Introduction of Certification System for Waterworks Materials and Products of Korea

October 30, 2014

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KWWA
KOREA WATER AND WASTEWATER WORKS ASSOCIATION
I Legal Requirements for Waterworks Materials & Products

Cases of Defects & Damages from Waterworks Materials

- Waterworks materials and products should comply with both Performance Certification and Safety Standard Certification (KC Certification).
- Provided, however, indoor water supply facilities can be used as long as Safety Standard Certification (KC Certification) only.

Legal Requirements
(Article 14 of The Waterworks Act)

- Safety Standard Certification (KC Certification)
- Performance Certification (KS, KWWA, NET, NEP, CP)
  - KS: Korea Standard
  - KWWA: Korea Water and Wastewater Works Association
  - NET: New Excellent Product
  - NEP: New Excellent Technology
  - CP: Conformity Product

※ The accidents due to material defects out of total 172 items of waterworks accidents occurred in Seoul Metropolitan City were 11 items representing 6%. (The Cases of Waterworks Accidents in Seoul, 2010)
## I Legal Requirements for Waterworks Materials & Products

### Comparison of Performance Certification & Safety Standard Certification

<table>
<thead>
<tr>
<th>Category</th>
<th>Performance Certification (Structural Safety)</th>
<th>Safety Standard Certification (KC Certification) (Public health Safety)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pertinent Laws &amp; Regulations</strong></td>
<td>• Article 14 of the Waterworks Act and Article 24-2 of the Enforcement Decree of the said Act (Use of waterworks materials and products)</td>
<td>• Article 14 of the Waterworks Act and Article 24 of the Enforcement Decree of the said Act (Sanitation &amp; Safety Standard)</td>
</tr>
</tbody>
</table>
| **Main Agent for Administration** | • Ministry of Environment (Environment Mark)  
• Ministry of Trade, Industry & Energy (KS, Excellent Organization, KWWA, NEP, NET)  
• KWWA (CP Certification) | • Ministry of Environment (Entrusted to KWWA) |
| **Applicable to**              | • Items subject to administration by waterworks providers (Except for indoor water facilities)               | • Waterworks materials and products which are used or installed for the supply of drinking water (Including indoor water facilities) |
| **Target for Control**         | • Water utilities providers (Users)  
• Those who wish to install private waterworks                                                                   | • Those who manufacture, supply, sell or import waterworks materials and products and their users.                               |
I Legal Requirements for Waterworks Materials & Products

Status of Performance Certification (As of July 31, 2014)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Number of items</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>KS</td>
<td>349</td>
<td>52.6</td>
</tr>
<tr>
<td>Excellent Organization</td>
<td>60.9</td>
<td>12.1</td>
</tr>
<tr>
<td>KWWA</td>
<td>80</td>
<td>32.9</td>
</tr>
<tr>
<td>CP</td>
<td>217</td>
<td>7.1</td>
</tr>
<tr>
<td>Others</td>
<td>349</td>
<td>52.6</td>
</tr>
</tbody>
</table>

※Others: NEP 3 items, NET 1 item, Environment Mark 3 items
I Legal Requirements for Waterworks Materials & Products

Scope of Certification for Waterworks Materials & Products

Water source & water-intake

Water Treatment Plant

Water supply & distribution

- Water source & water-intake
- Water Treatment Plant

- Water supply & distribution

Scope of Performance Certification
Scope of KC Certification
II KWWA’s Certification Systems

Performance Certification

Safety Standard Certification

KWWA Certification

CP Certification

KC Certification
II KWWA’s Certification System
(Performance Certification : KWWA, CP)

Procedures for Performance Certification

- Apply Performance Certification
- Documents Review
- Factory Audit
- Product Test
- Issue Certificate
  Org.: Post control (3yrs)
  Complied: Post control (2yrs)
- Adjudgment Committee

- Factory audit: Evaluate whether factory is equipped with system for continuous and stable production of products
- Product test: Evaluate based on performance standard for the product for which Factory screening was passed.
- Adjudgment Committee: Final check for the compliance for the results of Factory screening and Product screening
### Status of Performance Certification

<table>
<thead>
<tr>
<th>Category</th>
<th>Pipe</th>
<th>Valve</th>
<th>Pump</th>
<th>Flow meter</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>KWWA</td>
<td>35</td>
<td>18</td>
<td>-</td>
<td>-</td>
<td>27(^1))</td>
<td>80 (8 products from overseas)</td>
</tr>
<tr>
<td>CP</td>
<td>72</td>
<td>102</td>
<td>3</td>
<td>11</td>
<td>29(^2))</td>
<td>217 (5 products from overseas)</td>
</tr>
</tbody>
</table>

1) Water meter box (3), Membrane module·No-outage product (24)
2) Water meter box (10), Strainer (4), Inspection fitting (2), Non-freezing tap·Wall panel (13)
Sanitation & Safety Standards (Standards for 44 items of allowable harmful materials)

- Set elution allowable standards for 44 kinds of harmful materials including cadmium, mercury, lead and VOC
- In the case of lead and arsenic, standards were reinforced according to the intensification of water quality standards for drinking water as of May of 2013.

※ Standards: 0.005 mg/L and below → 0.001 mg/L and below
## Status of KC Certification by Year

<table>
<thead>
<tr>
<th>Category</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total Accumulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>324</td>
<td>657</td>
<td>382</td>
<td>98</td>
<td>1,461</td>
</tr>
</tbody>
</table>

## Status of Certification by Product

<table>
<thead>
<tr>
<th>Total certified items</th>
<th>Pipe</th>
<th>Valve</th>
<th>Faucet</th>
<th>Water-meter Flow meter</th>
<th>Pump</th>
<th>Others(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>497</td>
<td>340</td>
<td>110</td>
<td>63</td>
<td>75</td>
<td>376</td>
</tr>
</tbody>
</table>

\(^1\) Paints (50), Water tank (104), Wall panel (27), Others (195)

## Status of Certification by Country

<table>
<thead>
<tr>
<th>Category</th>
<th>China</th>
<th>USA</th>
<th>Japan</th>
<th>Israel</th>
<th>Canada</th>
<th>Italy</th>
<th>Taiwan</th>
<th>Germany</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (96)</td>
<td>56</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

1 item each from India, Philippines, Indonesia, Vietnam, Denmark, Poland, Turkey, Switzerland, Thailand and Portugal
Ⅱ KWWA’s Certification System
(Sanitation & Safety Standard Certification : KC)

KC Certified Product (Example)
III Issues and Future plans

1. Exclusion of indoor water supply facilities from the list of items subject to Performance Certification
   
   Need to expand the items subject to certification to supply clean water up to faucet
   ※ Most of waterworks materials and products are indoor water facilities products (885 items, 60.5%)

2. In the case of Safety Standard Certification, compliance will be judged based on extraction test only
   
   Consider to add material analysis (Ingredient analysis and contents) to the test method of Safety Certification

3. Increase in new harmful matters due to the development of new materials and new products
   
   Need to cope with the generation of new harmful matters from new products
   ※ Extraction of EDC (Endocrine-disrupting chemicals)
Thank you!