IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
1	KC1	KC1	11	13	Copyright Notice	Ed	Copyright notice is relevant to the current document, stating purpose for future documents seems superfluous.		See PAS1 *Comments 1 - 21 are repeated comments from PAS 1*
2	SUO	SUO	14	29		Ed	Forward is not necessary since that statement is exactly the same as written in PAS1.	Remove forward	See PAS1

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
3 4	KC2	KC2	16	17	Foreword	Ed	Does country representation from USA, Australia, Japan, Canada, New Zealand and Spain (?) truly represent a worldwide coalition?	(3) Replace "worldwide ' with "international" (4) Add web link to IWSFG membership page to provide up to date country membership so this is transparent.	See PAS1
5	INDA	INDA	16	24		Ge	The statement made in this paragraph is misleading. The IWSFG takes unacceptable liberties in describing who actually has developed the criteria in this draft specification. First and foremost, the criteria discussed in this draft have been collected by a relatively small group of global wastewater "experts", including only six voting members none of whom are from the UK and only one from Europe. With no line of sight to individual members participating from each country along with background and credentials, there is no validation of "expertise". Use of terms like "worldwide coalition" and "global consensus" should be struck. In addition, three of the five "critical characteristics" described in section 6.2 are pulled verbatim (with one minor alteration) from INDA and EDANA's 3rd ed. Guidelines for Assessing Flushability of Disposable Nonwoven Products (as referenced within this draft). In addition, the test method used in PAS 3 is sourced from GD3 (with parameter and pass/fail changes). In essence, adoption of this methodology points to the fact that INDA and EDANA members (along with wastewater representatives who have been involved over the years with these guidelines) are the true "experts" in developing guidelines such as these.	The proposed change is to rewrite the foreward using the following messaging: 1) The current makeup of the IWSFG members who worked on this document, including the background credentials of each and the process used to gain a "global consensus". 2) Acknowledgement that the majority of this document is due to the long-standing work of industry experts working with wastewater representatives over the years,	See PAS1

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
6	NP	NP	16	23	Foreword	Ge	Who are the consensus members? And how are these test methods and pass/fail criteria are designed? What was the protocol that was followed to get global consensus on these documents?	Clarify the section by adding members of the consensus and basis for how the test methods and criteria for flushable product designed. Explain the protocol or program that was followed for global alignment of all wastewater services.	See PAS1
7	PG	PG	20	24	Foreword	Te	Document appears to share common authorship with documents generated, and therefore the intellectual property of, the International Standards Organization (ISO) Technical Committee (TC) 224. While superficial changes have been made, language and concepts in IWSFG PAS-1 appear to have been developed from current and/or draft versions of the documents generated as part of the work of ISO TC224 WG10. From "ISO TR 24524: WD 3" (noted as: © ISO 2018 – All rights reserved): "This Technical Report addresses the hydraulic, mechanical and environmental conditions found in transport and treatment systems. The conditions listed in this report may be taken into account when designing and evaluating the performance of products which could potentially be flushed via the toilet... It is expected that this Technical Report and may provide the basis for wastewater services to delineate the qualities and characteristics of discharges to the wastewater system." From the IWSFG PAS-1 (noted as: Copyright 2018 IWSFG): "The criteria for flushability and the appropriate test methods... reflect the hydraulic, mechanical and environmental conditions of drain lines, various onsite treatment and wastewater collection and treatment systems... Accordingly, the purpose of the flushability test along with others presented in this	As the work of ISO TC224 WG10 pre-dates the work of the IWSFG, where necessary and appropriate, provide proper attribution and/or reference to language and concepts drawn from the draft ISO TC224 WG10 documents. Further, in the interest of transparency, identify the affiliation of the author(s) of the IWSFG PAS documents, and state if they have been, or are currently, members of ISO TC224 WG10.	See PAS1

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
8	PG	PG	20	24	Foreword	Te	Contradicts definition of "Flushable Product" in Section 5. Definition of "Flushable Product" in Section 5 accurately and succinctly describes a flushable product, and as such, is a suitable summary of the purpose of the PAS documents. The language utilized in the Foreword mischaracterizes the PAS documents, as none of the three documents "reflect the hydraulic, mechanical and environmental conditions of drain lines, various onsite treatment and wastewater collection and treatment systems as well as the nature of the receiving waters for treatment plant effluents."	Revise Foreword to be consistent with "Flushable Product" definition in Section 5: "The criteria for flushability and the appropriate test methods are the product of a global consensus of the coalition members and reflect test methods and criteria to ensure a product labeled as flushable the hydraulic, mechanical and environmental conditions of it will not impact drain lines, various onsite treatment and wastewater collection and treatment systems as well as the nature of the receiving waters for treatment plant effluents."	See PAS1

