MARKING

PP – 1. NSF Certification Marks for plastics piping system products
   A Certified plastics piping system Product shall bear the NSF Certification Mark (See Table A). The end use application shall be indicated in lowercase letters (See Table B). A Product that has been Certified for multiple end use applications may bear the Mark that corresponds to each authorized end use. A Product that has been Certified to Canadian and U. S. requirements shall bear the Mark with the designation “C”. For Products that cannot be permanently and legibly marked in accordance with Table A at the time of manufacture because of production method or unusual size and configuration, alternate marking methods shall be reviewed and authorized in writing by NSF prior to use.
### TABLE A

<table>
<thead>
<tr>
<th>Products, Materials, and Ingredients</th>
<th>Optional Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>U.S.</strong></td>
<td>*<em>&lt;end-use&gt;</em></td>
</tr>
<tr>
<td><strong>CANADIAN</strong></td>
<td>*<em>&lt;end-use&gt;</em></td>
</tr>
<tr>
<td><strong>CANADIAN &amp; U.S.</strong></td>
<td>*<em>&lt;end-use&gt;</em></td>
</tr>
<tr>
<td><strong>ELECTRICAL CONDUIT</strong></td>
<td><strong>&lt;Standard&gt;</strong></td>
</tr>
</tbody>
</table>

The NSF web site address ([www.nsf.org](http://www.nsf.org)) may be used in conjunction with the above Marking. The address shall be placed directly under the NSF logo or name.
Products that have been Certified against an SE Specification shall bear the symbol “SE” immediately following the Mark:

![NSF SE](symbol)

or

![NSF SE](symbol)

Products that have been Certified by NSF as meeting the applicable requirements of the Uniform Plumbing Code shall bear the symbol “U.P. Code” immediately following the Mark:

![NSF U.P. Code](symbol)

or

![NSF U.P. Code](symbol)

The NSF web site address ([www.nsf.org](http://www.nsf.org)) may be used in conjunction with the above Marking. The address shall be placed directly under the NSF logo or name.

Cellular pipe products that have been Certified against Footnote 3, Table 14-1, of the 2000 Uniform Plumbing Code for inner and outer wall thickness shall bear the designation “I/O” immediately following the Mark:

![NSF I/O](symbol)

or

![NSF I/O](symbol)

The NSF web site address ([www.nsf.org](http://www.nsf.org)) may be used in conjunction with the above Marking. The address shall be placed directly under the NSF logo or name.

