



**GUIDANCE TO MANUFACTURERS, SUPPLIERS
AND TEST LABORATORIES ON THE
APPLICATION REQUIREMENTS FOR
WRAS PRODUCT APPROVAL**

Appendix C

Sampling Matrix

**Version 2.9
April 2008**

<u>Directory Section</u>	<u>Section Title</u>	<u>Sampling Requirement</u>
0005	Automatic Public Convenience	Seek Clarification from WRAS
0008	Backflow Prevention Devices	Seek Clarification from WRAS
0009	Backflow Prevention Device	Seek Clarification from WRAS
0011	Backflow Prevention Device	All sizes tested
0014	Backflow Prevention Devices	All sizes tested
0016	Backflow Prevention Devices	Largest assembly for each cartridge size
0018	Backflow Prevention Devices	Largest assembly for each cartridge size
0022	Backflow Prevention Devices	1 of each size to be approved
0026	Backflow Prevention Devices	1 of each size to be approved
0028	Backflow Prevention Devices	All sizes tested
0030	Backflow Prevention Devices	Largest assembly for each cartridge size
0034	Backflow Prevention Devices	Largest assembly for each cartridge size
0040	Backflow Prevention Devices	1 of each size to be approved
0046	Backflow Prevention Device	Seek Clarification from WRAS
0050	Backnuts	3 samples of each size
0055	Baths	1 unit and its most complex accessories (plus component approval where necessary)
0060	Boilers	Largest most complex version i.e. indirect version
0080	Wall Kettles	Largest only (plus component approval where necessary)
0085	Potable water kits for use with cold water storage.	1 kit for each size
0090	Calorifiers	Largest most complex version
0100	Car and Vehicle Wash Plant	Seek Clarification from WRAS
0110	Catering Equipment	If the air gap and water path is the same the largest and most complicated unit.
0120	Cisterns Storing Water for Domestic Purposes	Largest and smallest capacity (for sectional storage cisterns seek clarification from WRAS)
0130	Cisterns	Largest and smallest capacity (for sectional storage cisterns seek clarification from

		WRAS)
0135	Cisterns	Largest and smallest capacity (for sectional storage cisterns seek clarification from WRAS)
0140	Cisterns	Largest and smallest capacity (for sectional storage cisterns seek clarification from WRAS)
0170	Cisterns	Largest and smallest capacity (for sectional storage cisterns seek clarification from WRAS)
0220	Cisterns - Non Potable	Largest and smallest capacity (for sectional storage cisterns seek clarification from WRAS)
0225	Cisterns	Largest and smallest capacity (for sectional storage cisterns seek clarification from WRAS)
0230	Cisterns	Largest and smallest capacity (for sectional storage cisterns seek clarification from WRAS)
0255	Cisterns - WC Flushing	one set of each suite configuration plus testing of inlet and outlet valve if necessary or cistern if valve approved already
0270	Close Coupled Suites	one set of each suite configuration plus testing of inlet and outlet valve if necessary or cistern if valve approved already
0275	Close Coupled Suites	one set of each suite configuration plus testing of inlet and outlet valve if necessary or cistern if valve approved already
0280	Low level WCs	one set of each suite configuration plus testing of inlet and outlet valve if necessary or cistern if valve approved already
0350	WC Water Saving Devices (Retrofitted)	all models/sizes
0360	Combination Hot Water Storage Units	Largest most complex version
0400	Combination Tap Assemblies - Bidet	1 set/size
0410		1 set/size
0415	Combination Tap Assemblies - Bidet	1 set/size
0420	Combination Tap Assemblies - Bidet	1 set/size

0435		Seek Clarification from WRAS
0440	Headworks	all models/ sizes
0445	Combination Tap Assemblies	I set/size
0450	Combination Tap Assemblies	I set/size
0460	Combination Tap Assemblies	I set/size
0465	Combination Tap Assemblies	I set/size
0470	Combination Tap Assemblies	I set/size
0471	Combination Tap Assemblies	I set/size
0475	Combination Tap Assemblies	I set/size
0480	Combination Tap Assemblies	I set/size
0490	Combination Tap Assemblies	I set/size
0495	Combination Tap Assemblies	I set/size
0503	Combination Tap Assemblies	I set/size
0510	Combination Tap Assemblies	I set/size
0520	Combination Tap Assemblies	I set/size
0530	Combination Tap Assemblies	I set/size
0540	Combination Tap Assemblies	I set/size
0550	Combination Tap Assemblies	I set/size
0555	Combination Tap Assemblies	I set/size
0556	Combination Tap Assemblies	I set/size
0560	Combination Tap Assemblies	I set/size
0570	Combination Tap Assemblies	I set/size
0640	Combination Tap Assemblies	I set/size
0650	Combination Tap Assemblies	I set/size
0655	Combination Tap Assemblies	I set/size
0660	Combination Tap Assemblies	I set/size
0675	Combination Tap Assemblies	I set/size
0680	Combination Tap Assemblies	I set/size
0681	Combination Tap Assemblies	I set/size