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
9 10 11 12 13	KC 3	KC 3	21	23	Foreword	Ed/Te	Per earlier comment – not truly a global consensus with only 4 perhaps 5 participating countries PAS 3 does not reflect hydraulic, mechanical or environmental condition. See PAS 3 comments The lack of household pump test, Anaerobic Biodisintegration and Municipal Sewage Pump test are significant outages in the protocol offered "as well as the nature of the receiving waters for treatment plant effluents." Statement is gobble de gook *"The criteria for flushability and the appropriate test methods are the product of a global consensus of the coalition members and reflect the hydraulic, mechanical and environmental conditions of drain lines, various onsite treatment and wastewater collection and treatment systems as well as the nature of the receiving waters for treatment plant effluents."*	The criteria for flushability and the appropriate test methods are the product of a global consensus of among the current IWSFG coalition members, which are thought to approximate to some of and reflect the hydraulic, mechanical and environmental conditions found in drain lines, various aerobic onsite treatment and wastewater collection and aerobic treatment systems. as well as the nature of the receiving waters for treatment plant effluents. Anaerobic Treatment and Household Pump compatibility are not included.	See PAS1
14	NP	NP	24		Foreword	Ge	In the foreword 4th paragraph, it states that "the task of the group was to prepare standards reflecting the above purpose." It does not state that this group accomplished that goal. Did they?	Please clarify.	See PAS1

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
15	PG	PG	25	27	Foreword	Te	In the United States, wastewater treatment plants are permitted to continuously discharge known pollutants including but not limited to Total Suspended Solids (TSS), Oxygen depleting substances [typically measured as Biological Oxygen Demand (BOD)] and nutrients (defined as pollutants in the United States Environmental Protection Agency [EPA]'s Report to Congress on the Impacts and Control of CSOs and SSOs; 2004). These pollutants can and do have a negative impact on "the nature of the receiving waters for treatment plant effluents" (IWSFG PAS-1).	Describe how the risk from the discharge of pollutants (as defined by the US EPA) in the form of TSS, BOD and nutrients by wastewater treatment plants represented by IWSFG members is deemed appropriate. In particular, describe how risk and budget, as well as receiving water quality determine the extent of treatment for a WWTP.	See PAS1

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
16	PG	PG	25	27	Foreword	Te	Sentence describing wastewater services is an oversimplification. The expectations of the IWSFG are irrelevant to the document.	**Delete the following sentence**: "Wastewater services are organizations acting for the public good as a public service. The group expects the manufacturers and distributers of their products to act in a socially responsible and environmentally sustainable manner by adhering to the established standards." If the sentences are retained, for context, provide the IWSFG's position on "blending," specifically how the practice of blending protects the public good and represents socially and environmentally sustainable operation by wastewater services. Note to entry: "The [US Environmental Protection Agency] EPA issued guidance in the mid-2000s banning a technique used by some utilities in which some wastewater is routed around the treatment process before being blended with treated flows and then discharged into areas in the receiving waters known as mixing zones. The practice is used to keep the high volumes of wastewater, such as those during storms, from overwhelming the treatment plant. The agency said blending and the use of mixing zones violate the Clean Water Act." (continued below)	See PAS1

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
17	PG		27	27	Foreword	Te	Proposed Change continued from above	[continued from above] (from: https://www.bna.com/wastewater-practice-mostly-n57982084593/). "Opponents argue that the blending ban raises costs for wastewater utilities." (From https://www.wateronline.com/doc/epa-s-wet-weather-policies-debated-in-court-0001).	See PAS1
18	INDA	INDA	25	27		Ge	As discussed in the Main Document from Draft 1, this language is unacceptable. Although the comment was "Not accepted" in the first draft, there was no reasoning behind the decision. In light of lack of an explanation, it needs to be brought up again. This statement is presumptuous. The IWSFG implies that not adhering to this standard precludes the possibility of being socially responsible or environmentally sustainable. The IWSFG has neither the expertise nor the authority to define what is meant by "socially responsible" and "environmentally sustainable". At best, this can be stated as an opinion of the IWSFG.	Remove statement or reword to reflect this is an opinion of the IWSFG.	See PAS1
19	NP	NP	25	28	Foreword	Ge	What is authority of Wastewater services to expect the manufacturers and distributers of the products to act in a socially responsible and environmentally sustainable manner?	Please clarify.	See PAS1

