

Your Ref :

Our Ref : WSN 92413/90/202301/COPPERALLOY

Date : 1 Mar 2023

To water fitting suppliers, test laboratories, Singapore Sanitary Ware Importers & Exporters' Association (SSWIEA), Singapore Plumbing Society (SPS), Licensed Plumbers, Professional Engineers and relevant government agencies and associations.

Dear Sir/Madam

(A) PHASING-OUT OF SALE AND SUPPLY OF COPPER ALLOY GRADES CW602N, CW709R AND CC491K WATER FITTINGS FOR POTABLE WATER FOR USE

(B) NEW COPPER ALLOY WATER FITTINGS ACCEPTABLE FOR POTABLE WATER USE AND THE TESTING REQUIREMENTS

Currently, under the PUB Stipulation of Standards & Requirements of Water Fittings (PUB S&R), copper alloy water fittings, except exposed terminal fittings, for use in water service installations shall be of the following grades:

- a) DZR brass grades CW511L, CW602N, CW625N, CW626N, CW709R, CW724R, CW725R; and
- b) Bronze & gunmetal (e.g. grade CC491K).

2. As part of tightening the requirements on the use of copper alloy water fittings, PUB had consulted the industry in June/July 2022 on phasing-out the 3 copper alloy grades of water fittings namely CW602N, CW709R and CC491K from sale and supply in Singapore, to align with other countries' practices on copper alloys suitable for potable water use. We have reviewed and would like to inform you on the following implementation plans and testing requirements:

- a) **With effect from 1 Mar 2027 (i.e. 4 years from the date of this circular)**, all existing copper alloy water fittings of grades **CW602N, CW709R** and **CC491K** will no longer be allowed for supply in Singapore. This duration is to allow existing copper alloy water fittings of such grades to be cleared from the market.
- b) **With effect from 1 Mar 2023 (based on date of test reports)**, all new copper alloy water fittings except for exposed terminal fittings such as taps/mixers, shall comply with the following:
 - i. The copper alloys that are acceptable for use in contact with potable water shall be of any grade which are listed in the "**Common Approach on Metallic Materials Part B: Positive List of Compositions**". The listing can be downloaded from the Umweltbundesamt's website at <https://www.umweltbundesamt.de/en/topics/water/drinking-water/distributing-drinking-water/approval-harmonization-4ms-initiative#publication-of-common->

approaches. For your information, the existing copper alloy grades such as CW511L, CW625N, CW626N, CW724R and CW725R are currently covered in this listing.

Please scan the QR code below to go to the above website.



<https://go.gov.sg/6c6ccs>

- ii. The copper alloy shall be tested for compliance with the following test standards/methods:
- 1) Chemical composition analysis;
 - 2) AS/NZS 4020:2018 Appendix H on Extraction of metals; and
 - 3) Dezincification resistant test (DZR) under ISO 6509-1:2014 and ISO 6509-2:2017, if applicable. Suppliers/manufacturers are advised to consult the accredited test laboratory whether the DZR test is applicable for their copper alloy grade.
- c) New copper alloy water fittings of grades CW602N, CW709R and CC491K which are tested after 1 Mar 2023 (based on date of test reports) will be allowed for supply until end February 2027.

Please refer to the Table below for your easy reference.

Allowed for supply between 1 March 2023 to end February 2027	Allowed for supply from 1 March 2027 onwards
<ul style="list-style-type: none"> • Copper alloy grades : CW511L, CW602N, CW625N, CW626N, CW709R, CW724R, CW725R, CC491K, bronze and gunmetal <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • Copper alloy grades as listed in the 4MSI Positive List of Compositions 	<p>Copper alloy grades as listed in the 4MSI Positive List of Compositions (which also covers CW511L, CW625N, CW626N, CW724R and CW725R)</p>

3. For avoidance of doubt, a water fitting shall be deemed to comply with the stipulated standards if it is tested by a testing laboratory accredited by the Singapore Accreditation Council (SAC) or its Mutual Recognition Arrangement (MRA) partners. 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.

4. A copy of this circular can also be downloaded from PUB's website at www.pub.gov.sg. 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

5. Please contact me or email to pub_waterfittings@pub.gov.sg if you have any clarifications. Please indicate PUB's Circular Reference No. and the date in your email enquiry.

