

PLEASE ADDRESS ANY CORRESPONDENCE TO WATER SUPPLY (NETWORK) DEPARTMENT

Your Ref :

Our Ref : WSN 92413/90/202104/PP

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Date : 1 Mar 2021

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To water fittings suppliers, testing laboratories, Singapore Sanitary Ware Importers & Exporters Association (SSWIEA), Singapore Plumbing Society (SPS), Professional Engineers and Licensed Plumbers.

Dear Sir/Madam

### **UPDATED PUB'S STIPULATION OF STANDARDS AND REQUIREMENTS FOR POLYPROPYLENE PIPES & FITTINGS FOR WATER SERVICE INSTALLATIONS**

Currently, polypropylene (PPR) pipes and pipe fittings for water service installations shall be tested to comply with the current stipulations in the PUB's Stipulation of Standards & Requirements for Water Fittings (PUB S&R) before they are allowed for supply or offer, display or advertise for supply in Singapore.

2. We wish to inform you that **with effect from 1 Mar 2022 (date of test reports)**, only polypropylene pipes and pipe fittings which have been tested to comply with ISO 15874: Parts 2, 3 & 5:2013 and met the requirements as stipulated by PUB in the attached **Appendix**, shall be allowed for supply or offer, display or advertise for supply for water service installations in Singapore.

3. All polypropylene pipes and pipe fittings which have been tested to the current stipulations in the PUB S&R can continue to be supplied **until 28 Feb 2022**. With effect from 1 Mar 2022, such pipes and pipe fittings shall no longer be allowed for supply in Singapore.

4. Polypropylene pipes and pipe fittings which have been tested **before 1 Mar 2022 (date of test report)** and met the requirements in the Appendix, can be offered, displayed or advertised for supply in Singapore. The updated stipulations will be incorporated in the PUB S&R which is downloadable from PUB's website at <https://www.pub.gov.sg/compliance/watersupplyservices/standards> under Fittings & Standards webpage.

5. We wish to remind that a water fitting is deemed to comply with the stipulated Standards if it is tested as complying with such Standards by a testing laboratory accredited by the Singapore Accreditation Council (SAC) or its Mutual Recognition Arrangement (MRA) partners. For more information, please visit SAC's website at [www.sac-accreditation.gov.sg](http://www.sac-accreditation.gov.sg). Test reports issued by a testing laboratory accredited by the SAC or its MRA partners must bear the SAC-SINGLAS mark or the mark of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC-MRA) respectively. Please note that PUB will not accept any test report issued by a testing laboratory (notwithstanding that the testing laboratory is accredited by the

SAC or its MRA partners) if the test report or certificate does not bear the SAC-SINGLAS mark or the mark of the ILAC-MRA partner.

6. The above-mentioned water fitting must be supported with valid, complete and full test reports. Suppliers shall ensure that the test reports of water fittings which they offer-for-sale, advertise, display, sell or supply are properly kept and must be produced for verification upon request by PUB. PUB continues to conduct checks and will take action against non-compliance.

7. A copy of this circular is also downloadable from PUB's website at <https://www.pub.gov.sg/compliance/industry/circulars>. Please disseminate this circular to your relevant staff, members, distributors, retailers and other industry partners for their information and compliance. If you have any queries concerning this circular or need further clarification or assistance, please do not hesitate to email to [pub\\_waterfittings@pub.gov.sg](mailto:pub_waterfittings@pub.gov.sg) or email to any of the officers listed below.

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Yours faithfully



**NORYATI ABDULLAH**  
**SENIOR ENGINEER (INSPECTORATE)**  
 for DIRECTOR  
 WATER SUPPLY (NETWORK) DEPARTMENT

Enclosed.

