



WATER SERVICES
ASSOCIATION OF AUSTRALIA

Strongcast Pty Ltd

PRODUCT APPRAISAL REPORT 2023

Brass Water Meter Fittings for Property Service Applications

AS 4129:2008: Fittings for polyethylene (PE) pipes for pressure applications

Published: 11 June 2020

Document History

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Peer Reviewers

Name/Title	Organisation	Date
Product Appraisal Technical Advisory Group	WSAA	10 June 2020
WSAA Expert Panel	WSAA	10 June 2020
Peter Pittard, WSAA Consultant	WSAA	27 May 2020
Carl Radford, Product Appraisal Manager	WSAA	10 June 2020

Overview of WSAA

The Water Services Association of Australia (WSAA) is the peak industry body representing the urban water industry. Our members provide water and sewerage services to over 20 million customers in Australia and New Zealand and many of Australia's largest industrial and commercial enterprises.

Based around our vision of 'customer driven, enriching life', WSAA facilitates collaboration, knowledge sharing, networking and cooperation within the urban water industry. We are proud of the collegiate attitude of our members which has led to industry-wide approaches to national water issues.

WSAA can demonstrate success in the standardisation of industry performance monitoring and benchmarking, as well as many research outcomes of national significance. The WSAA Executive retains strong links with policy makers and legislative bodies and their influencers, to monitor emerging issues of importance to the urban water industry.

WSAA was formed in 1995 as a non-profit organisation to foster the exchange of information between industry, government and the community, and to promote sustainable water resource management.

The urban water industry is committed to anchoring its services to customers' values, and to enrich communities where water services have broad economic, environmental and social values. In line with this our main activities focus on four areas:

1. influencing national and state policies on the provision of urban water services and sustainable water resource management
2. promoting debate on environmentally sustainable development and management of water resources and the community health requirements of public water supplies
3. improving industry performance and establishing benchmarks and industry leading practices for water service processes; and
4. fostering the exchange of information on education, training, research, water and wastewater management and treatment and other matters of common interest.

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1 EXECUTIVE SUMMARY

Strongcast Pty Ltd is an Australian company focussed on design, development and supply of innovative products aimed specifically at improving infrastructure surrounding water meters and reducing water loss in the water industry. The company, established in 2011 and located in Brisbane, Queensland, is a specialist supplier of meter boxes, valves, fittings ancillary products and services for the water metering sector.

This appraisal is for a range of DN 15 and DN 20 brass water meter fittings for property service applications manufactured in compliance with AS/NZS 4129:2008 *Fittings for polyethylene (PE) pipes for pressure applications*.

The straight connectors incorporate a DN 25 PE compression joint one end with either a 1" meter female nut or a ¾" BSP nut on the other end. The 1" meter female nuts are suitable for joining to the male threads on a standard DN 20 domestic water meter, a DN 20 NSW/ACT water meter (which is different to other states) or a 1" BSP thread on a DN 20 domestic water meter for non-drinking water.

A water meter housing fitting is also included with a DN 25 PE compression joint on one end and a 1" male standard DN 20 domestic water meter thread on the other end.

The fittings are manufactured from dezincification resistant copper alloy and are rated as PN 16.

Strongcast offers a variety of Complete Meter Assembly Kits which incorporate the fittings included in this appraisal together with ball valves that are the subject of Product Appraisal No. 2024. See Appendix A for details of the kits.

Both Strongcast and the manufacturer of the brass fittings have ISO 9001:2015 certification.

The brass water meter fittings have ISO Type 5 ApprovalMark product certification.

The Strongcast brass water meter fittings described within this appraisal meet the requirements of WSA PS 247 *Metallic Bodied Mechanical Compression Joint Fittings for Pressure Applications with Polyethylene (PE) Pipe of Nominal Sizes DN 20 to DN 90 – Drinking Water Supply and Sewerage* and are therefore deemed as 'fit for purpose'

1.1 Recommendations

It is recommended that WSAA members, subject to any specific requirements of the member, accept or authorise Strongcast DN 15 and DN 20 brass fittings, as detailed in Section 4 of this report, for use in water meter assemblies for water supply applications, provided they are installed in accordance with WSAA Codes and the manufacturer's requirements, where specified.

2 THE APPLICANT

The applicant is Strongcast Pty Ltd.

2.1 The Supplier

Strongcast Pty Ltd is an Australian company focussed on design, development and supply of innovative products aimed specifically at improving infrastructure surrounding water meters and reducing water loss in the water industry. The company, established in 2011 and located in Brisbane, Queensland, is a specialist supplier of meter boxes, valves, fittings ancillary products and services for the water metering sector. The company received a Good Design Award for their Complete Meter Assembly Kit awarded by Good Design Australia in 2017. See the following link for further details: <https://good-design.org/projects/strongcast-meter-assembly-kit/>

More information about Strongcast is available at: <https://strongcast.com.au/>

2.2 The Manufacturer

Strongcast has requested that the identity of the manufacturer of their brass fittings remains commercial-in-confidence. The manufacturer's details including their ISO 9001:2015 licence is retained on file by WSAA.

3 THE PRODUCT

This appraisal is for a range of DN 20 brass water meter fittings for property service applications.

The straight connectors incorporate a DN 25 PE compression joint one end with either a 1" meter female nut or a ¾" BSP nut on the other end. The 1" meter female nuts are suitable for joining to the male threads on a standard DN 20 domestic water meter, a DN 20 NSW/ACT water meter (which is different to other states) or a 1" BSP thread on a DN 20 domestic water meter for non-drinking water.

A water meter housing fitting is also included with a DN 25 PE compression joint on one end and a 1" male standard domestic water meter thread on the other end.

The fittings are manufactured from dezincification resistant copper alloy and are rated as PN 16.