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
20	PG	PG	27	27	Foreword	Te	Improperly implies that the opinions presented by the IWSFG in the Foreword are social and/or environmental sustainability metrics. This is unfounded, unreferenced and untrue as no such metrics exist. The opinions of the IWSFG cannot be utilized to measure social and/or environmental sustainability. Additionally, the language Implies that adherence to IWSFG PAS documents demonstrates social and/or environmental sustainability, or alternatively, that failure to adhere to the PAS indicates an entity either neither socially or environmental sustainable. Neither of these scenarios is true.	Delete. Inappropriately and improperly implies that the opinions presented by the IWSFG are social and/or environmental sustainability metrics.	See PAS1
21	PG	PG	27	27	Foreword	Te	Document contains language significantly similar to that found in draft versions of the ISO TC224 WG10. From the IWSFG PAS-1 (noted as: Copyright 2018 IWSFG): "The group expects the manufacturers and distributers of their products to act in a socially responsible and environmentally sustainable manner by adhering to the established specifications." From "ISO TR 24524: WD 2 v1" (noted as: © ISO 2017 – All rights reserved): "It is equally hoped that manufacturers and distributers of products that would be marked flushable or which by their location and use are likely to be flushed would take these conditions into account when designing and marketing such products. Thereby demonstrating their conformity with the principles of social responsibility as set out in ISO 26000 which provides guidance on how businesses and organizations can operate in a socially responsible way. This means acting in an ethical and transparent way that contributes to the health and welfare of society."	In the interest of transparency, declare if the author(s) of the IWSFG PAS documents are members of ISO TC224 WG10. Further, declare if the author(s) have participated in the development of both documents.	See PAS1

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
22	INDA	INDA	30	30		Ed	Contents – in general. Missing numerous entries – numbering is not continuous.	Renumber.	Accepted - renumbered accordingly
23	KC4	KC4	48	49			Duplicate entry	Check TOC	Accepted
24	NP	NP	64	67	1	Ge	This list is not inclusive of all products found in various forensic collection studies including paper towels, baby wipes, etc. This comment was made on Draft 1 as well and was not given reasoning for not being accepted.	Recommend reviewing various forensic collections studies including NYC 2016, Portland and other global reports like recent UK Water Study for a comprehensive list.	Not Accepted - no reference to PAS
25	NP	NP	78	82	1	Ge	This document states that “standardization requires the establishment of a language common to the various stakeholders in order to policy understanding and conformity." It would appear that only various wastewater stakeholders were included in the development of these PAS documents. Clearly manufacturers and users of marketed flushable products were not included nor does it appear that toilet manufacturers or plumbers as key stakeholders.	Please justify limiting stakeholder to only select wastewater groups.	Not Accepted - no reference to PAS
26	PG	PG	79	80	1	Te	Per the Introduction: "[s]tandardization requires the establishing of a language common to the various stakeholders in order to promote policy understanding and conformity." What stakeholder groups were involved in the development of the IWSFG PAS documents?	Provide a list of stakeholder groups that participated in the development of the IWSFG PAS document (not including comments received during the public comment period).	Not Accepted - no reference to PAS

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
27	INDA	INDA	79	81		Ge	Reference to a PAS – Publicly Available Specification – was made in the Main Document of Draft 1. Comments made referencing this terminology were ignored by the IWSFG as being not specific to the PAS.	Revisit the comments made in Draft 1 and provide some sense of transparency in this draft as to the purpose of adopting the PAS nomenclature.	Not Accepted - no reference to PAS
28	NP	NP	89	91	3	Ge	As mentioned in Draft 1 comments, the scope includes defining common terminology in the sale and manufacture of hygiene products. With no such stakeholders involved in this process, it is unclear with no reference as to how such definitions were derived.	Please provide reference or background for expertise in defining common terminology in the manufacture and sales of hygiene products.	Not Accepted - no reference to PAS
29	DPI	PV	90	90	3	Ge	conveyance vs transport	To assist readers, select the word either '**conveyance**' or '**transport**' and then use the consistent terminology across all three documents	Accepted - conveyance
30	NP	NP	96		3	Ge	See comment above for 89-91.		Not Accepted - no reference to PAS
31	NP	NP	99	103	4	Ge	As mentioned in Draft 1 comments, why are there no references for common terminology in the manufacture and sales of hygiene products? Why are current or previous versions of INDA/EDANA Guidelines for Assessing Flushability not a reference document?	Please clarify.	Not Accepted - no reference to PAS

