

1 **International Wastewater Services Flushability Group**
2 **IWSFG PAS 2: 2018 Terms and Definitions for Determination of Flushability**
3 Copyright 2018

4 **PUBLIC COMMENT VERSION**

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10 permission from the IWSFG.

11 Once finalized, the IWSFG will permit the downloading and use of the documents without charge for
12 the purpose of determining whether a product is likely to be considered flushable and to be so
13 identified.

14 **Foreword**

15 The International Wastewater Services Flushability Group (IWSFG) is a worldwide coalition of national and
16 regional wastewater services' associations and organizations and individual wastewater services.

17 The work of preparing the specifications is carried out by various drafting groups comprising volunteers
18 designated by the principal and the supporting participants of the group. They participate on a voluntary
19 basis, without remuneration of any kind.

20 *The criteria for flushability and the appropriate test methods are the product of a global*
21 *consensus of the coalition members and reflect the hydraulic, mechanical and environmental*
22 *conditions of drain lines, various onsite treatment and wastewater collection and treatment*
23 *systems as well as the nature of the receiving waters for treatment plant effluents.*

24 The task of the group was to prepare specifications reflecting the above purpose.

25 Wastewater services are organizations acting for the public good as a public service. The group expects
26 the manufacturers and distributors of their products to act in a socially responsible and environmentally
27 sustainable manner by adhering to the established specifications.

28 Attention is drawn to the possibility that some of the elements of this document may be the subject of
29 patent rights. The IWSFG shall not be held responsible for identifying any or all such patent rights.

30 Contents

31	1	Introduction	4
32	2	Purpose	4
33	3	Scope	4
34	4	References	4
35	4.1	Normative References	4
36	4.2	Informative References or Relevant Annexes	4
37	5	Definitions	4
38	5.1	Definitions Related to Components of Wastewater Collection and Treatment Systems	5
39	5.1.1	Drain Line	5
40	5.1.2	Infrastructure	5
41	5.1.3	On-site Treatment System	5
42	5.1.4	Toilet	5
43	5.1.5	Wastewater	5
44	5.1.6	Wastewater Collection System	6
45	5.1.7	Wastewater Services	6
46	5.2	Definitions Related to the Hydraulic, Mechanical and Environmental Conditions within	
47		Wastewater Collection and Treatment Systems	6
48	5.2.1	Biodegradation	6
49	5.2.2	Biodisintegration	6
50	5.2.3	Disintegration	6
51	5.2.4	Reynolds Number (Re)	6
52	5.2.5	Residual Solids	7
53	5.2.6	Settling	7
54	5.3	Definitions Related to Hygiene Products	7
55	5.3.1	Applied Substances	7
56	5.3.2	Dry Tissues	7
57	5.3.3	Excreta	7
58	5.3.4	Flushable Product	7
59	5.3.5	Moist Tissue	8
60	5.3.6	Other Products	8

61	5.3.7	Product.....	8
62	5.3.8	Quality.....	8
63	5.3.9	Substrate.....	8
64	5.3.10	Tissue.....	8
65	5.3.11	Toilet Paper.....	8
66	5.4	Terms Related to Testing Process.....	9
67	5.4.1	Conformity.....	9
68	5.4.2	Performance.....	9
69	5.4.3	Regenerated Cellulose.....	9
70	5.4.4	Plastics.....	9
71	5.4.5	Specification.....	9
72	6	Abbreviations.....	10
73	6.1	rpm.....	10
74		Bibliography.....	10
75			
76			

77 1 Introduction

78 Standardization requires the establishing of a language common to the various stakeholders in order to
79 promote policy understanding and conformity. Hence, the purpose of this Publicly Available
80 Specifications (PAS) document is to set out the definitions and abbreviations related to the
81 determination of flushability.

82 2 Purpose

83 The purpose of this PAS document is to provide all the definitions and abbreviations used in the IWSFG
84 PAS: 2018 documents. Hence, it will provide continuity between all the documents. The document is
85 designed to be used in conjunction with IWSFG PAS 1: 2018 *Criteria for recognition as a flushable*
86 *product* and IWSFG PAS 3: 2018 *Disintegration Test Methods – Slosh Box*.

87 3 Scope

88 This document defines the terms, definitions and abbreviated terms that constitute a common
89 terminology to stakeholders in the manufacture and sale of hygiene products and in the operation of
90 wastewater conveyance and treatment systems.