### TABLE B

**Definitions and symbols for identifying Product end-use applications**

<table>
<thead>
<tr>
<th>End-use Application</th>
<th>Symbol</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable Water</td>
<td>pw</td>
<td>Products meeting the applicable requirements of NSF/ANSI 14, including the referenced performance standards for pressure rated applications, having an established hydrostatic design basis (HDB) and complying with NSF/ANSI 61.</td>
</tr>
<tr>
<td>Well Casing</td>
<td>wc</td>
<td>Products meeting the applicable requirements of NSF/ANSI 14, including the referenced performance standards for well casing applications and complying with NSF/ANSI 61 health effects.</td>
</tr>
<tr>
<td>Drain, Waste, and Vent</td>
<td>dwv</td>
<td>Products meeting the applicable requirements of NSF/ANSI 14, including the referenced performance standards for drain, waste, and vent applications. No health effects evaluation is required.</td>
</tr>
<tr>
<td>End-use Application</td>
<td>Symbol</td>
<td>Definition</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Continuous Waste</td>
<td>tubular</td>
<td>Products meeting the applicable requirements of NSF/ANSI 14, including the referenced performance standards for continuous waste applications. No health effects evaluation is required.</td>
</tr>
<tr>
<td>Corrosive Waste</td>
<td>cw</td>
<td>Products meeting the applicable requirements of NSF/ANSI 14, including the referenced performance standards for corrosive waste applications. No health effects evaluation is required.</td>
</tr>
<tr>
<td>End-use Application</td>
<td>Symbol</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sewer</td>
<td>sewer</td>
<td>Products meeting the applicable requirements of NSF/ANSI 14, including the referenced performance standards for sewer applications. No health effects evaluation is required.</td>
</tr>
<tr>
<td>Drain</td>
<td>drain</td>
<td>Products meeting the applicable requirements of NSF/ANSI 14, including the referenced performance standards for drainage applications. No health effects evaluation is required.</td>
</tr>
<tr>
<td>Radiant Floor Heating</td>
<td>rfh</td>
<td>Products meeting the applicable requirements of NSF/ANSI 14, including the referenced performance standards for pressure rated in-floor heating applications, and having an established hydrostatic design basis (HDB). No health effects evaluation is required.</td>
</tr>
<tr>
<td>Reclaimed Water</td>
<td>rw</td>
<td>Products meeting the applicable requirements of NSF/ANSI 14, including the referenced performance standards for reclaimed water applications, and having an established hydrostatic design basis (HDB). No health effects evaluation is required.</td>
</tr>
<tr>
<td>Gas</td>
<td>gas</td>
<td>Products meeting the applicable requirements of NSF/ANSI Standard 14, including the referenced performance standards for gas applications, and having an established hydrostatic design basis (HDB). No health effects evaluation is required.</td>
</tr>
<tr>
<td>Chlorine Resistance</td>
<td>Cl-TD</td>
<td>Products meeting the requirements of NSF Protocol P171 for the chlorine resistance Traditional Domestic category and complying with NSF/ANSI 61.</td>
</tr>
<tr>
<td>Chlorine Resistance</td>
<td>Cl-R</td>
<td>Products meeting the requirements of NSF Protocol P171 for the chlorine resistance Domestic Recirculation category and complying with NSF/ANSI 61 health effects.</td>
</tr>
<tr>
<td>Geothermal</td>
<td>geothermal</td>
<td>Products meeting the applicable requirements of the NSF/ANSI 14, including the referenced performance standards. Products that are used in pressure applications shall have an established hydrostatic design basis (HDB) or minimum required strength (MRS) for pressure rated applications. Products that are also to be used in Potable Water systems shall comply with NSF/ANSI Standard 61.</td>
</tr>
<tr>
<td>Industrial</td>
<td>industrial</td>
<td>Products meeting the applicable requirements of the NSF/ANSI 14, including the referenced performance standards. Products that are used in pressure applications shall have an established hydrostatic design basis (HDB) or minimum required strength (MRS) for pressure rated applications. No health effects evaluation is required.</td>
</tr>
</tbody>
</table>
The Marking shall not be misleading to the consumer concerning the end uses Certified by NSF. The Company shall not indicate an end-use application for which NSF has not evaluated and Certified the Product. For example, a Company may not indicate a potable water end use if NSF has evaluated and Certified the Product only for drain, waste, and vent end-use applications. However, the Company may indicate additional end-use applications without NSF evaluation if NSF does not have a program for evaluating and Certifying the Product for that end use.

Containers of Certified PVC primers shall not be labeled as primer/cleaners.

Certified materials and compounds are exempt from the requirement to bear the Mark on the container. The following information shall be provided with each shipment of Certified materials and compounds:

- Manufacturer;
- Material type;
- Trade designation; and
- Lot number or production code.

If a Company is known to have removed the Mark for any Certified or non-Certified product for any reason, NSF may make public notice.

Rationale – To add marking requirements for products listed for Geothermal, Industrial, and U.P. Code end-uses

AUDITS

PP – 7. Frequency of audits

The minimum number of production facility audits required each calendar year shall be based on the type of Product, and applies to all Certified Companies (domestic and international):

TABLE C

Production facility audits required per calendar year

<table>
<thead>
<tr>
<th>Product</th>
<th>Minimum Production Facility Audits Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable Water Pipe and Fittings, including Well Casing</td>
<td>3</td>
</tr>
<tr>
<td>DWV Pipe and Fittings</td>
<td>3</td>
</tr>
<tr>
<td>Solvent Cements</td>
<td>3</td>
</tr>
<tr>
<td>Gas Pipe</td>
<td>3</td>
</tr>
<tr>
<td>Radiant Floor Heating Pipe and Fittings</td>
<td>3</td>
</tr>
<tr>
<td>Special-Engineered Pipe and Fittings</td>
<td>3</td>
</tr>
<tr>
<td>PW PVC or CPVC Appurtenances and Valves</td>
<td>3</td>
</tr>
</tbody>
</table>
Credentialed production facilities shall have a minimum audit frequency of one (1) audit per year.

