

TEST REPORT N. 16/000345753

date of issue 15/09/2016

Customer ID 0075841

Messrs

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F.

VIA G.OBERDAN 29

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IT

Sample information

Acceptance number 16.562538.0001

Delivered by DHL International on 04/07/2016

Sample Description WASHING MACHINE WITHOUT WPRO DEVICE

Competitors 16.562538.0002 WASHING MACHINE WITH WPRO - EP742 DEVICE

Sampling information

Sampled by Customer

ANALYTICAL RESULTS

It is the basic principle of this test to evaluate the performance, after repeated washes, of the WPRO - EP742 anti-limescale device. Namely the test wants to check the efficacy of the device in preventing the formation of limescale on a normal washing machine heating element after repeated washing cycles with hard water, compared with a same washing machine without this device installed.

Execution period: 19/07/2016 – 12/08/2016

Operating conditions

Number of repetitions: 1

Washing machine: Ariston AVL 88

Washing programme: see table at page 2 and 3

Washing temperature: see table at page 2 and 3

Water hardness: 43 °F

Ballast soil: 2 SBL for each washing cycle

Clean ballast load: 4kg of cotton

Results evaluation: weights and photos

Procedure

For the execution of the test two washing machines were used, model Ariston AVL 88, provided with 2 new heating elements. The heating elements have been weighted before starting the test and then were assembled on the two washing machines. On one of the two washing machines a WPRO - EP742 has been installed, according to the customer's instructions, while the other washing machine has been used without any device to prevent limescale formation.

Both washing machines have been submitted to 50 washing cycles using programmes, temperatures and detergents reported in the following table.

At the end of the 50 washing cycles, the heating elements have been removed from their housing and submitted to a visual assessment (photos) and they were weighted.

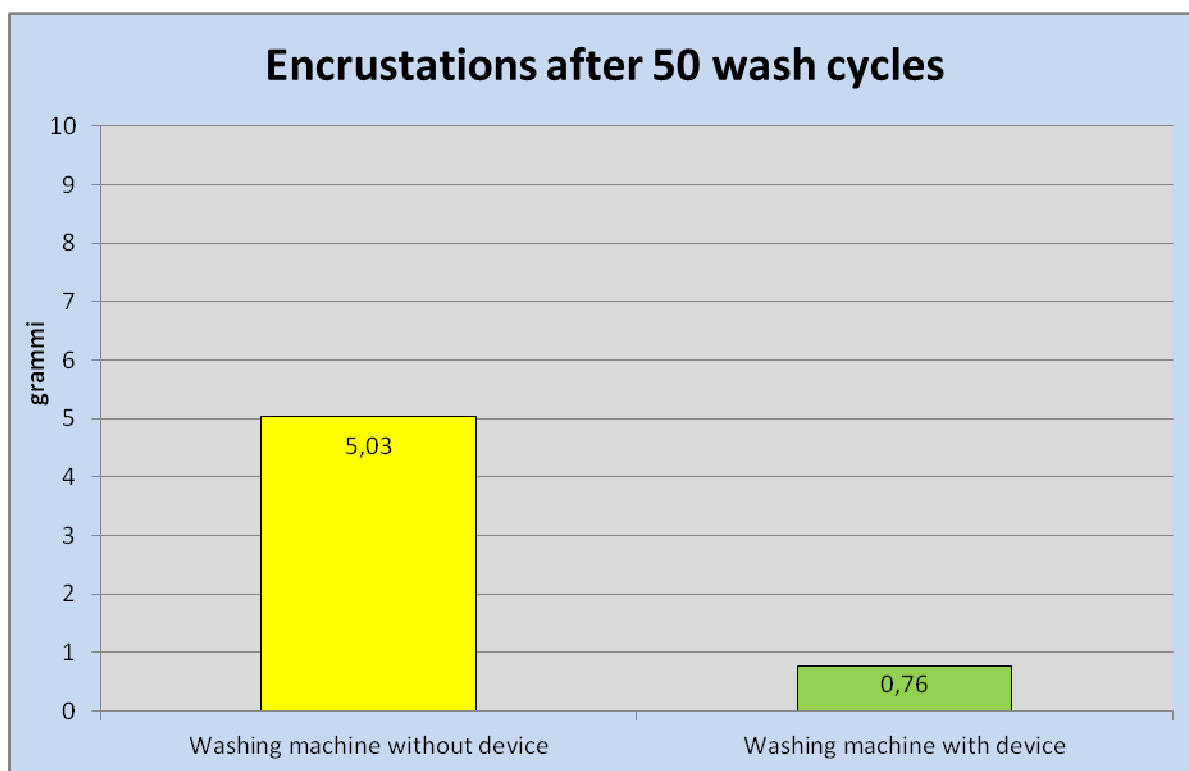
Cycle	PROGRAMME	TEMPERATURE	DETERGENT	DOSAGE
1	Cotton delicate	40°C	Dash Liquid	65 ml
2	Cotton normal	60°C	Dash Powder	65 gr
3	Cotton delicate	40°C	Dash Liquid	65 ml
4	Cotton normal	60°C	Dash Powder	65 gr
5	Cotton delicate	40°C	Dash Liquid	65 ml
6	Cotton normal	60°C	Dash Powder	65 gr
7	Cotton delicate	40°C	Dash Liquid	65 ml
8	Cotton normal	60°C	Dash Powder	65 gr

