



IonPolarization System

WashBall

Efficiency & Protection



- » I. Product sales manual
- » II. Customers experiences
- » III. Test report
- » IV. Leaflet



» I.

Why to buy WashBall:

- Protects your washing machine from limescale
- Replaces chemical softeners, as opposed to a one-off investment, It's an ecological product
- Increases detergent performance
- Creates a soft water effect, promotes better foaming and dissolution of detergent, therefore reducing its consumption
- Promotes better dissolution of organic impurities
- Effectively removes animal hair from laundry
- Softens laundry without the use of fabric softener and helps maintain fresh colors
- Because of clean heating coil saves costs

How to use WashBall:

- Just put in the washing machine together with the laundry
- For all types of washing machines (top or front inserting)
- For all types of wash and all colors
- For all temperatures
- Use 1/3 less detergent than the recommended amount
- It is not necessary to use fabric softener to keep the laundry delicate
- Do not add any chemical water softeners or anti-limescale lotion
- WashBall remains in the machine throughout the wash cycle

WashBall features:

- It is made of special plastic with rubber properties, it is gentle on laundry and washing machine
- Resistant to impact and abrasion. The shape is designed to roll as best as possible
- Maintenance-free
- The service life is maximum 10 000 cycles. When used in a washing machine with a maximum load of 95 ° C washing program, it is at least 1,500 cycles (3 times a week for approx. 5 years)
- It is ecological, contributes to environmental protection



How WashBall works:

- Maintenance-free equipment with its own "source" of energy
- Does not change the chemical composition of water, but modifies its properties so that the detergent dissolves well and effectively removes dirt and odors
- Contains a patented electrode system of various conductive materials that together form a galvanic wet cell when water flows through the system
- The structure of minerals changes due to washing process
- The modified water properties cause calcium (calcite) not to settle on the heating coil and other parts of the washing machine as hard limescale but to go away with the water in the form of fine sludge (aragonite).

Other uses of WashBall:

- Dishwashers - just put in the basket with dishes. Do not add any chemical water softeners. It protects the dishwasher from limescale and corrosion and does not leave white stains on the dishes after washing
- WC cisterns - protects against the formation and deposition of scale on drain and inlet valves, seals and ceramics - just put in the basin and about every 2 months to remove the ball and rinse aragonite under running water.

Notice:

- When using WashBall, the siphon / filter in the washing machine, where loose scale can be trapped, should be checked and cleaned if necessary
- Impacting the ball on the drum of the washing machine is not a malfunction
- WashBall is not a child's toy



» II.

Customer experiences:

● WashBall dissolves deposits of washing machines internal parts and keeps them clean

- WashBall was used in 5 years old washing machine without its previous cleaning
- WashBall was regularly used twice for a week. After three weeks customer found dissolved limescale in washing machine's filter which was removed from internal parts
- The dissolved deposit looked like gray soft film which was possible to rinse away with water.
- Over time the whole deposit created on internal parts was removed and the washing machine is now clean



● WashBall increases the effectiveness of used detergents

- For removing resistant stains, it is usually used with a larger amount of detergent
- Customer reported that when WashBall was added to the washing machine during the wash, resistant stains were easier to remove – no higher detergent dosage was needed
- Higher detergent dosage may cause an allergic reaction on the skin and has a negative effect on the color stability of clothes.
- The use of WashBall eliminates the costs and negative aspects of excessive detergent dosage
- For usual washing, only 30% less detergent is needed to achieve satisfactory results

● WashBall removes limescale from the washing machine

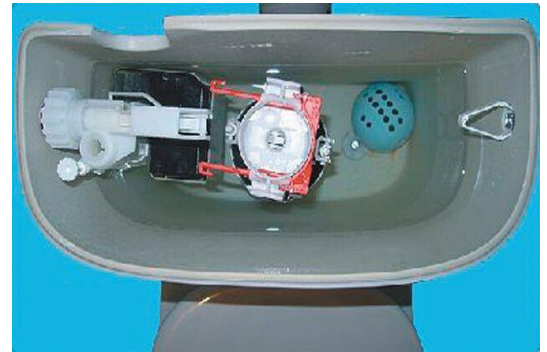


- WashBall was used several times in a 20-year-old washing machine
- After a short time, limescale was removed from the internal parts and was caught in the filter
- Using WashBall protects heating coils against limescale formation, increasing the lifetime of the washing machine and saving money



