

Laundry Ball

ceramic research
Pharmacist Jung

Home necessity for family's health and clean environment

- Environmental protection / Skin health protection
- Fiber protection / Cleaning material frugality
- Save water / Save electricity / Washing effect
- Bleaching effect / Bactericidal effect / Antistatic effect
- Cohesion prevention effect / Fiber softness effect

- Environmental protection
- Skin health protection
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- Fiber softness effect
- Antistatic effect

1. Usage and period of use

- 1) For laundry machine (regular and drum washing machine)
- 2) Good for three (3) years. (based upon once a day usage)

2. Features

- 1) Laundry Ball, which consists of four main natural ceramics, contained in a round ball, was designed scientifically so that it could clean clothes and laundry without any detergents.
- 2) With only Laundry Ball, it substitutes for the major functions of existing ordinary chemical laundry powder.
- 3) From the test result by a nationally authorized organization, we were awarded an excellent record on cleaning strength, and power, i.e. Decolorant Strength and Sterilizing Power.
- 4) When compared with the normal washing process, we obtained results that were both desirable and economical effect, like detergent-saving, water-saving, electric-saving and time-saving.
- 5) It is global invention which was recorded in invention patent, a utility model, design trade mark.
- 6) This detergent-free washing ball is a versatile product that functions as a natural health and wellness product, and environmental protection product, and scientific product.

3. Washing principle (four main natural ceramics)

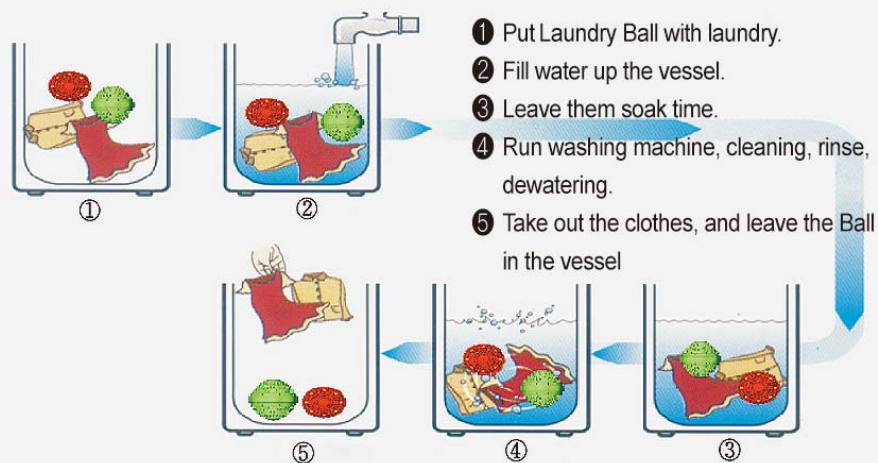
- 1) The powerful far-infrared rays in Laundry Ball break water molecule's hydrogen-combination into small cluster and force the small water cluster being activated, to increase it's molecular motions, penetration force, and washing power. And it radiates negative ions to weaken the surface and inter fabric adhesion so that the dirt can come off easily without any detergent.
- 2) The **ALKALI BALL** keep the pH spectrum at the level that ordinary chemical detergent has, and it helps to remove oil-dirt from clothing.
- 3) **CHLORINE EXCLUSION BALL** eliminates the chloride compound in water, and slackens the water surface tension and increases cleaning strength.
- 4) The **ANTIBIOTIC BALL** eliminates the mold, pathogenic organisms in the washing machine, and activates the water to increase the cleaning strength.
- 5) It will be increase the cleaning strength by friction strength of external projection, and water pressure through the external projection.

4. Effects of Laundry Ball

- 1) Because the Laundry Ball does not contain any detergent, there is no remaining chemical detergent residue in the cloth and fibers, therefore it does not cause about any skin trouble.
- 2) It protects the oxidation and discoloration of fabric cause by chloride in city water and helps to retain the elasticity of fabric.
- 3) The Laundry Ball has an antibiotic agent, it eliminates the mold, pathogenic organisms, and unpleasant odors. While it activates water and increase the cleaning power.
- 4) With these combined function, it is not necessary to add bleaching agent, fabric softener and other washing additives.
- 5) For persons, as like children, women who has very weak sensitive skin, it might need the Detergent-free Laundry Ball.
- 6) There is no tangled result between the laundry.
- 7) It has economic saving, protect skin health, and preserve the environment pollution caused by chemical detergent. It is really amazing "three-bird-one stone solution" invention.