Yours faithfully



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

cc Distribution list – via email only

No	Name of agency/organisation	Business Address	Addressee
1	President Institution Of Engineers, Singapore (IES)	70 Bukit Tinggi Road Singapore 289758	ies@iesnet.org.sg rickie.teo@iesnet.org.sg
2	President Association Of Consulting Engineers, Singapore (ACES)	18 Sin Ming Lane #06-01 Midview City, Singapore 573960	secretariat@aces.org.sg
3	President Singapore Contractors Association Limited (SCAL) Construction House	1 Bukit Merah Lane 2 Singapore 159760	esther@scal.com.sg huiqin@scal.com.sg enquiry@scal.com.sg
4	President Singapore Institute Of Architects (SIA)	79 Neil Road Singapore 088904	cijc@sia.org.sg info@sia.org.sg
5	President Society Of Project Managers (SPM)	Macpherson Road P.O. Box 1083 Singapore 913412	societyofprojectmanagers@gmail.com
6	President Singapore Institute of Building Limited (SIBL)	20 Maxwell Road, #08-06 Maxwell House Singapore 069113	josephine@sibl.com.sg info@sibl.com.sg
7	President Real Estate Developers' Association of Singapore (REDAS)	190 Clemenceau Avenue #07-01 Singapore Shopping Centre Singapore 239924	redas_secretariat@redas.com geoklee@redas.com celine@redas.com
8	President Professional Engineers Board, Singapore (PEB)	52 Jurong Gateway Road #07-03 Singapore 608550	registrar@peb.gov.sg
9	President Board Of Architects (BOA)	5 Maxwell Road 1st Storey Tower Block MND Complex Singapore 069110	boarch@singnet.com.sg
10	Infrastructure and Facility Services Division School Campus Department Ministry Of Education	1 North Buona Vista Drive, Office Tower Level 9 Singapore 138675	CHOO_Boon_Chiao@moe.gov.sg
11	Building Quality Group Construction Productivity and Mechanical & Electrical Department Housing & Development Board	480 Lorong 6 Toa Payoh #15-00 East Wing HDB Hub Singapore 310480	ng_hoe_khuen@hdb.gov.sg freddy_ys_tan@hdb.gov.sg doreen_hl_lim@hdb.gov.sg
12	Engineering & Operations Group Projects Management JTC Corporation	8 Jurong Town Hall Road The JTC Summit Singapore 609434	TEO_Tiong_Yong@jtc.gov.sg
13	Engineering & Operations Group Facilities & Estates JTC Corporation	9 Jurong Town Hall Road The JTC Summit Singapore 609435	mark_koh@jtc.gov.sg
14	Engineering & Operations Group Engineering JTC Corporation	10 Jurong Town Hall Road The JTC Summit Singapore 609436	Calvin_CHUNG@jtc.gov.sg

No	Name of agency/organisation	Business Address	Addressee
15	Building & Estates Management People's Association	9 King George's Avenue Singapore 208581	David_LOW@pa.gov.sg
16	Building Engineering Division Building And Construction Authority	52 Jurong Gateway Road, #12-00 Singapore 608550	CHEW_Keat_Chuan@bca.gov.sg
17	Training & Professional Development BCA Academy Of The Built Environment Building And Construction Authority	200 Braddell Road Singapore 579700	Leong-Kok_Su_Ming@bca.gov.sg
18	The Secretariat Office Micro Builders Association, Singapore	info@om18 Sin Ming Lane, #02-08, Midview City, Singapore 573960	info@imbias.org.sg
19	Setsco Services Pte Ltd	531 Bukit Batok Street 23 Singapore 659547	yusoof@setsco.com chenyu@setsco.com ngds@setsco.com tcchung@setsco.com
20	TUV SUD PSB Pte Ltd	15 International Business Park TÜV SÜD @ IBP Singapore 609937	ming-yang.cha@tuvsud.com Emily.MOK@tuvsud.com benjamin.tan@tuvsud.com
21	Singapore Laboratory Services	64 Tuas South Ave 2 Singapore 637525	jimmy.lee@sls-singapore.sg leechoong.chua@sls-singapore.sg
22	Singapore Test Lab Pte Ltd	10B Enterprise Road Singapore 629828	chuapc@singaporetestlab.sg gohsl@singaporetestlab.sg
23	President Singapore Sanitary Ware Importers & Exporters Association (SSWIEA)	61 Ubi Road 1 #02-02, Oxley Bizhub Singapore 408727	president@sswiea.org.sg secretary@sswiea.org.sg st@sswiea.org.sg
24	President Singapore Plumbing Society (SPS)	3027A Ubi Road 3 #01-94 Singapore 408656	president@plumbing.org.sg secretary@plumbing.org.sg
25	SGS Testing & Control Services Singapore Pte Ltd	3 Toh Tuck Link #01-02/03 Singapore 596228	Christopher.Hee@sgs.com
26	Intertek Testing Services (Singapore) Pte Ltd	5 Pereira Road Asiawide Industrial Building, #06-01 Singapore 368025	henry.lim@intertek.com KengChuan.Ong@intertek.com
27	Centre Testing International Pte Ltd	Blk 10 Ubi Crescent Ubi Teckpark (Lobby B), #03-26 Singapore 408564	donquek@cti-cert.com
28	UL International - Singapore Pte Ltd	20 Kian Teck Lane #01-00PT Singapore 627854	AryanJosef.Basas@ul.com
29	Nutek Certifications Limited	19/F, BLOCK A, Universal Industrial Centre, 23-25 Shan Mei Street Fo Tan, Hong Kong	patricklee@nutek.co
30	Nutek Systems (SG) Pte. Ltd.	68 Circular Road #02-01 Singapore 049422	adrienlee@nutek.co