

WATER PURIFIER TEST STANDARD BY KOREA MINISTRY OF ENVIRONMENT

I. GENERAL MANDATORY PURIFICATION ABILITY

Item	Influent Unit	Removal rate		Remarks
		*Over 500L	**Below 500L	
Free residual chlorine	2.0mg/L	90%	80%	
Color	15 degree	80%	70%	
Turbidity	5NTU	90%	80%	NTU: Nepthelometric Turbidity Unit
	2.5NTU	80%	80%	
Chloroform	0.25mg/L	80%	80%	
Hardness	600mg/L	70%	-	This item is for RO purifier
Nitric nitrogen	30mg/L	70%	-	

* Over 500L: This criteria is for home use purifier

** Below 500L: This criteria is for simple water purifier

II. SPECIAL (OPTIONAL) PURIFICATION ABILITY

Item	Influent Unit	Removal rate	Item	Influent Unit	Removal rate
THMs	0.3 mg/L	90%	Fe	0.9 mg/L	80%
1.1.1-Trichloroethane	0.3 mg/L	90%	Al	0.6 mg/L	80%
TRICHLOROETHYLENE	0.3 mg/L	90%	Zn	9 mg/L	70%
TETRACHLOROETHYLENE	0.1 mg/L	90%	Cu	3.0 mg/L	70%
DICHLORO METHANE	0.2 mg/L	90%	ammonium nitrogen	1.5 mg/L	80%
BENZENE	0.1 mg/L	90%	Cn	0.5 mg/L	90%
TOLUENE	2.0 mg/L	80%	Fluorine	4.5 mg/L	70%
ETHYLE BENZNE	0.9 mg/L	90%	nitric nitrogen	30 mg/L	70%
XYLENE	1.5 mg/L	80%	chlorine ion	300 mg/L	70%
DIAZINON	0.06 mg/L	70%	sulfate ion	400 mg/L	70%
PARATHION	0.18 mg/L	70%	Hardness	600 mg/L	70%
FENITRPTHION	0.12 mg/L	70%	colon bacterium	20-1000MPN	N.D
CABARYL	0.21 mg/L	70%	1.1dichloroethylene	0.3 mg/L	90%
PHENOL	0.05 mg/L	90%	Carbon tetrachloride	0.02 mg/L	90%
Detergent	1.5 mg/L	80%	1,2-dibromo-3-chloropropane	0.01 mg/L	70%
Mercury	0.01 mg/L	90%	chloral hydrate	0.09 mg/L	90%
Pb	0.5 mg/L	90%	dibromoacetoneitrile	0.3 mg/L	90%
Chromium	0.5 mg/L	90%	dichloroacetoneitrile	0.27 mg/L	90%
Arsenic	0.5 mg/L	90%	trichloroacetoneitrile	0.04 mg/L	90%
Cadmium	0.05 mg/L	90%	Haloacetic acids	0.3	90%
Boron	3 mg/L	90%	1,4-dioxane	0.15 mg/L	70%
selenium	0.1 mg/L	90%	formaldehyde	0.5 mg/L	70%
Manganese	0.9 mg/L	80%			

SUMMARY REPORT OF OF WP-100

I. FILTER MATERIAL:

- COMPOSITE FILTER(ACTIVATED CARBON BLOCK, CERAMIC BALL) / PRE FILTER
- POSITIVE CHARGED FILTER(MEMBRANE, NONWOVEN FABRIC)/ NANO FILTER
- COMPOSITE FILTER(ACTIVATED CARBON BLOCK, CERAMIC BALL) / POST CARBON FILTER

II. Test Condition:

- water temperature: 20°C
- water pressure: 1kgf/cm²
- Influent water : 780L

III. TEST RESULT:

A. GENERAL MANDATORY PURIFICATION ABILITY TEST RESULT

Item	Influent Unit	Criteria removal rate	Test result	
			Effluent	Removal rate
Free residual chlorine	2.02mg/L	90%	N.D	100%
Color	15 degree	80%	1	93%
Turbidity	5.16NTU	90%	0.06	99%
Chloroform	0.280mg/L	80%	N.D	100%