9	Cotton delicate	40°C	Dash Liquid	65 ml
10	Cotton normal	90°C	Dash Powder	65 gr
11	Cotton delicate	40°C	Dash Liquid	65 ml
12	Cotton normal	60°C	Dash Powder	65 gr
13	Cotton delicate	40°C	Dash Liquid	65 ml
14	Cotton normal	60°C	Dash Powder	65 gr
15	Cotton delicate	40°C	Dash Liquid	65 ml
16	Cotton normal	60°C	Dash Powder	65 gr
17	Cotton delicate	40°C	Dash Liquid	65 ml
18	Cotton normal	60°C	Dash Powder	65 gr
19	Cotton delicate	40°C	Dash Liquid	65 ml
20	Cotton normal	90°C	Dash Powder	65 gr
21	Cotton delicate	40°C	Dash Liquid	65 ml
22	Cotton normal	60°C	Dash Powder	65 gr
23	Cotton delicate	40°C	Dash Liquid	65 ml
24	Cotton normal	60°C	Dash Powder	65 gr
25	Cotton delicate	40°C	Dash Liquid	65 ml
26	Cotton normal	60°C	Dash Powder	65 gr
27	Cotton delicate	40°C	Dash Liquid	65 ml
28	Cotton normal	60°C	Dash Powder	65 gr
29	Cotton delicate	40°C	Dash Liquid	65 ml
30	Cotton normal	90°C	Dash Powder	65 gr
31	Cotton delicate	40°C	Dash Liquid	65 ml
32	Cotton normal	60°C	Dash Powder	65 gr
33	Cotton delicate	40°C	Dash Liquid	65 ml
34	Cotton normal	60°C	Dash Powder	65 gr
35	Cotton delicate	40°C	Dash Liquid	65 ml
36	Cotton normal	60°C	Dash Powder	65 gr
37	Cotton delicate	40°C	Dash Liquid	65 ml
38	Cotton normal	60°C	Dash Powder	65 gr
39	Cotton delicate	40°C	Dash Liquid	65 ml
40	Cotton normal	90°C	Dash Powder	65 gr
41	Cotton delicate	40°C	Dash Liquid	65 ml
42	Cotton normal	60°C	Dash Powder	65 gr
43	Cotton delicate	40°C	Dash Liquid	65 ml
44	Cotton normal	60°C	Dash Powder	65 gr
45	Cotton delicate	40°C	Dash Liquid	65 ml
46	Cotton normal	60°C	Dash Powder	65 gr
47	Cotton delicate	40°C	Dash Liquid	65 ml
48	Cotton normal	60°C	Dash Powder	65 gr
49	Cotton delicate	40°C	Dash Liquid	65 ml
50	Cotton normal	90°C	Dash Powder	65 gr

Results

Before starting the test, the washing machines were provided with new heating elements, whose weight has been recorded. The heating elements were further weighted at the end of the 50 washing cycles, and the corresponding results has been reported in the following table. The higher is the weight recorded after the washing, higher is the quantity of limescale built on heating elements

Heating element	weight (g) t_0	weight (g) t_{50}	weight difference(g) $t_{50} - t_0$
Washing machine without device	225,58	230,61	5,03
Washing machine with device	225,65	226,42	0,76



Photos

Heating element of the washing machine WITHOUT device



Heating element of the washing machine WITH device



Results evaluation

Data and photos reported above lead to state, considering the test conditions, that WPRO - EP742 device has shown a significant efficacy in limiting the building of limescale encrustations on the heating element of the washing machine used.

Chemical responsible
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Laboratory Director
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