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## Appendix

**PUB's Stipulated Standards and Requirements for Polypropylene (PP) Pipes and Pipe Fittings for Potable Water Use**

Standard(s) to comply with.	Requirements/Tests for Polypropylene Pipes and Fittings
<p><b>ISO 15874-2:2013</b></p> <p>Plastics piping systems for hot and cold water installations — Polypropylene (PP) — Part 2: Pipes</p>	<p>Material</p> <p>General characteristics:</p> <ul style="list-style-type: none"> <li>-Appearance</li> <li>-Opacity</li> </ul> <p>Geometrical characteristics:</p> <ul style="list-style-type: none"> <li>-Dimensions</li> <li>-Outside diameters</li> <li>-Wall thickness and tolerances</li> </ul> <p>Mechanical characteristics:</p> <ul style="list-style-type: none"> <li>-Resistance to internal pressure</li> </ul> <p>Physical and chemical characteristics:</p> <ul style="list-style-type: none"> <li>-Longitudinal reversion test</li> <li>-Thermal stability by hydrostatic pressure test</li> <li>-Impact resistance test</li> <li>-Melt flow rate (compound)</li> <li>-Melt flow rate (pipe)</li> </ul> <p>Performance requirements</p> <p><i>“When pipes conforming to this part of ISO 15874 are jointed to each other or to components conforming to ISO 15874-3, the pipes and the joints shall conform to ISO 15874-5.”</i></p> <p>Marking</p>
<p><b>ISO 15874-3:2013</b></p> <p>Plastics piping systems for hot and cold water installations — Polypropylene (PP) — Part 3: Fittings</p>	<p>Material characteristics:</p> <ul style="list-style-type: none"> <li>-Plastics fitting material</li> <li>-Metallic fitting material</li> </ul> <p>-Influence on water intended for human consumption. Please refer to PUB's stipulated standards &amp; requirements for non-metallic and metallic materials in contact with water.</p> <p>General characteristics:</p> <ul style="list-style-type: none"> <li>-Appearance</li> <li>-Opacity</li> </ul> <p>Geometrical characteristics:</p> <ul style="list-style-type: none"> <li>-Dimensions</li> <li>-Angles</li> </ul>

	-Threads
	Mechanical characteristics of plastics fittings
	Physical and chemical characteristics of plastic components
	Sealing elements
	Performance requirements <i>“When fittings conforming to this part of ISO 15874 are jointed to pipes conforming to ISO 15874-2, the fitting and the joints shall conform to ISO 15874-5. Intended combinations of materials of pipes and fittings, e.g. PP-RCT pipes and PP-R fittings, shall be given in the manufacturers documentation.”</i>
	Marking
<b>ISO 15874-5:2013</b> Fitness for purpose of the system	<b>Performance of joint assemblies</b> - Internal pressure test - Bending test - Pull out test - Thermal cycling test - Pressure cycling test - Leak tightness under vacuum test
Additional requirements to comply with:	
<ol style="list-style-type: none"> <li>1. For Polypropylene (PPR) pipes and joint fittings which are to be laid concealed, any leaks along such pipes and joint fittings shall be detectable using commonly available devices. The supplier of such pipes and fittings shall ensure after sales service in terms of provision of equipment and trained personnel for pipe location and leak detection.</li> <li>2. All materials and associated parts shall also comply with the prevailing stipulated standards and requirements in <u>Clause 4</u> of the PUB S&amp;R which is downloadable from PUB's website at <a href="https://www.pub.gov.sg/compliance/watersupplyservices/standards">https://www.pub.gov.sg/compliance/watersupplyservices/standards</a> under Fittings &amp; Standards Webpage.</li> <li>3. Suppliers/manufacturers are strongly recommended to adopt the requirements/guidance on Type testing (including change in design, material, production methods, extension of product range, etc.) and Sampling as stipulated in ISO 15874-7:2018 <i>Plastics piping systems for hot and cold water installations — Polypropylene (PP) Part 7: Guidance for the assessment of conformity</i>.</li> <li>4. Suppliers/manufacturers shall ensure the traceability of the specified size, types (e.g. PN rating, etc.) of PPR pipes and fittings they supply for potable water use and are required to maintain and keep proper records of the distributors, retailers, sellers, plumbing companies and any other persons/companies and the batch identification of these pipes and fittings.</li> </ol> <p>Please also see PUB's Circular dated 1 Mar 2021 - "Updated PUB's Stipulated Standards &amp; Requirements for Polypropylene (PP) Pipes &amp; Fittings" which is downloadable from PUB's website at <a href="https://www.pub.gov.sg/compliance/watersupplyservices/standards">https://www.pub.gov.sg/compliance/watersupplyservices/standards</a>.</p>	