B. SPECIAL (OPTIONAL) PURIFICATION ABILITY TEST RESULT

Item	Influent Unit	Criteria Removal rate	Test result	
			Effluent	Removal rate(%)
THMs	0.341 mg/L	90%	N.D	100
1.1.1-Trichloroethane	0.341 mg/L	90%	N.D	100
TRICHLOROETHYLENE	0.357 mg/L	90%	N.D	100
TETRACHLOROETHYLENE	0.116 mg/L	90%	N.D	100
DICHLORO METHANE	0.205 mg/L	90%	N.D	100
BENZENE	0.120 mg/L	90%	N.D	100
TOLUENE	2.266 mg/L	80%	N.D	100
ETHYLE BENZNE	1.073 mg/L	90%	N.D	100
XYLENE	1.703 mg/L	80%	N.D	100
DIAZINON	0.0589 mg/L	70%	N.D	100
PARATHION	0.1782 mg/L	70%	N.D	100
FENITRPTHION	0.1207 mg/L	70%	N.D	100
CABARYL	0.212 mg/L	70%	N.D	100
PHENOL	0.051 mg/L	90%	N.D	100
Mercury	0.01 mg/L	90%	N.D	100
Pb	0.54 mg/L	90%	0.031	94
Chromium	0.53 mg/L	90%	0.43	19
Arsenic	0.508 mg/L	90%	0.478	6
Cadmium	0.046 mg/L	90%	N.D	100

selenium	0.110 mg/L	90%	0.107	3
Manganese	0.876 mg/L	80%	0.848	3
Fe	0.93 mg/L	80%	N.D	100
Al	0.66 mg/L	80%	0.07	89
Zn	9.237 mg/L	70%	7.613	18
Cu	3.347 mg/L	70%	1.854	45
colon bacterium	20-1000MPN	0%	N.D	100
1,1-dichloroethylene	0.332 mg/L	90%	N.D	100
Carbon tetrachloride	0.023 mg/L	90%	N.D	100
chloral hydrate	0.0864 mg/L	90%	N.D	100
dibromoacetonitrile	0.3244 mg/L	90%	N.D	100
dichloroacetonitrile	0.2889 mg/L	90%	N.D	100
trichloroacetonitrile	0.0418 mg/L	90%	N.D	100
Haloacetic acids	0.276mg/L	90%	N.D	100
1,4-dioxane	0.154 mg/L	70%	N.D	100

IV. TEST METHOD CRITERIA

- A. Inorganic anion such as Mercury, Pb, Chromium, Arsenic, Cadmium, Selenium, Manganese, Fe, Al, Zn, Cu must be tested by each Influent water
- B. Other items can be mixed in Influent water by standard rate
- C. Etc.
 - Before testing, 2L of water flow must be done.
 - 100L of Influent water must be tested.
 - Test agent can make Influent water by stated rate and ingredients. However stated items must be prepared as stated in the below table.

Item	Preparation substance
Free residual chlorine	NaClO
Hardness	CaCl ₂ ·2H ₂ O+MgSO ₄ ·7H ₂ O
	Ca:Mg rate -> 5:1
Arsenic	NaAsO ₂
Selenium	Na ₂ SeO ₃ +Na ₂ SeO ₄ (1:1)
Pb	Pb(NO ₃) ₂
Chromium	Na ₂ Cr ₂ O ₇ ·2H ₂ O
Cadmium	Cd(NO ₃) ₂ ·4H ₂ O
Cu	Cu(NO ₃) ₂ ·3H ₂ O
Zn	Zn(NO ₃) ₂ ·6H ₂ O
Fe	Fe(NO ₃) ₃ ·9H ₂ O
Mn	Mn(NO ₃) ₂ ·6H ₂ O
Aluminium	Al(NO ₃) ₃ ·9H ₂ O
Mercury	HgCl ₂