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Client Swatab Prinsessvägen 7 297 72 Everöd	Client's ref. no.		
	Contact person Per Hansson	Our ref. no. 5140234-2	

Object

Performance test of the cleaning effect of water produced by System Rodi.

Test Material

1	System Rodi
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The water system was installed by the client 2014-04-01 and 2014-05-06.

Summary

Stain removal	DY	Result
Tea	-1.73	PASS
Coffee	-1.28	PASS
Red wine	-6.31	PASS
Fruit juice	-0.83	PASS
Tomato Puree	1.14	PASS
Carrot baby food	-2.57	PASS
French Squeezy Mustard	6.32	PASS
Grass	3.54	PASS
Grass/Mud	1.88	PASS
Chocolate	-12.83	PASS
Blood	38.50	FAIL
Unused motor oil	1.25	PASS
Frying fat(hamburger grease)	-3.31	PASS
Make up	2.85	PASS
Basic degree of Whiteness	5.8	FAIL

Table 1 Criteria

Stain removal DY	≤10.0 =PASS (3 failures allowed)
Basic degree of Whiteness	< 3.0=PASS

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Procedure and results

The Performance test performed according to

EU Ecolabel Performance Test for Laundry Detergents Final Draft Version of 07/01/2014

Washing machine: Miele Softronic

Wash program: Cotton 30 °C

Duration main wash: 70 min

Total program duration: 2 h 09 min

Ballast: Cotton towels and pillowcases

Total load: 4.5 kg

Water hardness: (14 ±0.5) °dH

Inlet water temperature: (20 ±2) °C

Reference detergent: 70 g/wash cycle IEC A*+0.28 g PVP

Reflectance measurements

Equipment: Spectrophotometer Konica Minolta CM-3600

Opening diameter: 25.4 mm.

Setting : D-65, 10 °-observer, Y-value.

Specular gloss excluded

UV cut: 420 nm

Date of test: 2014-05-09—06-04

Stain Removal (SR) and Basic Degree of Whiteness (BDW)

Dosage of test detergent: no detergent was used

Wash cycles: 1-15 (BDW)

6-11 (SR)

Soil: 4 pieces SBL 2004/wash cycle

Standard cloth for BDW: WFK 11 A (pre-treated 3 times)

Stain Set: 2 stains/wash cycle

Table 2, Stains

Stain	Standard	Handmade
Tea	EMPA 167	
Coffee	WFK 10K	
Red wine	EMPA 114	WE5RWWKC
Fruit juice	CFT CS15	
Tomato Puree		WE5TPWKC
Carrot baby food		WE5IACBFWKC
French Squeezy Mustard		WE5FSMWKC
Grass	EMPA 164	
Grass/Mud		WE5GMWKC
Chocolate	EMPA 160	
Blood	EMPA 111	WE5DASBWKC
Unused motor oil	EMPA 106	
Frying fat(hamburger grease)		WE5HBGBKC(white knitted cotton)
Make up	EMPA 143	

Table 3 Results of stain removal , reflectance value Y

Stain	System Rodi (AVE. + s)	Reference (r) (AVE. - s)	DY
Tea	46.52	44.79	-1.73
Coffee	57.73	56.45	-1.28
Red wine	67.70	61.39	-6.31
Fruit juice	46.13	45.30	-0.83
Tomato Puree	73.93	75.07	1.14
Carrot baby food	84.53	81.96	-2.57
French Squeezy Mustard	66.79	73.12	6.32
Grass	59.37	62.91	3.54
Grass/Mud	49.22	51.09	1.88
Chocolate	48.94	36.10	-12.83
Blood	35.13	73.63	38.50
Unused motor oil	42.16	43.41	1.25
Frying fat(hamburger grease)	66.31	63.00	-3.31
Make up	59.89	62.75	2.85

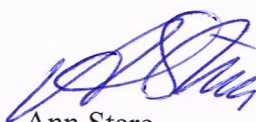
Table 4 Results of Basic degree of whiteness, reflectance value Y

Product	1st cloth	2nd cloth	Average	Reference- Product
Rodi	80.8	80.1	80.4	5.8
Reference	86.5	86.1	86.3	

All results relate only to the material tested.

Mölndal, 2014-07-10
Swerea IVF


Karin Christiansen


Ann Stare
Project leader