91 The following definitions are provided in this document:

- 92 1. The definitions of the various components of a wastewater conveyance and treatment system
- 93 2. The definitions of the hydraulic, mechanical and environmental conditions within wastewater
94 conveyance and treatment systems
- 95 3. The definitions of the components of hygiene products

96 The following definitions are beyond the scope of this document:

97 Those terms used to describe the performance of hygiene products in their intended uses

98 4 References

99 4.1 Normative References

100 There are no normative references for this document.

101 4.2 Informative References or Relevant Annexes

102 There are no informative references or annexes for this document.

103 5 Definitions

104 For the purposes of the IWSFG PAS documents, the following terms and definitions apply.

105 5.1 Definitions Related to Components of Wastewater Collection and Treatment
106 Systems

107 5.1.1 Drain Line

108 A pipe system that transports wastewater generated from within a building,
109 through the building to an on-site treatment system or a Wastewater Collection
110 System.

111 Note: This term applies to gravity, pump, force and vacuum systems.

112 5.1.2 Infrastructure

113 A system of facilities, equipment and services needed for the operation of an
114 organization.

115 Note: In a wastewater utility, it is advisable to reserve the term “infrastructure”
116 for physically fixed equipment and installations.

117 Source: ISO 9000: 2015, Quality Management, 3.5.2, Modified – Note added

118 5.1.3 On-site Treatment System

119 A wastewater treatment system located on or near the property where the
120 wastewater is generated.

121 Notes:

122 1. An example of an on-site treatment system is a septic tank.

123 2. A properly maintained on-site treatment system may require the regular
124 removal of sludge and its transport for treatment and disposal at an authorized
125 receiving facility.

126 5.1.4 Toilet

127 A sanitary appliance that consists of a pan, seat, flushing apparatus, and any
128 necessary flush pipes.

129 Note: Also known in some regions as a water closet

130 SOURCE: ISO 6707-1:2014(en), 5.4.9

131 5.1.5 Wastewater

132 Water originating from any combination of domestic, institutional, commercial
133 or industrial activities, or any incidental sewer inflow/infiltration, which can
134 include collected stormwater that is discharged into the environment or sewer

135 Note: The definition of wastewater here also includes sanitary wastes in an
136 undiluted form.

137 5.1.6 Wastewater Collection System

138 A system of conduits used to transport wastewater

139 Notes:

140 1. A system typically begins with connecting pipes leading from a building to
141 one or more levels of larger sewer pipes, which terminate at a wastewater
142 treatment plant.

143 2. The flow in sewer pipes can be either generated by gravity, pumped or be a
144 combination of the two means.

145 3. A wastewater conveyance system can also transport stormwater.

146 5.1.7 Wastewater Services

147 Services provided by wastewater utilities

148 5.2 Definitions Related to the Hydraulic, Mechanical and Environmental Conditions within
149 Wastewater Collection and Treatment Systems

150 5.2.1 Biodegradation

151 Process by which organic substances are decomposed by micro-organisms into
152 simpler substances such as carbon dioxide, water and ammonia.

153 SOURCE: OECD Glossary of Statistical Terms, 2002

154 5.2.2 Biodisintegration

155 Disintegration that involves biodegradation.

156 SOURCE: Guidelines for Assessing the Flushability of Disposable Nonwoven
157 Products, Third Edition June 2013 INDA / EDANA

158 5.2.3 Disintegration

159 A process in which a product weakens, loses integrity, and breaks into smaller
160 parts as a result of exposure to physical forces and/or biological activity.

161 SOURCE: Excerpted from Guidelines for Assessing the Flushability of Disposable
162 Nonwoven Products, Third Edition June 2013 INDA / EDANA

163 5.2.4 Reynolds Number (Re)

164 The dimensionless group of variables, which is widely accepted in the field of
165 fluid dynamics, to help predict the type of flow patterns (laminar or turbulent)
166 under different fluid flow conditions. (The Re is based on four factors: the
167 diameter of the pipe and the viscosity, density and average linear velocity of a
168 fluid.)

169 SOURCE: Excerpted from Unit Operations of Chemical Engineering, 4th Ed. By
170 McCabe, Smith, Harriott (McGraw Hill) 1985

171 5.2.5 Residual Solids

172 Broad range of materials that might be encountered in the management of a
173 sewage treatment plant, including biosolids, sludge and sewage sludge. Residual
174 solids also include screenings (i.e. debris), grit (i.e. sand), and scum (i.e. fats, oils
175 and grease).

176 SOURCE: Excerpted from Criterial for Sewage Works Design (Orange Book) –
177 Washington State Department of Ecology Publication #98-37 WQ, August 2008

178 5.2.6 Settling

179 The process by which the whole, or the dispersed pieces, of a material will
180 deposit themselves at the lower levels of body of fluid through loss of buoyancy

181 Note: this effect can be observed in both stationary and moving liquids.

182 5.3 Definitions Related to Hygiene Products

183 5.3.1 Applied Substances

184 Substances used within or on the substrate, such as bonding agents or lotions, to
185 achieve an intended purpose including improved wet strength, smoothness,
186 disinfection or topical treatment.