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
32	PG	PG	100	101	4	Te	Numerous preeminent reference materials exist globally for the design and construction, as well as the operation and maintenance of wastewater conveyance and treatment systems. Definitions for any and all aspects of wastewater conveyance and treatment should be drawn from such references. Examples include, but are not limited to: Metcalf and Eddy, Wastewater Engineering: Treatment and Resource Recovery, McGraw-Hill: New York; Grady, C.P.L., Daigger G.T., Love N.G., Filipe C. D. M. Biological Wastewater Treatment, IWA Publishing, CRC Press; Linsley, et. al., Water-Resources Engineering, McGraw-Hill.	Replace definitions where noted with definitions from proper reference materials. Add references to Section 4 and Bibliography.	Not Accepted - no reference to PAS (Definitions have specific context for the PAS documents)
33	PG	PG	102	103	4	Te	Numerous organizations have developed flushability testing and guidelines. These should, at a minimum, be included as Informative references. Examples include: UK Water Industry, Specification for a Testing Methodology to Determine Whether a Product is Suitable for Disposal Through a Drain or Sewer System, WIS 4-02-06, November 2017: Issue 1; INDA/EDANA 2013, Guidelines for Assessing the Flushability of Disposable Nonwoven Products: a process for assessing the compatibility of disposable non-woven products with Plumbing and Wastewater Infrastructure, 3rd Edition; ISO TR 24524: WD 3, ISO TC 224/ WG 10, Activities relating to drinking water and wastewater services — Technical Report on the hydraulic, mechanical and environmental conditions generally found in wastewater transport systems from toilets through to wastewater treatment plants, and the related context.	Definitions should be drawn from existing sources. Add reference to existing guidelines to Informative References. In particular, add the work of ISO TC224/WG10 given the significant overlap of concepts, content and approach with the IWSFG documents.	Not Accepted

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
34	PG	PG	108	112	5.1.2	Te	Vague. Unreferenced. Inconsistent. Mixes the concept of plumbing and associated fixtures within a building, and the piping that carries wastewater from a building (or buildings) to on-site treatment or municipal conveyance. See 5.1.5 below, where the piping associated with a toilet are not defined as a "drain line" but rather "flush pipes." Similarly, see 5.1.7 below, where the piping associated with conveyance of wastewater from a building are not defined as a "drain line" but rather "connecting pipes."	Revise definition. Check for internal consistency of terms utilized within and among definitions. Cite standard reference material as source.	Not Accepted
35	PG	PG	114	115	5.1.3	Te	Vague. Unreferenced. Utilize a definition of infrastructure tied specifically to wastewater conveyance and treatment.	Revise definition. Cite standard reference material as source.	Not Accepted - no reference to PAS
36	KC5	KC5	119	126	5.1.4	Ed	Verbatim copy form ISO TS24524 WD2 (N480) line 276-279	Requires attributions	Accepted - reference to ISO TR24524
37	PG	PG	120	121	5.1.4	Te	Unreferenced.	Revise definition. Cite standard reference material as source.	Accepted - reference to ISO TR24524
38	DPI	PV	123	125	5.13	Te	Only discuss about sludge. Effluent is not mentioned		Not Accepted - no reference to PAS
39	PG	PG	133	135	5.1.6	Te	Unreferenced. Further, it is unclear how the collection of stormwater that is discharged to the environment is relevant.	Revise definition. Cite standard reference material as source.	Partially Accepted - added reference to EN 16323: 2014 2.3.10.65; No change to definition
40	DPI	PV	134	134	5.1.5	Te	Reword this sentence as discharge of stormwater to sewer is not permitted or encouraged by Australian water utilities.		Not Accepted
41	PG	PG	136	137	5.1.6	Te	Vague. Would feces (sanitary waste in an undiluted form) be considered wastewater per this definition? Further, does the definition include sanitary wastes in a diluted form?	Clarify. Revise definition. Cite standard reference material as source.	Partially Accepted - added reference to EN 16323: 2014 2.3.10.65; No change to definition