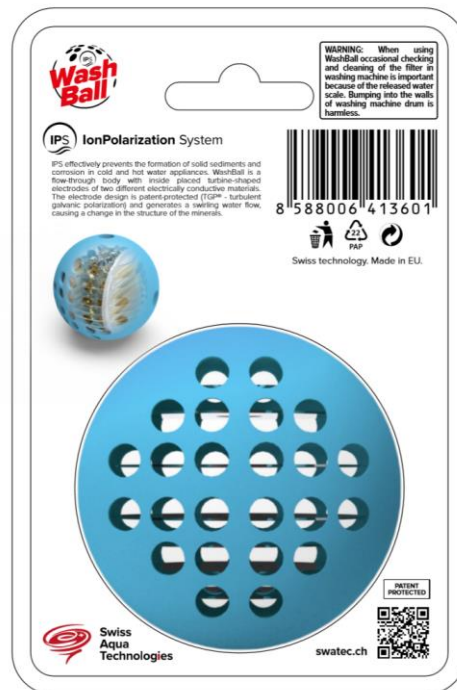
● WashBall protects flushing systems of toilets

- WashBall protects not only washing machine but can protect even flushing systems of toilets
- If WashBall is put into the flushing cistern protects all internal parts, especially flushing valve, against creation of limescale deposit
- In addition treated water used for flushing doesn't create limescale deposit on WC pan



● WashBall in a dishwasher

- WashBall can out into the dishwasher – IPS technology changes crystalline structure of CaCO3 what causes that no spots on dishes are created
- Glass look like new one – less of rinse aid can be used.
- WashBall protects heating coil and rotary parts against limescale.





» III.

• **Test I – Efficiency**

- Test was done similarly according to methodology for washing gel
- Totally was checked 12 different samples of dirty
- Used the same washing conditions (temperature, volume of washing gel; kind and parameter of dirty) without and with using of WashBall
- Vector method measured to what percentage the original color was achieved after washing

- From all 12 comparisons (12x with and 12x without WashBall) were:

Similarly results with and without using of Washball	5
Better results with using of Washball	7
Worse results when using Washball	0

100 % of tests were with the same or better results with using of WashBall

-Average washing performance when using WashBall is 3,67%; highest efficiency achieved by black tea, the washing performance with WashBall was about 36,79% higher

- If WashBall is used in standard washing, the effectiveness of the washing effect is usually increased (dependent on kind of contamination). The effect of using WashBall can be clearly recommended without negative side effects.