5. How to use

- 1) For over the washer capacity 5kgs, use two (2) Laundry Balls. Put Laundry Ball at top of laundry (clothes, etc.) into the laundry vessel and fill the water.
- 2) And leave them soak for one hour in the water so that it could transform the tap water into activated water, this time allows Laundry Ball to affect the water.
When you wash clothes often, fill the water and put over Laundry Balls primary in order to shorten the soak time.
- 3) For normal laundry course, it is recommended to run the washer after soak time or smudged laundry course.
- 4) For very get smudged laundry, or inevitable case, you can use the amount of 1/5 (one fifth) ordinary detergent with Laundry Ball, or do primary of partial washing on clothes with oil stand, old dirt of smudges with conventional detergents (such as Y shirts) as in common washing prior to washing them with the ball.
- 5) When run the washer, we recommend do separate the laundry which is white colored and colored the laundry.
- 6) After finish the laundry course, you can leave Laundry Ball even after completion the washing for next washing.
- 7) Take Laundry Ball and expose it under the sunlight once a month for better efficiency.




6. The result of examination

1) Washing strength test

- An examinant : Korea Apparel Testing & Research Institute
- Subject of test :

Examination Subject	Test on sample	Powder Detergent	Laundry Ball	Judgment
Washing strength	JIS contaminate cloths	36.21 %	35.24 %	similar
Blenching strength	BC-2 Contaminate cloths	16.48 %	20.40 %	Laundry Ball is superior
Fabric flexibleness	towel	0.051 (improved)	0.035 (improved)	Detergent is superior
Sterilizing power	Staphylococcus Aureus Pneumonia		99.3 % 94.1 %	Laundry Ball is superior
Residue of Surface active agent		0.0095g/10 g	none	Laundry Ball is superior

7. Product line up

PICTURE	Model	Gift box size	Carton size	Carton q'ty & weight
	WBP-600	97x104x108 (mm)	335X535X320	60pcs / 15kg
	WB-500	97x104x108 (mm)	335X535X320	60 / 15kg
	WL-900	105x105x95 (mm)	555x450x215 (mm)	40 / 12kg
	WL-O2	105x105x95 (mm)	555x450x215 (mm)	40 / 13kg
	WL-800	105x105x95 (mm)	555x450x215 (mm)	40 / 12kg

1) Antibacterial test

BIOTECA Co., Ltd.

4-810 Shing Shing Business Building # 4, Shing Shing Road, Shing Shing, Hong Kong Tel: (852) 3581-1000 Fax: (852) 3581-1001 Telex: (3581) 3581-1000

TEST REPORT

CLIENT : +61 Housing (U.S.) Ltd
 ADDRESS : 204-210, Chuan-chuan-tung, (Gang-shing) str.,
 District, Hsinchu
 SAMPLE : Intel Screen Washing Bath

REPORT DATE : 17th-09-84(41552)
 INQUIRY DATE : 4/14-12-84
 COMPLETION DATE : 4/14-12-84
 PAGE : 1 OF 1 TOTAL

(1) TEST RESULTS : (SHOW FLOW METHOD USED TO Q5 W/84)

TEST BACTERIA	Disinfectantion source ATCC 2902
CONCENTRY	
INDICULUM CONCENTRATION (CFU/ml)	1.7 x 10 ⁷
AN INCREASING RATE (1%)	45 TIMES
AL	1.7 x 10 ⁷
SL	8.2 x 10 ⁷
AL	< 10
PERCENT REDUCTION OF BACTERIA (%)	88.9

TEST BACTERIA	Disinfectantion source ATCC 2902
CONCENTRY	
INDICULUM CONCENTRATION (CFU/ml)	1.8 x 10 ⁷
AN INCREASING RATE (1%)	45 TIMES
AL	1.8 x 10 ⁷
SL	8.8 x 10 ⁷
AL	< 10
PERCENT REDUCTION OF BACTERIA (%)	88.9

REMARKS : < 1 LESS THAN CFU = Colony Forming Unit

The test result of this test report was verified by the laboratory and certain results presented by the customer and do not represent the lab's responsibility. The test report and the test results are not valid for the purpose stated and they must not be used to claim liability, compensation and avoid liability for BOTECA's test services.