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
42	KC6	KC6	127	131	5.1.5	Ed	Verbatim copy form ISO TS24524 WD2 (N480) line 271-275	Requires attribution	Accepted - added reference to EN 16323: 2014 2.3.10.65; No change to definition
43	DPI	PV	138	138	5.1.6	Ge	need rewording - …	Reword - …..used for transporting wastewater.	Accepted
44	PG	PG	139	139	5.1.7	Te	Unreferenced.	Revise definition. Cite standard reference material as source.	Partially Accepted - changed "transport" to "conveyance"
45	DPI	PV	145	145	5.1.6	Te	Australia does not have combined sewer and stormwater systems. Water utilities may allow limited quantities of contaminated stormwater into sewer under strict controls.	Reword to accommodate comments provided	Not Accepted (Adressed by the words "which can include collected stormwater")
46	PG	PG	149	182	5.2	Te	Incomplete. Content of Section 5.2 does not match header. First, the list of definitions does not include any mechanical conditions within Wastewater Collection and Treatment Systems. Second, the list of definitions includes one hydraulic condition (Reynolds Number), which is one aspect of wastewater conveyance and treatment and insufficient to describe the hydraulic conditions in sewers and wastewater treatment plants.	Delete "mechanical and environmental" from header. If retained, add definitions that are relevant for an accurate and complete description of the hydraulic (example: diurnal flow), mechanical (example: municipal pump) and environmental conditions (example: biological oxygen demand) of wastewater collection and treatment systems.	Accepted
47	PG	PG	149	182	5.2	Te	Incomplete. Lacks definition of "reticulated" with respect to sewerage.	Add definition of "reticulated" in the context of sewerage. Cite standard reference as source.	Not Accepted

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
48	PG	PG	152	153	5.2.1	Te	Incomplete. Entire definition not included from source.	Replace with full definition: "Biodegradation is the process by which organic substances are decomposed by micro-organisms (mainly aerobic bacteria) into simpler substances such as carbon dioxide, water and ammonia."	Partially Accepted
49	Lenzing	Lenzing	156	156	5.2.1. Biod	Te	Biodisintegration that involves biodegradation?	Please explain and use terms from the standards	Not Accepted
50	KC7	KC7	164		5.2.3	Te	“Dimensionless group of variables” is not accurate.	Replace by: "Reynolds number is a dimensionless number which is the ratio of inertial forces to viscous forces." Excerpted from https://www.grc.nasa.gov/www/BGH/reynolds.html	Accepted
51	PG	PG	164	171	5.2.3	Te	Incorrect definition. Not a group of variables- is a single dimensionless number.	Suggestion: "The dimensionless number group of variables, which is widely accepted in the field of fluid dynamics, to help used to calculate if to predict the type of describe flow patterns (as laminar or turbulent) under different fluid flow conditions. (The Re is based on four factors: the diameter of the pipe and the viscosity, density and average linear velocity of a fluid.)	Not Accepted - However definition changed - see Comment #50

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
52	PG	PG	164	171	5.2.3	Te	Incorrect definition. Reynolds Number typically not based on pipe diameter for sewer transport. While pipe diameter is necessary for calculating relevant variables for determing the Reynolds Number, it is not a value on which the Reynolds Number is specifically calculated.	Revise with definition of Reynolds Number relevant for wastewater.	Partially Accepted - see Comment #50
53	PG	PG	164	171	5.2.3	Te	Majority of language common with definition for Reynolds Number in "ISO TR 24524: WD 3" but cites a different reference. From "ISO TR 24524: WD 3": "dimensionless parameter used in the field of fluid dynamics to quantify sheer forces and help predict the characteristic of flow (laminar, turbulent) in different fluid flow conditions Note 1 to entry: Re is based on four factors for flow in pipes: the diameter of pipe and the viscosity, density and average linear velocity of the fluid. SOURCE: adapted from: US National Oceanic and Atmospheric Administration.]" From IWSFG PAS-2: "The dimensionless group of variables, which is widely accepted in the field of fluid dynamics, to help predict the type of flow patterns (laminar or turbulent) under different fluid flow conditions. (The Re is based on four factors: the diameter of the pipe and the viscosity, density and average linear velocity of a fluid.) SOURCE: Excerpted from Unit Operations of Chemical Engineering, 4th Ed. By McCabe, Smith, Harriott (McGraw Hill) 1985	As the work of ISO TC224 WG10 pre-dates the work of the IWSFG, where necessary and appropriate, provide proper attribution and/or reference to language and concepts drawn from the draft ISO TC224 WG10 documents. Verify if the source of the definition is Unit Operations of Chemical Engineering or NOAA. Further, provide a page number if the McCabe, et. al., reference is retained.	Not Accepted - However definition changed - see Comment #50
54	NP	NP	165	169	5.2.3	Ge	Improper definition.	Change to “A dimensionless quantity used in fluid mechanics to help predict flow patterns in different fluid flow situations, such as transitions from laminar to turbulent flow in pipes.”	Not Accepted - However definition changed - see Comment #50