187 5.3.2 Dry Tissues

188 A soft, lightweight, sanitized paper not containing free moisture (dry) used in
189 bathroom settings for personal cleanliness.

190 SOURCE: adapted from ISO 24294:2013(en), 6.14

191 5.3.3 Excreta

192 Waste matter eliminated or separated from the human body such as sweat,
193 urine, feces, blood, mucous and vomit.

194 5.3.4 Flushable Product

195 A product that is considered suitable for disposal via a toilet and drain line to an
196 on-site treatment system or to a wastewater collection system and a
197 wastewater treatment system because it will not materially adversely impact
198 those systems or the downstream environment

199 Note: The IWSFG Publicly Available Specifications (PASs) provide protocols and
200 tests to clarify these suitable conditions.
201

202	5.3.5	Moist Tissue
203		A pre-moistened tissue that contains or is coated with water, lotion or other
204		substances
205		SOURCE: adapted from ISO 24294:2013(en), 6.14
206	5.3.6	Other Products
207		Products that are neither dry nor moist tissues that have an intended hygienic
208		purpose e.g. condoms, colostomy bags, litters, medical devices, and flushable
209		toilet brushes
210	5.3.7	Product
211		Tangible output that is the result of a process that does not include activities,
212		which are performed at the interface between the supplier (provider) and the
213		customer
214		SOURCE: ISO 9000: 2015 Quality management systems — Requirements
215	5.3.8	Quality
216		Degree to which a set of inherent characteristics fulfills standardized
217		recommendations
218		Note: “Inherent” as opposed to “assigned”, means existing in the object.
219		SOURCE: ISO 9000: 2015, Quality Management, 3.6.2, modified – Note 1 has
220		been deleted.
221	5.3.9	Substrate
222		A base material comprising the essential structure of a product and onto which
223		various substances may be applied to achieve an intended purpose.
224	5.3.10	Tissue
225		A product of base paper made from lightweight, dry or wet crepe paper and
226		some non-crepe paper, predominantly made from natural fibres
227		Note: 1. Tissues may be dry or moist.
228		2. Moist tissues are sometimes known as “wipes”.
229		SOURCE: ISO 12625-1:2011 Tissue paper and tissue products —Part 1:
230		General guidance on terms, 4.60 (see also Clause 3).
231	5.3.11	Toilet Paper
232		Tissue paper product intended for sanitary use in a toilet

233 SOURCE: ISO 12625-1:2011 Tissue paper and tissue products —Part 1: General
234 guidance on terms, 4.63

235 5.4 Terms Related to Testing Process

236 5.4.1 Conformity

237 Fulfillment of a set recommendation or requirement

238 Note: In English, the word “conformance” is synonymous but deprecated. In
239 French, the word “compliance” is synonymous but deprecated.

240 SOURCE: ISO 9000: 2015, Quality Management, 3.6.11, modified – Note 2 has
241 been deleted.

242 5.4.2 Performance

243 Measurable result

244 Note: 1. Performance can relate either to quantitative or qualitative findings.

245 2. Performance can be related to either processes or products.

246 SOURCE: ISO 9000:2015, Quality Management, 3.7.8, modified – Note 2
247 amended by limiting application to processes and products. (Note 3 has
248 been deleted.)

249 5.4.3 Regenerated Cellulose

250 Regenerated cellulose is a class of materials manufactured by the conversion of
251 natural cellulose to a soluble cellulosic derivative and subsequent regeneration,
252 typically forming either a fiber (via polymer spinning) or a film (via polymer
253 casting

254

255 5.4.4 Plastics

256 Synthetic polymers that are able to be molded and shaped when soft, then set
257 to a rigid or slightly elastic form. Of concern to flushable products are plastic
258 fibers. These are determined and quantified by testing that conforms to TAPPI
259 401, ISO 9184-1 through ISO 9184-5 (1990) or ASTM D629-15. These fibers
260 include, but are not limited to the following: polyester, polyamide,
261 polypropylene, polyurethane acrylic, polylactic acid, polyethylene and polyvinyl
262 alcohol.

263 5.4.5 Specification

264 Requirements defined in a document for the performance of a product

265 SOURCE: ISO 12576-2: Thermal performance of windows and doors 2008, 3.7.

266 **6 Abbreviations**

267 **6.1 rpm**

268 Revolutions per minute (abbreviated rpm, RPM, rev/min, r/min) is a measure of the
269 frequency of rotation, specifically the number of rotations around a fixed axis in one
270 minute. It is used as a measure of rotational speed of a mechanical component.

271 **Bibliography**

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

- 273 a. IEC Electropedia: available at <http://www.electropedia.org/>
274 b. ISO Online Browsing Platform: available at <http://www.iso.org/obg>

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