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KIFA

KOREA FAR INFLAMED ASSOCIATION

KOREA INSTITUTE OF FAR INFLAMED APPLIED ESTIMATION

100-100, Seohyeon-dong, Gangbuk-gu, Seoul
02-6300-1111
02-6300-1112

CONCEPT OF TESTING RESULT

0000-0000

Source of Item: _____

Name of Applicant: _____

Address of Applicant: _____

Date of Receipt: _____

Name of Test Sample: _____

Referee: _____

Referee Address: _____

TEST RESULT

TESTY ITEM	SAMPLE	SARIS INDEX		RESULTS	
		0.00-0.20	0.20-0.40	0.40-0.60	0.60-0.80
ANTIBACTERIAL EFFECT	Blank	4.0-4.0	1.0-1.0		
ANTIBACTERIAL EFFECT	Yellowish-brown	4.0-4.0	1.0-1.0	0.0-0.0	
ANTIBACTERIAL EFFECT	Blank		6.0-6.0		
ANTIBACTERIAL EFFECT	Yellowish-brown	2.0-2.0	1.0-1.0	0.0-0.0	

Test 1: The blank test was measured on a wet test sample.

Test 2: The blank sample on the test test was observed by magnification of dilution test. Result

① Test method : KIFA-PT-100

② Test result and factors

ANTIBACTERIAL EFFECT ACCU: 60%

Antibacterial effect: 60%

③ Value in the Factbook: 0.0-0.0

④ Sample : Quality control

0 0 2000

100000 0000 2000

Signature: _____

Date: 0000.00.00

The Director of the Institute of Far Inflamed Applied Estimation

KATRA® <i>Measuring & Drawing Technology Research Center</i> 627-13, Tongde-ro, Songde-gu, Seoul 046-040, Korea TEL: 042-940-0000 FAX: 042-940-0001	
KATRA NO.: 1000-000000 PAGE 001 / 2 / 3	
TEST ITEM _____	TEST RESULTS _____
#1 _____	
Measurement (1): selected by user (unit) _____	
0.0	
(continued) 1. Measuring process - Built with MILL CODED MEASURING MILL (S)	
2. Measuring condition	Standardized measuring machine (ISO-9000),
3. Measuring material	Aluminum plate (steel (SLS)), Standard Gauge
4. Measuring temperature	(20±0.5) °C
5. Measuring fabric weight	3.5 kg (ISO 9000 CODED Appendix 1-Steel)
6. Measuring fabric size	Standard fabric size (ISO 9000 CODED Appendix 1-Steel)
7. Test method (1)	Measure reflectance before washing and after washing
	① Calculate Washability
8. Calculation	
	① Washability = $100 - \frac{(R_1 - R_2) \times 100}{R_1}$
② Washability (N)	① Washability after washing - Washability before washing
	② Washability of non-washed fabric - Washability before washing = 100

[illegible][illegible]

KATR® <i>Shanghai Chongqing Technology Investment Center</i> 102-102, Zhongyuan Road, Zhongyuan Community, Zhongyuan 102-102, Zhongyuan Road, Zhongyuan Community, Zhongyuan	TEST REPORT
APPLICANT : WELLES CO., LTD TESTER :	KATR NO : 1027-WELLES-014 DATE : May. 15, 2007 PAGE: 11 of 1
COMP. DESCRIPTION (ONE) (ONLY) : Water WastewaterTREAT	
RECEIVED DATE : May. 04, 2007 ***	
TEST ITEM	TEST RESULTS
RT	
■ Discrepancy (N/A) : submitted for assessment	
000.02	
Remark:	
1. Sample storage : Waters WastewaterTREAT	
2. Water temperature : 24±1℃	
3. Washing condition : Hand-washed washing machine(40-50℃).	
Lower water level(40-50℃), Standard Course, Soap 100ml	
4. Soiled fabric : white T-shirt (100% Cotton) Aquanote 1 (1-sheet)	
5. Soiled fabric : Aquanote 1 (1-sheet) (100% Cotton)	
6. Soiled fabric : Aquanote 1 (1-sheet) (100% Cotton)	
7. Test method : 1) Measure effluents before washing and after washing	
8) Calculate discrepancy	
9. Discrepancy = 100 × $\sqrt{(T_1^2 - T_2^2) \div 2}$	
10. Discrepancy (N/A) : Differences after washing - Whiteness before washing × 100	
11. Discrepancy (N/A) : Differences of normalized index - Whiteness before washing × 100	
#1	
	
<i>Chongqing KATR</i> CHONG QING KATR CHONG QING KATR	

The results on this sheet are offered in good faith and are derived from the samples submitted. They represent laboratory results and are not intended to be used for litigation.