2 Production facilities participating in City of Los Angeles, CA Acceptance Program shall receive four (4) audits per year.

3 Production facilities with products accepted by an Evaluation Service shall be subject to the audit frequency specified by the Evaluation Service.

4 If the products are already listed for another end use that requires three annual audits, then, only one additional audit is required.

Annual audits for Certified PVC generic ingredient suppliers’ facilities are not required, but NSF may conduct audits, announced or unannounced, and collect samples as necessary to determine continued compliance with all NSF requirements.

**Rationale – Addition of audit requirements for Geothermal, Industrial, and U.P. Code end-uses and addition of Valves to Non PVC or CPVC Appurtenances**

**TESTING**

PP – 9. General requirements for testing

Unless otherwise specified, for initial Certification, representative samples of plastics piping system components, materials, and ingredients shall be tested against the applicable requirements for their intended end-use applications.

The following table indicates some of the Products that may be qualified through representative testing.

**TABLE D**

Representative testing eligibility (examples)
<table>
<thead>
<tr>
<th>Product</th>
<th>Qualified Against</th>
<th>By Testing Against **</th>
</tr>
</thead>
</table>
| PVC Pipe              | ASTM D2241
                       | ASTM D1785
                       | ASTM D2241 |
| PE Pipe               | ASTM D3035
                       | ASTM D2239
                       | ASTM D2737
                       | ASTM D2447
                       | ASTM F714
                       | ASTM D3035 |
| PE Pipe               | AWWA C901
                       | AWWA C906 |
| DWV Pipe              | ASTM D2665
                       | ASTM D2949
                       | AWWA C900 |
| CPVC Pipe             | ASTM F441
                       | ASTM F442
                       | ASTM F441 |
| PEX Fittings          | ASTM F877
                       | ASTM F1807
                       | ASTM F1906
                       | ASTM F1961
                       | ASTM F877 |
| PVC Fittings          | ASTM D2466
                       | ASTM D2467
                       | ASTM D2466 |
| CPVC Fittings         | ASTM F437
                       | ASTM F438
                       | ASTM F439
                       | ASTM F438 |
| PVC Fittings          | ASTM D2665
                       | ASTM D2949
                       | ASTM D2665 |
| PVC Pipe & Fittings   | AWWA C900
                       | AWWA C905
                       | AWWA C900 |

** Additional individual tests may be required

**Rationale** - Addition of product standards which may be ‘bracketed’ together for performance testing and certification

**PP – 11.** Certified Products not available for periodic testing

Certified materials produced at multiple facilities shall be available for testing from at least one (1) production facility within a two (2)-year period.

If Certified products, materials, ingredients, or in-facility compounds with requirements for periodic retesting are not available for testing for two (2) consecutive years, Certification of the family group shall be withdrawn, unless all of the following conditions are met:

- Client requests that a product family be maintained in NSF Listing.
• The client agrees to notify NSF before a production run, with sufficient notice for NSF to arrange an inspection, if necessary, to verify production and collect samples for testing. The sample shall be tested as the annual sample for that year.

• During subsequent annual inspections, NSF shall review production records for the product family to determine if production has occurred without NSF notification. If so, product shall be removed from NSF Listing, an administrative hearing shall occur, and a public notice may be issued.

• If there are any revisions to the applicable Standard(s), the product shall be re-qualified by the implementation date of the Standard revision. Products that fail to re-qualify by the implementation date shall be removed from Listing.

Production facilities participating under this plan who have only one (1) family for physical and chemical testing may be (at the discretion of NSF International) reduced to one annual audit.

Products may remain in Listing without being produced for a maximum of five years, at which time they shall be removed from Listing.

Rationale - Clarification on auditing requirements for facilities which may have only one performance and chemical family in listing.

