

**IWSFG Template for reviewer comments and
IWSFG secretariat observation**

Document reviewed: **PAS 3**

Due date:2017//

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

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
	111	112	2	Te	"forces equivalent to a Reynolds number of 20,000" is confusing as Reynolds number is dimensionless whereas force has a dimension. The inference here is that test method requires to simulate the hydraulic forces experienced in turbulent flow conditions within sewerage systems.	ratio of forces equivalent to a Reynolds number of 20,000	
	114	114	3	Ed	Spelling of 'distributer'; is this the American spelling?	distributor	
	158	158	7.2	Te	There is a significant difference (30%) between the 16 rpm specified in PAS 3 vs 23 rpm as specified by INDA/EDANA standard. The oscillating cycle of the testing equipment needs to be sufficient to simulate the turbulence experienced through a sewerage network, that is, 20,000 Re. The appropriate speed needs to be validated via empirical study. It appears that 16 rpm does not simulate turbulent flow. In the absence of an empirical study, then adopt 23 rpm which appears to provide conditions more closely simulating 20,000 Re.	23 rpm	

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	165	165	7.3	Te	There is a significant difference (100%) between 25mm sieve apperture in PAS 3 vs 12.5mm for the INDA/EDANA standard. Consideration should be given to determine a sieve size to reflect the most prominent screen size protecting equipment within the sewerage system or the screen size guarding the equipment most prone to snagging.		
	223	223	10.1	Te	There is a significant difference (100%) between 4L of water in PAS 3 vs 2L as specified by INDA/EDANA. The higher volume of water will have a greater capacity to absorb the inertial forces induced by the oscillating testing equipment. Fluid friction is a factor in developing turbulent flow. Counteracting this effect is the viscosity of the fluid, and the volume, which as they increase, progressively inhibit turbulence, as more kinetic energy is absorbed by the liquid. The appropriate volume needs to be validated via empirical study. It appears that 4L does not simulate turbulent flow. In the absence of an empirical study, then adopt 2L which appears to provide conditions more closely simulating 20, 000 Re.	2L	

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	224	224	10.1	Te	There is a significant difference (30%) between the 16 rpm specified in PAS 3 vs 23 rpm as specified by INDA/EDANA standard. The oscillating cycle of the testing equipment needs to be sufficient to simulate the turbulence experienced through a sewerage network, that is, 20,000 Re. The appropriate speed needs to be validated via empirical study. It appears that 16 rpm does not simulate turbulent flow. In the absence of an empirical study, then adopt 23 rpm which appears to provide conditions more closely simulating 20,000 Re.	23 rpm	
	256	257	10.3	Te	There is a significant difference (30%) between the 16 rpm specified in PAS 3 vs 23 rpm as specified by INDA/EDANA standard. The oscillating cycle of the testing equipment needs to be sufficient to simulate the turbulence experienced through a sewerage network, that is, 20,000 Re. The appropriate speed needs to be validated via empirical study. It appears that 16 rpm does not simulate turbulent flow. In the absence of an empirical study, then adopt 23 rpm which appears to provide conditions more closely simulating 20,000 Re.	23 rpm by measuring the time to complete 23 oscillations	

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	267	267	10.4	Te	There is a significant difference (80+%) between the time 30 minutes specified in PAS3 vs 180 minutes specified for INDA/EDANA. The rationale for selecting 30 minutes as opposed to 180 minutes as specified in INDA/EDANA needs to be understood. Is it based on the average time that sewage takes to reach a municipal sewage treatment plant or the average time taken to reach the first screen within the network? In the absence of this rationale, suggest a residence time to better reflect actual conditions within a municipal system.	180	
	284	284	A.5.3	Te	Change distance of 10cm to be consistent with line 476 which specifies 10 to 15cm	10-15cm	
	345	345	13	Te	There is a significant difference (30%) between the 16 rpm specified in PAS 3 vs 23 rpm as specified by INDA/EDANA standard. The oscillating cycle of the testing equipment needs to be sufficient to simulate the turbulence experienced through a sewerage network, that is, 20,000 Re. The appropriate speed needs to be validated via empirical study. It appears that 16 rpm does not simulate turbulent flow. In the absence of an empirical study, then adopt 23 rpm which appears to provide conditions more closely simulating 20,000 Re.	23 rpm	

