for re-use. In this report, we aim to set this out in adequate detail.

Chapters 3 (soils) and 4 (rocks) give detailed information on soil and rock characteristics. Topics of importance are expanded upon and given context. References are made to current literature for further information. The document provides the geotechnical data that underpins classification and spells out what that data is. In this way, anyone with an interest can understand the ground conditions and draw their own conclusions even if they are not familiar with the classification system used in the geotechnical report.

Chapter 5 covers intermediate material, sometimes designated as 'hard soil-soft rock'. This type of material occurs in many areas around the world and is at the origin of many planning and budget problems. Therefore, an unambiguous definition and description is important.

Chapter 6 describes the interaction of the soil and rock properties with the dredging, transport, loading, re-use and disposal processes. The Chapter gives an overview of the physical processes involved with emphasis on the main aspects.

Chapter 7 provides guidance on the application of the classification for the complete maritime dredging process. The Chapter includes a set of separate tables for excavation, transport, unloading and re-use. The tables establish the relationship between the soil properties, the application and the type of equipment. The tables are given for indicative purposes only.

The requirements for soil description are summarised in Appendix A which can be used as a standalone field document. Appendix B covers the underwater excavatability of rocks and Appendix C gives a brief overview of dredging equipment. Appendix D discusses a number of special topics often encountered during the execution of dredging projects and their relation with material properties.

The Working Group recognises that the thoroughness of the classification is often at odds with today's practice which is frequently controlled by perceived time, cost and equipment constraints. Considering the impact of soil conditions on dredging and reclamation projects, the importance of providing adequate ground information for accurate classification cannot be overemphasised.

The input data for classification requires the execution of appropriate site investigation by professionals experienced in the various disciplines.

NOTE: The objective of this report is to provide information and recommendations on good practice. Conformity is not obligatory and engineering judgement should be used in its application, especially in special circumstances. This report should be seen as an expert guidance and state of the art on this particular subject. PIANC disclaims all responsibility in case this report should be presented as an official standard.

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