PP – 14. Product testing – Marginal or Out of Roundness (OOR) dimensional failures

If a product does not meet the Critical Dimensional requirement of the applicable standard or Special Engineered Specifications (whichever is appropriate), and the dimensional variation is equal to or less than 0.002”, it is considered to be a Marginal failure. An OOR failure is determined by measuring to the applicable product standards or Special Engineered Specifications (whichever is appropriate). In these cases:

• NSF shall continue with full performance testing;
• NSF shall notify the Company of the marginal or OOR failures; and
• The Company shall submit samples of the same product for dimensioning by NSF.

If a second Marginal failure or OOR occurs, NSF shall conduct a special audit for reviewing the manufacturer’s stated corrective actions and to collect samples for full performance testing. If a failure of any parameter occurs, the product shall be dropped from Certification.

Dimensional Retest samples shall receive full testing under the applicable requirements of NSF/ANSI Standard 14 and the applicable referenced standards, (i.e., not testing only for the parameters that initially failed) with the following exceptions:

• If the average bottom or entrance diameter of fitting exceeds the tolerance by 0.002” or less.
• If the average outside diameter of a pipe exceeds the tolerance by 0.002” or less.
• Out of Roundness if the pipe exceeds the tolerance by 15% or less.

In these cases:
• NSF shall continue with full performance testing;
• NSF shall notify the Company of the marginal or OOR failures; and
• The Company shall submit samples of the same product for dimensioning by NSF.

If a second Marginal failure or OOR occurs, NSF shall conduct a special audit for reviewing the manufacturer’s stated corrective actions and to collect samples for full performance testing. If a failure of any parameter occurs, the product shall be dropped from Certification.

**Rationale – Clarification of Marginal and OOR failure process**

**PP – 19. Stabilizer Functionality Requirements for PEX Tubing and PEX Materials**
The Stabilizer Functionality test shall be required on each material. For initial certification of a PEX pipe at an additional production location, the stabilizer functionality test may not be required if using the same PEX material and processes as original listed production location.  
**Rationale – Clarify Stabilizer Functionality requirements for pipe producers utilizing the same PEX material at additional production locations.**

**CONFIDENTIAL INFORMATION REQUIRED FOR CERTIFICATION**

**PP – 26. Lead**
There shall be no lead as an intentional ingredient in plastic piping, plastic fittings, or plastic material products Certified to NSF/ANSI Standard 14 for potable water applications contacting drinking water.

**Rationale – Clarification of GP-61.**

**ENFORCEMENT**

**PP – 26. Use of unauthorized materials, compounds, or ingredients**
Upon determination by NSF that a Certified Product contains an unauthorized material, compound, or ingredient, the Product in inventory shall be held until released in writing by NSF. Other appropriate action may be taken by NSF, including, but not limited to, requiring a Product recall and/or issuing a public notice.

• A first occurrence may result in the Product being held until the material, compound, or ingredient is authorized for use;
• A recurrence within a period of two years may result in an administrative hearing; and
• A third occurrence within a period of two years may result in withdrawal of Certification for all Products for the production location.

**Rationale – Policy is covered by General Policy 42**

**SPECIAL POLICIES**
FEES

PP – 40. Inspection fees for Certified Companies
The fee for the first and any applicable fourth annual audits shall be included in the annual invoice sent to the Company in December for the following year of service. The fee for the second annual audit shall be invoiced in May; the fee for the third annual audit shall be invoiced in September.

PP – 41. Testing fees for Certified Companies
Fees for all required annual performance, label verification (solvent cements), and RCVM testing shall be included in the annual invoice sent to the Company in December for the following year of service. Required annual chemical extraction testing shall be invoiced after services are rendered. All qualification, retest, and special testing shall be invoiced at the beginning of, during, or after services are rendered, unless NSF agrees otherwise.

Rationale – Policies 40 & 41 moved to Policies 74 & 75. No changes made to either Policy.

PLASTICS PRESSURE AND/OR POTABLE WATER PIPING SYSTEMS COMPONENTS AND MATERIALS

PP – 42. Periodic retesting of in-facility compounds for physical properties
Periodic retesting of in-facility compounds for physical properties is not required if the compound is Listed on PPI TR-4 against the requirements of current version of PPI TR-3.

Rationale - Editorial

PP – 48. Addition of ingredients in the PPI PVC range formulation
To qualify additional ingredients in the PPI PVC range formulation, the Company shall submit to NSF a written request specifying the ingredients’:

- Source;
- Trade designation;
- Chemical description;
- Function; and
- Proposed use level or use level range.