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
55	PG	PG	181	181	5.2.5	Te	Incorrect definition. Describe the process by which a whole or dispersed piece of a material loses buoyancy during sewer transport or in a primary clarifier. The buoyant force exerted on a material (whole or dispersed) from wastewater is present whether the material floats or sinks. While loss of buoyancy would result in an object or material that can float to sink, this is not the mechanism that results in the deposit of sand in a sewer, for example. The force of gravity acting on a grain of sand is greater than the counter-acting buoyant force, and as a result the sand settles or sinks; the sand does not lose buoyancy. The same is true for a whole or dispersed material.	Revise definition. Remove "loss of buoyancy" concept, or provide reference. In either case, cite standard reference material as source.	Not Accepted
56	Lenzing	Lenzir	191	191	5.3.2. Dry	Te	ISO 24294:2013 is a standard for Timber — Round and sawn timber Vocabulary. Point 6.14 in the ISO 24294:2013 describes absolute dry timber, oven dry timber, oven dry wood, en CA US, timber (3.2) that contains neither free moisture (6.2) nor bound moisture (6.3).	Add an international standard definition for the term “Dry Tissues” or remove 5.3.2.	Accepted (Definition removed)

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
57	KC8	KC8	179	182	5.2.5	Te	Settling occurs as result of gravitational forces acting on solids, not loss of buoyancy	Replace with Settling: The downward movement of an article or suspended solids in a water column as a result of gravitational forces. Source : Guidelines for Assessing the Flushability of Disposable Nonwoven Products, Third Edition June 2013 INDA / EDANA	Partially Accepted
58	KC9	KC9	179	181	5.2.5	Ed	Verbatim copy form ISO TS24524 WD2 (N480) line 366-368	Requires attribution	Accepted
59	KC10	KC10	189		5.3.2	Te	Not sure that Dry Tissues are sanitized	Please confirm or remove from definition	Accepted (Definition removed)
60	GHC	GHC	192	194		Te	Excreta is usually considerd as urine, faeces or sweat. In the context of this document urine and faeces are relevant.	Adjust the definition of excreta to only include faeces and urine.	Not Accepted
61	INDA	INDA	192	194		Te	Excreta is human waste, typically due to digestion. Vomit, blood, and mucous (already mentioned in Draft 1) are not human waste products. Sweat is excreted, but not due to digestion.	Modify the definition of excreta to only include feces and urine.	Not Accepted
62	SUO	SUO	192	194		Te	Excreta definitionin incorrect	Definition should be inclusive of what is commonly found in established dictionaries	Not Accepted
63	KC11	KC11	193		5.3.3	Te	eliminated or separated?	Delete eliminated or separated	Not Accepted

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
64	PG	PG	196	199	5.3.4.	Te	Contradicts Foreword. Paragraph accurately and succinctly describes a flushable product, and as such, is a suitable summary of the purpose of the PAS documents. The language utilized in the Foreword mischaracterizes the PAS documents, as none of the three documents "reflect the hydraulic, mechanical and environmental conditions of drain lines, various onsite treatment and wastewater collection and treatment systems as well as the nature of the receiving waters for treatment plant effluents."	Revise Foreword to establish the purpose of the PAS as follows (bold, underline): "The criteria for flushability and the appropriate test methods are the product of a global consensus of the coalition members and reflect test methods and criteria to ensure a product labeled as flushable the hydraulic, mechanical and environmental conditions of it will not impact drain lines, various onsite treatment and wastewater collection and treatment systems as well as the nature of the receiving waters for treatment plant effluents."	A10 (see PAS 1 comments)
65	NP	NP	196	199	5.3.4	Te	From Draft 1 comment; Definition is circular using draft standard in the very definition. In addition, there is evidence that currently marketed flushable products do not materially adversely impact those systems. Reference NYC 2016 study and Perry settlement.	Please clarify definition. Please reconcile evidence that clearly shows compatibility with various systems yet statements that no current flushable wipe would meet this standard.	See PAS 1 comments
66	KC12	KC12	198			Ed	"materially adversely impact"	Provide clarification for "materially adversely impact" or alternate text	Not Accepted
67	KC13	KC13	201	202		Ed/Te	The IWSFG PAS documents do not clarify conditions, they assess performance in lab tests *Note: The IWSFG Publicly Available Specifications (PASs) provide protocols and tests to clarify these suitable conditions.*	Correct the note to reflect the PAS document purpose or delete	Accepted
68	PG	PG	201	202	5.3.4	Te	Incomplete. None of the PAS documents clarify how the requirements of PAS-3 are necessary to prevent a product from "materially adversely" impacting wastewater treatment systems of the downstream environment.	Add definition of "materially adversely" impact in the context of sewerage, wastewater treatment and receiving environments. Cite standard reference as source.	Not Accepted