0682	Spout Outlets	Each model/size
0720	Cylinders	Largest most complex version
0800	Cylinders	Largest most complex version
0820	Cylinders	Largest most complex version
0950	Disposal Units	Largest size in range providing the internal arrangements are the same, air gap etc (plus component approval where necessary)
0970	Dosing Equipment	Largest size in range providing the internal arrangements are the same, air gap etc (plus component approval where necessary)
1000	Expansion Vessels	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
1010	Ferrules	largest smallest plus intermediate size for each pipe material for which approval is required
1015	Filling Loop	All assembly sizes
1050	Filters and Housings	Largest smallest plus intermediate size if applicable
1070	Fire Protection	Seek clarification from WRAS
1100	Fittings and Pipe - Compatible Systems	largest smallest plus intermediate size up to 63mm for performance and mechanical, over 63mm largest smallest plus intermediate for mechanical testing only (contact WRAS for confirmation of sampling requirements in respect of PN and SDR ratings). In the case of MDPE if a failure occurs then that size and two additional sizes require testing.
1115	Fittings for use with Tube and Pipe	largest smallest plus intermediate size up to 63mm for performance and mechanical, over 63mm largest smallest plus intermediate for mechanical testing only (contact WRAS for confirmation of sampling requirements in respect of PN and SDR ratings)
1120	Fittings for use with Tube and Pipe	largest smallest plus intermediate size up to 63mm for performance and mechanical, over 63mm largest smallest plus intermediate for mechanical testing only (contact WRAS for confirmation of sampling requirements in respect of PN and SDR ratings)
1140	Fittings for use with Tube and Pipe	largest smallest plus intermediate size up to 63mm for performance and mechanical, over 63mm largest smallest plus intermediate for mechanical testing only (contact WRAS for confirmation of sampling requirements in respect of PN and SDR ratings)
1150	Fittings for use with Tube and	largest smallest plus intermediate size up to 63mm for performance and mechanical,

	Pipe	over 63mm largest smallest plus intermediate for mechanical testing only (contact WRAS for confirmation of sampling requirements in respect of PN and SDR ratings)
1160	Fittings for use with Tube and Pipe	largest smallest plus intermediate size up to 63mm for performance and mechanical, over 63mm largest smallest plus intermediate for mechanical testing only (contact WRAS for confirmation of sampling requirements in respect of PN and SDR ratings). In the case of MDPE if a failure occurs then that size and two additional sizes require testing.
1170	Fittings for use with tube and pipe	largest smallest plus intermediate size up to 63mm for performance and mechanical, over 63mm largest smallest plus intermediate for mechanical testing only (contact WRAS for confirmation of sampling requirements in respect of PN and SDR ratings)
1180	Fittings for use with Tube and Pipe	largest smallest plus intermediate size up to 63mm for performance and mechanical, over 63mm largest smallest plus intermediate for mechanical testing only (contact WRAS for confirmation of sampling requirements in respect of PN and SDR ratings). In the case of MDPE if a failure occurs then that size and two additional sizes require testing.
1210	Fittings for use with Tube and Pipe	largest smallest plus intermediate size up to 63mm for performance and mechanical, over 63mm largest smallest plus intermediate for mechanical testing only (contact WRAS for confirmation of sampling requirements in respect of PN and SDR ratings)
1220	Fittings for use with Tube and Pipe	Largest smallest plus intermediate size for each pipe material for which approval is required
1290	Floats	All sizes to be tested
1300	Float Operated Electrical Switches	Largest smallest plus intermediate size
1305	Flushing Mechanisms	tallest model with largest outlet
1307	Flushing Mechanisms	1 of each size to be approved (plus component approval where necessary)
1310	Glass/Bottle Washers	If the water path and airbreak is the same the largest machine available in the range
1340	Handwash Units	If water path is the same for model variants one unit for test only (plus component approval where necessary)
1350	Heat Exchangers	Largest smallest plus intermediate size
1360	Heaters	Largest capacity plus component approval where necessary
1365	Heaters	Largest capacity plus component approval where necessary
1370	Heaters	Largest capacity plus component approval where necessary