Prior to NSF authorizing the ingredient for use in the formula, the Company shall provide a copy of written authorization from the Chairman of the PPI HSB to verify conformance with PPI Technical Report (TR-3), Part Y TR-2 as required in NSF/ANSI Standard 14.

Upon satisfactory completion of all requirements, NSF shall authorize use of the ingredients and update the formulation, and may notify all authorized users.

For qualification of an alternate PVC resin, testing shall be required on three (3) samples of compound and pipe that contain the proposed alternate resin with three (3) different
combinations of ingredients specified in the formulation. The three (3) compound samples shall be tested by NSF to verify conformance with the physical properties requirements of NSF/ANSI Standard 14 and the applicable referenced standards. The three (3) pipe samples shall be tested to verify conformance to performance requirements of NSF/ANSI Standard 14 and the applicable referenced standards. A single sample of the PVC material in pipe or plaque form shall be tested for the potable water requirements of NSF/ANSI Standard 14 for chemical extraction and RVCM.

To qualify an alternate heat stabilizer, process aid, impact modifier, or liquid colorant, testing shall be required on three (3) samples of compound and one (1) of pipe that contain the ingredient of interest at the maximum use level. Each of the samples shall contain a different resin and other ingredients specified in the formulation. The compound sample shall be tested by NSF to verify conformance with the physical properties requirements of NSF/ANSI Standard 14 and applicable referenced standard(s). The pipe sample shall be tested by NSF to verify conformance to performance requirements of NSF/ANSI Standard 14 and the applicable referenced standards. A single sample of the PVC material in pipe or plaque form shall be tested by NSF to verify conformance with the potable water requirements of NSF/ANSI Standard 14 for chemical extraction and RVCM.

To qualify an alternate calcium carbonate, paraffinic hydrocarbon wax, oxidized polyethylene wax, calcium stearate, titanium dioxide, or dry colorant, testing may be required of one (1) sample each of compound and pipe that contain the ingredient of interest at the maximum use level, and contain other ingredients specified in the formulation. The compound sample shall be tested by NSF to verify conformance with the physical properties requirements of NSF/ANSI Standard 14 and applicable referenced standards. The pipe sample shall be tested by NSF to verify conformance with the performance requirements of NSF/ANSI Standard 14 and the applicable referenced standards. A single sample of PVC material in pipe or plaque form shall be tested by NSF to verify conformance with the potable water requirements of NSF/ANSI Standard 14 for chemical extraction and RVCM. Ingredient packages (combinations of ingredients marketed as a designated ingredient or non-liquid colorant) or other ingredients may be added to the formulation. The requirements shall be developed in response to each request.

A new ingredient may be added based on similarity to an existing ingredient provided that the similar ingredient is produced by the same Company and that it is determined that the extraction is likely to be similar during the formulation review.

NSF shall maintain a current copy of the formulation, and once a year shall provide a copy to all authorized users. Companies utilizing the range formula shall bear the cost of issuing a revised formula.

Whenever an ingredient is added to the formulation, NSF shall send the qualified Ingredient Supplier a supplement to the Range Formula and may send a copy to all authorized users at the request of the ingredient supplier. The ingredient supplier shall bear the cost associated with the distribution of this copy.

**Rationale - Clarification of requirements**

**PP – 49. Use of Certified generic ingredients in PVC and CPVC materials and compounds**

A Certified ingredient (e.g., calcium carbonate, calcium stearate, paraffinic hydrocarbon wax, polyethylene wax, titanium dioxide) may be substituted for a generically similar
ingredient in PVC or CPVC materials or compounds. The use level of the ingredient shall be in accordance with the formulation, and shall not exceed the maximum use level indicated in the Official Listing for the designated ingredient.

*Rationale* - CPVC added as an acceptable material or compound for the use of Certified Generic Ingredients

**PP – 50.** Physical properties testing of PVC and CPVC range compounds for pressure applications

Physical properties testing of the maximum range compound shall be required for a Company to be authorized to use a PVC range formulation.