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
69	PG	PG	201	202	5.3.4	Te	Incorrect. Neither lines 196-199 specifically, nor the PAS documents in general, describe suitable "conditions." Rather as noted in Lines 196-199, the PAS describe suitable attributes and/or performance of "products."	Revise Line 202: "Note: The IWSFG Publicly Available Specifications (PASs) provide protocols and tests to determine if a product is flushable clarify these suitable conditions."	Partially Accepted (See Comment 67)
70	GHC	GHC	201	202		Te	Why include a note in a definition.	Delete note. A definition needs to be concise and precise.	Accepted (Deleted note)
71	INDA	INDA	201	202		Te	Unclear as to what the note is trying to say. … ***provide protocols and tests to clarify these suitable conditions.*** The tests are performance criteria that a material must pass to be considered flushable based on your explanations. What "conditions" are being clarified ?	The IWSFG is proposing performance criteria for determination if a product is flushable. Reword to clarify.	Partially Accepted (See Comment 67)
72	Lenzing	Lenzir	201	201	5.3.4. Flushable products	Ge	IWSFG should be a guideline and not a specification (mentioned also in PAS 1).	Replace specification by guideline.	See PAS 1 comments and Note Comment 67
73	NP	NP	201	202		Te	This sentence is misleading and sounds like IWSFG is going to provide the design parameters of a flushable product. PAS documents are intended to test the performance of the products not providing design parameters for those products.	Please reword to clarify.	Partially Accepted (See Comment 67)
74	Lenzing	Lenzir	206	206	5.3.5. Moi	Te	ISO 24294:2013 is a standard for Timber — Round and sawn timber Vocabulary Point 6.14 in the ISO 24294:2013 describes absolute dry timber, oven dry timber, oven dry wood, en CA US, timber (3.2) that contains neither free moisture (6.2) nor bound moisture (6.3).	Add an international standard definition for the term "Moist Tissues" or remove 5.3.5.	Accepted

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
75	NP	NP	224	225	5.3.12	Te	This language is not common terminology.	Please include stakeholders with knowledge/expertise in this area to provide commonly accepted terms and definitions.	Not Accepted - no reference to PAS
76	NP	NP	227	230	5.3.13	Te	This language is not common terminology.	Please include stakeholders with knowledge/expertise in this area to provide commonly accepted terms and definitions.	Not Accepted - however definition removed
77	Lenzing	Lenzir	230	230	5.3.13. Tis	Te	ISO 12625-1:2011 is an ISO standard for Tissue paper and Tissue products. Chapter 4.6 in ISO 12625-1:2011 describes base paper. It does not decribe moist tissue or wipes. According to the ISO 12625-1:2011 3.0 “General principles for the use of the term “tissue” nonwovens are not classified as tissue, even if one subgroup of the nonwovens is manufactured in a wet-laid manner according to a process similar to the tissue making process.	Remove line 230.	Partially Accepted
78	Lenzing	Lenzir	233	236	5.3.14. To	Te	Why toilet papers need to be added in IWSFG documents? If toilet paper is part of the term “Dry Tissues” (see section 5.3.2) why there is a need to define again toilet paper?	Explain the reasons to have toilet paper in this document. Clarify if toilet paper is part of the dry tissues. Make consistent content in 5.3.2. and 5.3.13 and 5.3.14	Not Accepted
79	PG	PG	252	265	5.4	Te	Unreferenced.	Add references.	Accepted (See Comment 80)