1380	Heaters	Largest capacity plus component approval where necessary
1390	Heaters	Largest capacity plus component approval where necessary
1400	Heaters	Largest capacity plus component approval where necessary
1420	Heaters	Largest capacity plus component approval where necessary
1460	Heaters	Largest capacity plus component approval where necessary
1465	Heaters	Largest KW rating providing the water path arrangement is the same (plus component approval where necessary)
1475	Heaters	Largest BTU capacity providing the water path arrangement is the same (plus component approval where necessary)
1478	Heater	All parts to be submitted for test
1480	Humidifiers	If the water path or backflow protection is the same the largest available in the range (plus component approval where necessary)
1500	Ice Making Machines	Largest in the range (where all units have the same ice making capacity) (plus component approval where necessary)
1505	Water Meters	Largest, smallest and intermediate size if applicable.
1510	Water Meter Manifolds	Largest, smallest and intermediate size if applicable.
1515	Underground Meter Chambers	Largest, smallest and intermediate size if applicable.
1520	In-wall Meter Chambers	Largest, smallest and intermediate size if applicable.
1525	Meter Chambers - Wall Mounted	Largest, smallest and intermediate size if applicable.
1530	Miscellaneous Fittings	Seek Clarification from WRAS
1535	Miscellaneous	Seek Clarification from WRAS
1540	Photographic Developing Equipment	Providing that the internals (and air gap) are the same the largest / most complicated in the range (plus component approval where necessary)
1560	Plumbing Units	Largest in range (plus component approval where necessary)
1600	Potato Peeling Machines	Providing that the internals (and air gap) are the same the largest
1610	Pumps	Largest, smallest plus intermediate size
1615	Pumping Loops	Seek Clarification from WRAS
1620	Radiator	Largest smallest plus intermediate size.
1650	Shower Handsets and wall mounted shower heads	All sizes

1690	Steaming Ovens	If the water path or backflow protection is the same the largest available in the range (plus component approval where necessary)
1715	Strainers	Largest smallest plus intermediate size
1718	Switches	Largest smallest plus intermediate size
1719	Flow Control	all models/sizes
1720	Switches	Largest smallest plus intermediate size
1750	Taps	1 set/size
1770	Taps	1 set/size
1780	Taps	1 set/size
1795	Taps	1 set/size
1800	Taps	1 set/size of each type
1820	Taps	1 set/size
1825	Taps	1 set/size
1830	Pipes	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
1840	Tubes	Largest smallest plus intermediate size with lowest SDR rating
1860	Tubes	Smallest and largest with a representative sample of the end couplings
1863	Tubes	Smallest and largest with a representative sample of the end couplings
1870	Tubes	Smallest and largest with a representative sample of the end couplings
1890	Unvented Heating Apparatus	If the manufacturer of the heating apparatus makes a declaration stating that the safety kit supplied comprises of either products that have WRAS approval in their own right, or the same components are provided for the entire range then the largest size only. If the safety kit supplied includes components not approved by WRAS and the kit supplied varies depending upon the size of the heating apparatus then examples of all variants must be tested.
1900	Urinals	Sample of each model
1980	Valves	Range of 5 or less: largest, smallest and intermediate size. Range > 5: largest smallest plus 2 intermediate sizes.
2000	Valves	1 set/size

2010	Valves	1 set/size
2020	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
2030	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2050	Valves	Largest and smallest size
2070	Valves	Largest and smallest size
2080	Valves	Largest and smallest size
2090	Valves	Largest and smallest size
2100	Valves	Largest, smallest and intermediate size
2105	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2120	Valves	Largest and smallest (if a range larger than 5 sizes seek clarification from WRAS)
2150	Valves	Largest and smallest (if a range larger than 5 sizes seek clarification from WRAS)
2154	Valves	Largest and smallest (if a range larger than 5 sizes seek clarification from WRAS)
2160	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2165	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2170	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2180	Valves	Largest smallest plus intermediate size
2183	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2185	Valves	Largest smallest plus intermediate size
2187	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2188	Valves	Largest smallest plus intermediate size
2190	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2200	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2205	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2210	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2215	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2220	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2230	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2

		intermediate sizes
2235	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
2240	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
2250	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
2260	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
2270	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
2275	Valves	Largest smallest plus intermediate size
2290	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
2295	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
2310	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
2320	Valves	1-3 products in a range smallest & largest size; 4-8 products in range smallest, largest and intermediate size ; 9 or more products in range smallest, largest and 2 intermediate sizes
2330	Valves	all variants, that is all sizes of all models
2335	Valves	all variants, that is all sizes of all models

2337	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2345	Valves	Seek clarification from WRAS
2347	Valves	Largest smallest & intermediate sizes ensuring that all spring ratings are tested
2350	Vending Machines	Most complex in range (if a carbontor fitted then that model required) (plus component approval where necessary)
2360	Washing Machines	Largest in range provided the air gap is the same (plus component approval where necessary)
2370	Washing Machines	Domestic: largest drum with dryer Commercial: provided that the air gap is the same on all models any machine in range (plus component approval where necessary)
2390	Washing Machines	Domestic: largest drum with dryer Commercial: provided that the air gap is the same on all models any machine in range (plus component approval where necessary)
2410	Water Conditioners - Descalers - Phosphate Dosing, Magnetic, Electrolytic and Electronic	Largest smallest plus intermediate size. (Plus component approval where necessary).
2411	Disinfection Equipment	Largest smallest plus intermediate size. (Plus component approval where necessary).
2415	Water Conditioners - Disinfection Ion Generators - Silver, Copper and Silver	Largest smallest plus intermediate size. (Plus component approval where necessary).
2420	Water Coolers -Drinking	Largest in range (plus component approval where necessary)
2450	Water Softeners	Domestic: each size Commercial: Largest in range (plus component approval where necessary)
2460	Water Softeners	Largest in range (plus component approval where necessary)
2470	Water Softeners	largest size only