Physical properties testing may be required on the minimum range compound if the proposed additive use levels are less than those established below:

<table>
<thead>
<tr>
<th>Additive</th>
<th>Minimum Use Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilizer</td>
<td>0.3 Phr</td>
</tr>
<tr>
<td>Calcium stearate</td>
<td>0.4 Phr</td>
</tr>
<tr>
<td>Paraffin wax</td>
<td>0.6 Phr</td>
</tr>
</tbody>
</table>

*Rationale* – To include CPVC materials within the scope of this policy

**PP – 52.** Marking PE PW pipe as PE 3406/3408

PE pipe shall not be Certified or marked as PE 3406/3408 unless it is produced from a Certified PE 3408 compound and marked in accordance with all requirements for both PE 3406 and PE 3408.

*Rationale* – Marking requirements of PE pipe are identified by the performance standard the product is certified against

**CHLORINE RESISTANCE OF PLASTIC PIPING MATERIALS**

**PP – 52.** Periodic testing of Certified plastic pipe for chlorine resistance

For continued Certification and authorization, plastic pipes shall be tested every three years per PP-56 requirements.

*Rationale* – Editorial – moved to maintain numbering sequence of PP – 54 and PP – 55

**PP – 53.** Substitution of ingredients from one compound to another

If two or more compounds (i.e., different resins) have been tested fully to the protocol requirements, the additives used with each resin may be interchanged with the other resin(s) at the same use level, provided that the new material meets the requirements of PP-55.

Example:

- Compound 1 = Resin R1 + Stabilizer S1 (full testing to protocol)
- Compound 2 = Resin R2 + Stabilizer S2 (full testing to protocol)
Compound 3 = Resin R1 + Stabilizer S2 (reduced testing to PP-56)
Compound 4 = Resin R2 + Stabilizer S1 (reduced testing to PP-56)

**Rationale – Editorial – moved to maintain numbering sequence of PP – 54 and PP – 55**

**PP – 56. Ingredient changes – colorants, catalysts, and carrier resins**

The level of a colorant may be changed within the range of −100% to +50% of the original use level without need for further testing, provided that the original colorant use level in the tested formulation is less than or equal to 0.5%.

One colorant may be substituted for another provided that the alternate colorant is of the same chemical class as the original colorant (e.g., diazocondensation, ultramarine violet, or blue), has physical characteristics (e.g., particle size and size distribution) similar to those of, and is not reactive with, the base resin.

Substitution of different colorants at use levels less than or equal to 0.5% shall be evaluated per PP-55. If the different colorants are of the same general class (e.g., metal salts), the five data points in PP-55 could be a combination of the colorants, e.g., three data points with one colorant and two data points with the other colorant. If different colorants are used, each colored pipe shall be tested in accordance with PP-55, unless otherwise specified by NSF.

For the purposes of this policy, carbon black is not considered a colorant, and changes must be addressed via PP-55.

Colorant changes not meeting the requirements of this policy will be evaluated as to the applicability of PP-55 or complete testing.

**Rationale – Added for clarification**

**PP – 57. Substitution of ingredients from one compound to another**

If two or more compounds (i.e., different resins) have been tested fully to the protocol requirements, the additives used with each resin may be interchanged with the other resin(s) at the same use level, provided that the new material meets the requirements of PP-55.

**Example:**

Compound 1 = Resin R1 + Stabilizer S1 (full testing to protocol)
Compound 2 = Resin R2 + Stabilizer S2 (full testing to protocol)
Compound 3 = Resin R1 + Stabilizer S2 (reduced testing to PP-56)
Compound 4 = Resin R2 + Stabilizer S1 (reduced testing to PP-56)

**Rationale – Editorial – moved to maintain numbering sequence of PP – 54 and PP – 55**

**PP – 58. Periodic testing of Certified plastic pipe for chlorine resistance**

For continued Certification and authorization, plastic pipes shall be tested every three years per PP-56 requirements.
Rationale: Editorial, moving policy in order to maintain numbering sequence for Policies 54 and 55

FEES

PP – 73. Inspection fees for Certified Companies
The fee for the first and any applicable fourth annual audits shall be included in the annual invoice sent to the Company in December for the following year of service. The fee for the second annual audit shall be invoiced in May; the fee for the third annual audit shall be invoiced in September.