Cotton/40°C/60ml washing gel			worse result	better result	similary result	particular improvement	
	Without WashBall	Efficiency %	0	7	5		
	Without WashBall	Efficiency %	With WashBall	With WashBall	With WashBall		
Red Wine	$\Delta E_{W1-S1} =$	27,561	reference	$\Delta E_{W1-S1} =$	25,446	x	
	$\Delta E_{W2-S2} =$	25,217	8,508	$\Delta E_{W2-S2} =$	23,514	7,591	
Red Juice	$\Delta E_{W1-S1} =$	14,529	reference	$\Delta E_{W1-S1} =$	12,244	x	
	$\Delta E_{W2-S2} =$	3,461	76,179	$\Delta E_{W2-S2} =$	2,324	81,022	6,36%
Black Tea	$\Delta E_{W1-S1} =$	27,226	reference	$\Delta E_{W1-S1} =$	29,717	x	
	$\Delta E_{W2-S2} =$	18,074	33,616	$\Delta E_{W2-S2} =$	16,052	45,982	36,79%
French Mustard	$\Delta E_{W1-S1} =$	26,057	reference	$\Delta E_{W1-S1} =$	27,602	x	
	$\Delta E_{W2-S2} =$	5,348	79,475	$\Delta E_{W2-S2} =$	5,785	79,040	
Tomato Sauce	$\Delta E_{W1-S1} =$	69,171	reference	$\Delta E_{W1-S1} =$	74,406	x	
	$\Delta E_{W2-S2} =$	3,274	95,266	$\Delta E_{W2-S2} =$	3,297	95,569	
Baby Carrot	$\Delta E_{W1-S1} =$	39,364	reference	$\Delta E_{W1-S1} =$	74,406	x	
	$\Delta E_{W2-S2} =$	2,885	92,672	$\Delta E_{W2-S2} =$	3,275	95,598	3,16%
Chocolate	$\Delta E_{W1-S1} =$	80,178	reference	$\Delta E_{W1-S1} =$	78,905	x	
	$\Delta E_{W2-S2} =$	2,909	96,372	$\Delta E_{W2-S2} =$	2,888	96,340	
Used Motor Oil	$\Delta E_{W1-S1} =$	66,115	reference	$\Delta E_{W1-S1} =$	65,732	x	
	$\Delta E_{W2-S2} =$	16,780	74,619	$\Delta E_{W2-S2} =$	14,112	78,531	5,24%
Coffee	$\Delta E_{W1-S1} =$	34,041	reference	$\Delta E_{W1-S1} =$	34,033	x	
	$\Delta E_{W2-S2} =$	8,745	74,310	$\Delta E_{W2-S2} =$	7,694	77,394	4,15%
Make Up	$\Delta E_{W1-S1} =$	41,650	reference	$\Delta E_{W1-S1} =$	42,887	x	
	$\Delta E_{W2-S2} =$	10,944	73,724	$\Delta E_{W2-S2} =$	9,607	77,600	5,26%
Grass	$\Delta E_{W1-S1} =$	32,079	reference	$\Delta E_{W1-S1} =$	36,642	x	
	$\Delta E_{W2-S2} =$	5,403	83,159	$\Delta E_{W2-S2} =$	5,962	83,730	
Mud	$\Delta E_{W1-S1} =$	51,776	reference	$\Delta E_{W1-S1} =$	50,534	x	
	$\Delta E_{W2-S2} =$	2,704	94,778	$\Delta E_{W2-S2} =$	1,643	96,749	2,08%

Average efficiency without WashBall 73,556%

Average efficiency with WashBall 76,262%



● Test II – Saving

- Test was done similarly according to methodology for washing gel
- Totally was checked 12 different samples of dirty; cases with efficiency less than 15% (by both cases - with and without WashBall) were excluded from the test evaluation (Red Wine, Makeup)
- Used compared cases of washing without and with using of WashBall with the same washing conditions (temperature, volume of washing gel; kind and parameter of dirty)
- Two different washing conditions
 - » regularly temperature, reduction of detergent by 1/3
 - » regularly temperature, reduction of detergent by 2/3
- Vector method measured to what percentage the original color was achieved after washing

→ From all comparisons were:

Similarly results with and without using of Washball	12	
Better results with using of Washball	6	
Worse results when using Washball	2	(Red Juice, Chocolate)

90 % of tests were with the same or better results with using of WashBall

-Average washing performance when using WashBall was 7,22% (reduction of detergent by 1/3) respective 20,41% (reduction of detergent by 2/3)

-Results by Red Wine and Makeup in both cases (with and without WashBall with an efficiency below 25% + other two samples of dirty, Chocolate and Red Juice, were worse as by washing without WashBall = extremely dirty without effective solving by the case of saving the detergent or using the WashBall

If it is washed with less detergent than the recommended one, washing efficiency is almost always lower.

Assuming the use of WashBall, in the case of washing with a lower amount of detergent than the recommended, washing efficiency is often significantly higher with than without WashBall, sometimes it is comparable. Only in the case of extreme pollution, WashBall cannot be recommended as an effective tool for increasing the washing effect.