4) Drape level test

KATR | Welding Coating Technology Research Center
 65-121, Wondong-ro, Seongbuk-gu, Seoul 152-861, Korea
 Tel: 02-339-4000 Fax: 02-339-4001

TEST REPORT

WTS (DWT) : KELLAR DCL-170 KATR NO : K209-40000040
 KPCS : DATE : 2010. 04. 20
 PAGE 02 : 1 / 2

SAMPLE DESCRIPTION : 00111 DMLA 3K Water Washcoat(25A)

RECEIVED DATE : Mar. 26, 2007 ***

TEST ITEM : DTP RESULTS

■ Software (Drape Coefficient) : submitted by customer
 0.88

Remarks
 1. Sample 000004 : Water Washcoat(25A)
 2. Water temperature : 25±1°C
 3. Washing condition : ultrasonic washing machine(70W-120S)
 Low water level(80L), Standard Course
 4. Surface fabric weight : 3.5kg (93.75 G/100cm²) Acetate 1-THWAT
 5. Test Result : Test result of custom label, washed with Water Washcoat(25A)

#1



Choi T. S.
 CHOI TAESEON 1554
 Senior Researcher

The results on this sheet are offered in good faith and are derived from the samples submitted. They represent the testing carried out by our competent staff on our up to date laboratory

5) Far-infrared energy emission test

KIFA
KOREA FAR INFRARED ASSOCIATION
KOREA INSTITUTE OF FAR INFRARED ANALYSIS ESTIMATION

73-12, Seokcho-Dong, Seongbuk-Gu, Seoul, Korea http://www.kifa.or.kr TEL: 02-339-4007 FAX: 02-339-4001

CERTIFICATE OF TESTING RESULT

Serial No. of Issue : K211-021
 Name of Applicant : Park Eun Seob • Kim Young Hui/Wolho Co., Ltd.
 Address of Applicant : 302-5, Seongnam-2Dong, Gyeonggi-Do, Seoul, Korea
 Date of Receipt : 4. 26. 2007
 Name of Test Sample : Wolho Ball

TEST RESULTS

Ultrastivity (1 % ~ 30 μm)	Emission Power (W/m ² per 37°C)
0.926	3.57 × 10 ³

① Test Method : KIFA-01-002
 ② The temperature of 37°C is provided by the applicant.
 The above experimental results were measured in comparison with H&L&C 3607V by using the F77-10 Spectrometer.
 ③ Test Results : Refer to the Electronic
 ④ Usage : Quality control, R&D

* This certificate of testing result shall be used within the period of its defined usage

4 26 2007
 month day year
 Signed *Choi T. S.*
 The director of Korea Institute of
 Far Infrared Analysis Estimation

6) Anion release test

KIFA
KOREA FAR INFRARED ASSOCIATION
KOREA INSTITUTE OF FAR INFRARED ANALYSIS ESTIMATION

73-12, Seokcho-Dong, Seongbuk-Gu, Seoul, Korea http://www.kifa.or.kr TEL: 02-339-4007 FAX: 02-339-4001

CERTIFICATE OF TESTING RESULT

Serial No. of Issue : K210-022
 Name of Applicant : Park Eun Seob • Kim Young Hui/Wolho Co., Ltd.
 Address of Applicant : 302-5, Seongnam-2Dong, Gyeonggi-Do, Seoul, Korea
 Date of Receipt : 4. 26. 2007
 Name of Test Sample : Wolho Ball

TEST RESULTS

TEST ITEM	ANION-RELEASE
SAMPLE Wolho Ball	81.0

① Test Method : KIFA-01-042
 ② Sample Weight : 10g
 ③ The above experiment was conducted using KFM analyzer at the conditions of temperature 25 °C and humidity 50% and water vapors 100% of the atmosphere. Its value from the sample was measured and the results were shown when number per unit volume.
 ④ Usage : Quality control, R&D

* This certificate of testing result shall be used within the period of its defined usage

4 26 2007
 month day year
 Signed *Choi T. S.*
 The director of Korea Institute of
 Far Infrared Analysis Estimation