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AGREEMENT

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Non-sewered sanitation systems — General safety and performance requirements for design and testing

*Systèmes d'assainissement non collectifs — Exigences de performance
et de sécurité générale pour la conception et les essais*



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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is the ISO/TMB, *Technical Management Board*.

Introduction

The purpose of this document is to facilitate the development of non-sewered sanitation systems in general and, in particular, for populations that currently do not have access to safe sanitation. According to the Joint Monitoring Programme (JMP), in 2015, 2,4 billion people still lack improved sanitation facilities. However, it should be noted that improved sanitation does not necessarily mean safe sanitation. The devastating consequences of these practices include an estimated 1 million preventable deaths per year, primarily from dysentery-like diarrheal diseases¹.

In March of 2013 the United Nations (UN) issued a global call to action for the comprehensive elimination of open defecation by 2025. According to the UN, countries where open defecation is most common have the highest levels of child death and disease, as a result of ingesting human fecal matter that has entered the food or water supply². A lack of safe, private sanitation is also associated with the highest overall levels of malnutrition, poverty, and disparity between rich and poor, and makes women and girls more vulnerable to violence³.

In 2011, the Water, Sanitation & Hygiene program of the Bill & Melinda Gates Foundation initiated the Reinvent the Toilet Challenge to bring sustainable sanitation solutions to the 2,5 billion people worldwide who do not have access to safe, affordable sanitation⁴.

The Reinvent the Toilet Challenge criteria were as follows:

- Removes pathogens from human waste and recovers valuable resources such as energy, clean water, and nutrients.
- Operates “off the grid” without connections to water, sewer, or electrical lines.
- Costs less than USD 0.05 per user per day.
- Promotes sustainable and financially profitable sanitation services and businesses that operate in poor urban and rural settings.
- Is a truly aspirational next-generation product that everyone will want to use in developed as well as developing nations.

This document is intended to facilitate the development of sanitation systems that promote economic, social, and environmental sustainability through strategies that may include minimizing resource consumption (e.g. water, energy) and maximizing reusable output. Although this document may be applied to systems requiring connection to a networked water supply system and/or electric power grid, the aim of the document is to promote the development of sanitation systems that are independent of these networks.

¹ http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf

² United Nations, http://www.un.org/waterforlifedecade/waterforlifevoices/open_defecation.shtml

³ United Nations, <http://www.un.org/millenniumgoals/pdf/MDG%20Report%202012.pdf>

⁴ Bill & Melinda Gates Foundation – Water, Sanitation & Hygiene: Reinvent The Toilet Challenge – Fact Sheet, https://docs.gatesfoundation.org/Documents/Fact_Sheet_Reinvent_the_Toilet_Challenge.pdf