Average efficiency in %	Cotton/40°C/40ml washing gel			Cotton/40°C/20ml washing gel		
	without WashBall		73,264	without WashBall		53,313
	with WashBall		78,557	with WashBall		64,196
Sample	1	1	8	1	5	4
	With WashBall		Efficiency %	With WashBall		Efficiency %
Red Juice	$\Delta E_{W1-S1} =$	8,816	x	$\Delta E_{W1-S1} =$	11,213	x
	$\Delta E_{W2-S2} =$	3,322	62,321	$\Delta E_{W2-S2} =$	5,082	54,678
Black Tea	$\Delta E_{W1-S1} =$	29,097	x	$\Delta E_{W1-S1} =$	31,699	x
	$\Delta E_{W2-S2} =$	20,026	31,177	$\Delta E_{W2-S2} =$	22,802	28,067
French Mustard	$\Delta E_{W1-S1} =$	22,974	x	$\Delta E_{W1-S1} =$	20,854	x
	$\Delta E_{W2-S2} =$	3,212	86,017	$\Delta E_{W2-S2} =$	7,384	64,591
Tomato Sauce	$\Delta E_{W1-S1} =$	68,236	x	$\Delta E_{W1-S1} =$	66,903	x
	$\Delta E_{W2-S2} =$	3,694	94,586	$\Delta E_{W2-S2} =$	5,825	91,293
Baby Carrot	$\Delta E_{W1-S1} =$	68,236	x	$\Delta E_{W1-S1} =$	66,903	x
	$\Delta E_{W2-S2} =$	0,865	98,732	$\Delta E_{W2-S2} =$	1,866	97,211
Chocolate	$\Delta E_{W1-S1} =$	75,980	x	$\Delta E_{W1-S1} =$	77,722	x
	$\Delta E_{W2-S2} =$	8,543	88,756	$\Delta E_{W2-S2} =$	28,031	63,934
Used Motor Oil	$\Delta E_{W1-S1} =$	66,035	x	$\Delta E_{W1-S1} =$	61,444	x
	$\Delta E_{W2-S2} =$	13,544	79,489	$\Delta E_{W2-S2} =$	41,912	31,788
Coffee	$\Delta E_{W1-S1} =$	34,592	x	$\Delta E_{W1-S1} =$	36,559	x
	$\Delta E_{W2-S2} =$	9,930	71,294	$\Delta E_{W2-S2} =$	14,296	60,897
Grass	$\Delta E_{W1-S1} =$	29,153	x	$\Delta E_{W1-S1} =$	32,685	x
	$\Delta E_{W2-S2} =$	7,076	75,729	$\Delta E_{W2-S2} =$	15,901	51,349
Mud	$\Delta E_{W1-S1} =$	49,866	x	$\Delta E_{W1-S1} =$	50,428	x
	$\Delta E_{W2-S2} =$	1,262	97,470	$\Delta E_{W2-S2} =$	0,933	98,151

● Test III – Softness

- in process now

● Test IV – Color fastness

- in process now

Wash tests have proven exactly that washing with WashBall is more efficient, economical and gentle. However, a very important parallel reason for using WashBall is the protection of the washing machine against limescale and higher energy consumption for water heating. This is verified by testing the patented TGP technology and confirmed the efficacy of descaling (up to 76% in IPS).



LIMESCALE PROTECTION

10.000
CYCLES

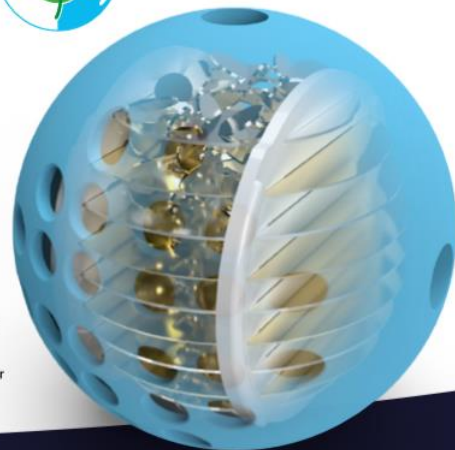


EFFECTIVELY PREVENTS CORROSION AND LIMESCALE CREATION

- Protects appliances from limescale.
- Easy to use, no chemical softeners.
- No maintenance required.



- LIMESCALE PROTECTION
- WATER SAVING
- HIGHER WASHING EFFICIENCY
- MONEY SAVING
- ENVIRONMENT FRIENDLY



IPS effectively prevents the formation of solid sediments and corrosion in cold and hot water appliances. WashBall is a flow-through body with inside placed turbine-shaped electrodes of two different electrically conductive materials. The electrode design is patent-protected (TGP® - turbulent galvanic polarization) and generates a swirling water flow, causing a change in the structure of the minerals.