PP – 74. Testing fees for Certified Companies
Fees for all required annual performance, label verification (solvent cements), and RCVM testing shall be included in the annual invoice sent to the Company in December for the following year of service. Required annual chemical extraction testing shall be invoiced after services are rendered. All qualification, retest, and special testing shall be invoiced at the beginning of, during, or after services are rendered, unless NSF agrees otherwise.

Rationale - Moved from Policies 40 & 41 to Policies 75 & 76. No changes made to either policy.

JOINING MATERIALS

PP – 76. Formulation verification failure
Annual monitoring samples that fail formulation verification shall be tested against the appropriate Product performance standard, and may be tested against the chemical extraction requirements of NSF/ANSI Standard 61 (if Certified for potable water applications). If the sample fails to meet the performance or health effects requirement, a retest sample shall be collected for formulation verification, performance testing, and chemical extraction. If any of the retest samples fails, the product shall be removed from the Listing.

When there is an annual formulation verification failure, the following shall take place:

- Special audit for recollection of samples for testing
- Performance testing against the applicable performance standard,
- Review of the results of the formulation verification to determine if chemical extraction testing is required.

Should the solvent cement fail either the performance or any required chemical extraction testing, then:

- A second special audit shall occur for the collection of test samples,
- Performance testing will be performed against the applicable performance standard,
- Chemical extraction testing will be performed
- Formulation verification will be performed

Should the solvent cement fail for any of these parameters then the product (and all bracketed products) shall be removed from listing
Rationale – Reworded Policy for clarification. No changes made in the scope of the Policy.

ELECTRICAL CONDUIT PIPE AND FITTINGS

PP – 78. Qualification testing for PVC and PE conduit pipe and fittings
To become qualified for Electric Conduit Certification, PVC and PE pipe and fittings shall be tested against the requirements of UL 651 and the applicable performance standards.

PP – 79. In-plant quality control testing for PVC and PE electrical conduit pipe

<table>
<thead>
<tr>
<th>PVC Conduit Pipe</th>
<th>Samples</th>
<th>8 hour shift</th>
<th>12 hour shift</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>3 Specimen</td>
<td>Every 4 hours</td>
<td>Every 6 hours</td>
<td>UL 651A</td>
</tr>
<tr>
<td>Crush Test</td>
<td>3 Specimen</td>
<td>Every 4 hours</td>
<td>Every 6 hours</td>
<td>UL 651A</td>
</tr>
<tr>
<td>Impact Test</td>
<td>10 Specimen</td>
<td>Every 4 hours</td>
<td>Every 6 hours</td>
<td>UL 651A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PE Conduit Pipe</th>
<th>Samples</th>
<th>8 hour shift</th>
<th>12 hour shift</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>3 Specimen</td>
<td>Every 4 hours</td>
<td>Every 6 hours</td>
<td>UL 651B</td>
</tr>
<tr>
<td>Crush Test</td>
<td>3 Specimen</td>
<td>Every 4 hours</td>
<td>Every 6 hours</td>
<td>UL 651B</td>
</tr>
<tr>
<td>Impact Test</td>
<td>10 Specimen</td>
<td>Every 4 hours</td>
<td>Every 6 hours</td>
<td>UL 651B</td>
</tr>
</tbody>
</table>

PP – 80. Periodic testing of Certified PVC and PE electrical conduit pipe
For continued Certification and authorization, PVC and PE conduit pipes shall be tested once annually to verify conformance to the performance requirements of the applicable standards.

Geothermal Applications

PP – 81. General Requirements for Geothermal Applications

Products certified for Geothermal applications shall meet the following requirements:
- PPI Statement Q for PE pipe
- Compliance with a current performance standard referenced in Section 2 of NSF/ANSI Standard 14
- Pipe products that are used in pressure applications shall have an established hydrostatic design basis (HDB) or minimum required strength (MRS) for pressure rated applications
- Compliance with Section 4 of NSF/ANSI Standard 61 for products that are used in Potable Water systems as required by the performance standard
- Optional requirement – chemical resistance test

Rationale – To establish the minimum listing requirements for Geothermal applications