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
80	Lenzing	Lenzir	252	257	5.4.6. Regenerated cellulose	Te	The definition described is from Wkipedia and is not correct to take definition from Wikipedia for an official document.	Federal Trade Commission Definition for Rayon Fiber: A manufactured fiber composed of regenerated cellulose, in which substituents have replaced not more than 15% of the hydrogens of the hydroxyl groups. Basic Principles of Rayon Fiber Production — In the production of rayon, purified cellulose is chemically converted into a soluble compound. A solution of this compound is passed through the spinneret to form soft filaments that are then converted or “regenerated” into almost pure cellulose. Because of the reconversion of the soluble compound to cellulose, rayon is referred to as a regenerated cellulose fiber. Source: AFMA	Partially Accepted - the Wikipedia definition is referenced to a recognized source
81	AFGC		253	253	5.4.3	Ed	Add missing close bracket	(via polymer casting)	Accepted
82	GHC	GHC	255	262		Te	Have a concise definition of a plastic .The comments from the second sentence of line 257 through to line 262 are arguably not relevant	Perhaps edit the definition of a plastic to read: " Synthetic polymers that are able to be molded and shaped when soft , then set to a rigid or slightly elastic form". (Better or more technically correct definitions of plastics should be available).	Partially Accepted (An ISO referenced definition is included)

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
83	INDA	INDA	258	265		Te	For clarity, the IWSFG should define “PLASTIC” or “PLASTIC FIBERS”, not both under PLASTIC. The referenced methods are not used to quantify the content of synthetic fibers in nonwoven materials. TAPPI 401 is used to qualitatively and semi-quantitatively identify natural fibers in paper and paperboard (although synthetic fibers are mentioned, analysis of synthetic fibers is clearly not the intent of this test method). ISO 9184 is used to differentiate fibers from hardwoods and softwoods. ASTM D629 is used for quantitative identification of textile fibers.	Recommended changes: Synthetic polymers that are able to be molded and shaped when soft, then set to a rigid or slightly elastic form. Of concern to flushable products are plastic fibers. These are determined and quantified by testing that conforms to TAPPI 401, ISO 9184-1 through ISO 9184-5 (1990) or ASTM D629-15. These fibers Plastics include, but are not limited to the following: polyester, polyamide, polypropylene, polyurethane acrylic, polylactic acid, polyethylene and polyvinyl alcohol.	Partially Accepted (See Comment 82)
98	NP	NP	258	265	5.4.7 Plastics	Te	Is there any tests done to confirm TAPPI T 401 is an appropriate test to identify plastic fibers in a product? What is the confidence level of this test method? TAPPI T 401 is a method to identify natural fibers in paper and paperboard. Was it confirmed that it can be used for all types of products? Also are all TAPPI, ISO and ASTM methods listed here resulting to the same values when performed on the same material?	Please show data or references to clarify.	Partially Accepted (See Comment 96)
99	KC14	KC14	259	265	5.4.7	Ge	A definition needs to be just that. The definition should not contain statements of concern.	Suggest	

IWSFG Template for reviewer comments and IWSFG secretariat observation

Document reviewed: **PAS 2**

1 Te=Technical, Ge=General, Ed=Editorial

	Association	Initial	Starting Line Number (e.g. 17)	Ending Line Number (e.g. 23)	Clause/ Subclause (e.g. 3.1)	Type of comment[1]	Comments	Proposed change	Observation of the secretariat
100							Providing a laundry list of examples is restrictive -	Synthetic polymers that are able to be molded and shaped when soft, then set to a rigid or slightly elastic form. Of concern to flushable products are plastic fibers. These are determined and quantified by testing that conforms to TAPPI 401, ISO 9184-1 through ISO 9184-5 (1990) or ASTM D629-15. These fibers include, but are not limited to the following: polyester, polyamide, polypropylene, polyurethane acrylic, polylactic acid, polyethylene and polyvinyl ~~alcohol.~~	Partially Accepted (See Comment 82)
101 102	NP	NP	267	268	5.4.7 Specification	Te	This section needs to be renumbered as the previous section has the same numbering in the document and it will confuse the comments. The word " specification" is not appropriate here. As specification means "a detailed description of the design and materials used to make something." These test methods should be presented as guidelines. Does IWSFG intend to provide design parameters for flushable products? Why is a reference for thermal performance of doors and windows use for this product category?	Renumber the section to "5.4.8" to eliminate confusion. Recommend changing the "specification" to "guideline" throughout all relevant documents. Please use appropriate reference.	Accepted Not Accepted