Strongcast offers a variety of Complete Meter Assembly Kits which incorporate the fittings included in this appraisal together with ball valves that are the subject of Product Appraisal No. 2024. See Appendix A for details of the kits.

The brass fittings are generally utilised as part of the water meter kits, however may also be purchased individually or in conjunction with associated ball valves.

Strongcast also offers a range of ISO Type 5 product certified fittings that include a maintainable dual check valve; however, these fittings are not included in the scope of this appraisal.

4 SCOPE OF THE APPRAISAL

The brass water meter fittings included in this appraisal are detailed in Table 1 and Figure 1 and are included in the ISO Type 5 ApprovalMark product schedule attached in Appendix B.

TABLE 1

STRONGCAST BRASS WATER METER FITTINGS

Product Code	DN	End Connections
QC7079	20	DN 25 PE compression joint–1" female nut to suit DN 20 standard domestic water meter
NC7079	20	DN 25 PE compression joint -1" female nut to suit DN 20 NSW domestic water meter
ZC7079	20	DN 25 PE compression joint -1" BSP female nut for DN 20 domestic water meter for non-drinking water
C6704	20	DN 25 PE compression joint – 1" male standard DN 20 domestic water meter thread
C7078	15	DN 25 PE compression joint - ¾" BSP female nut



xC7079 and C7078



C6704

FIGURE 1 STRONGCAST BRASS WATER METER FITTINGS**5 APPRAISAL CRITERIA****5.1 Quality Assurance Requirements**

The WSAA Product Appraisal Technical Advisory Group accepts metallic bodied mechanical compression joint fittings manufactured in compliance with AS/NZS 4129:2008 *Fittings for polyethylene (PE) pipes for pressure applications* and duly certified by means of an ISO Type 5 product certification scheme undertaken by a JAS-ANZ accredited Conformity Assessment Body (CAB) or by an international accreditation system recognised by JAS-ANZ.

The manufacturer is generally expected to have a production management and control system that has been duly accredited in accordance with AS/NZS ISO 9001 as a prerequisite to undergoing a product certification audit.

The ISO Type 5 Product Certification Scheme shall meet the criteria described in WSA TN-08.

5.2 Performance Requirements

Strongcast brass water meter fittings have been appraised for compliance with AS/NZS 4129:2008 *Fittings for polyethylene (PE) pipes for pressure applications*.

The following Product Specification is relevant to this application:

WSA PS 247 *Metallic Bodied Mechanical Compression Joint Fittings for Pressure Applications with Polyethylene (PE) Pipe of Nominal Sizes DN 20 to DN 90 – Drinking Water Supply and Sewerage*

A copy of the Product Specification is available at the following link:

<https://www.wsaa.asn.au/shop/product/35716>

6 COMPLIANCE WITH APPRAISAL CRITERIA**6.1 Compliance with Quality Assurance Requirements**

Strongcast has submitted the following quality certificates:

- ISO 9001:2015 Certificate of Registration No. 99152334453Q issued to Strongcast Pty Ltd by Best Practice Certification.
- ISO 9001:2015 Certificate of Registration for the ball valve manufacturer. (Retained on file as Commercial in Confidence)
- AS 4129:2008 ISO Type 5 ApprovalMark Product Certification Licence No. AMI 74822 issued to Strongcast Pty Ltd by ApprovalMark International.

Copies of the Quality Assurance and Product Certification licences have been included in Appendix B and are also available for downloading from the WSAA members website.

6.2 Compliance with Performance Requirements

6.2.1 Type testing

Strongcast has provided type test results for assembled joints to demonstrate AS/NZS 4129:2008 compliance of the DN 25 PE compatible compression joints to PN16 rating. Tests successfully conducted were: hydrostatic pressure, liquid infiltration, leak-tightness when subjected to bending and pull-out. National Centre for Supervision and Inspection of Drainage Irrigation and Water-Saving Equipment Products Quality in Anhui China, CNAS Accredited Laboratory No. L0606, conducted the tests.

6.2.2 End connections

The Strongcast ball valves are offered with end connections as described below:

- Female nut for meter connections

The threads on these nuts are parallel and suitable for joining to the male threads on a standard DN 20 domestic water meter, a DN 20 NSW/ACT water meter (which is different to other states) or a 1" BSP thread on a DN 20 domestic water meter for non-drinking water.

- PE compatible mechanical compression joint

These joints comply with AS/NZS 4129:2008 *Fittings for polyethylene (PE) pipes* and have been type tested for compliance. The joint design is suitable for PN 16 PE 100 pipe to AS/NZS 4130.

- Female thread

These threads are parallel complying with AS ISO 7.1 Series R_p

6.2.3 Suitability for contact with drinking water

Strongcast has submitted a complying Test Report from National Centre for Supervision and Inspection of Drainage Irrigation and Water-Saving Equipment Products Quality in Anhui China (CNAS Accredited Laboratory No. L0606) dated 9 January 2020, for a Strongcast C7093 DN 15 ball valve (manufactured from the same brass) to demonstrate compliance with AS/NZS 4020:2018 *Testing of products for use in contact with drinking water*, using a scaling factor of 0.01.

6.2.4 Material composition

The brass fittings are manufactured from EN 12165 Grade CW602N, also known as CZ132 and is approximately equivalent to Grade C35200 of AS/NZS1567. This alloy is a leaded arsenical brass (CuZn36Pb2As). A test report from SGS (CNAS Accredited laboratory L0599) has been submitted to demonstrate compliance with the material composition and a report from National Centre for Supervision and Inspection of Drainage Irrigation and Water-Saving Equipment Products Quality has been submitted to demonstrate compliance with AS2345 *Dezincification of copper alloys*.

7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION

Brass fittings are standard water industry products. Installation instructions are available directly from Strongcast if required.

8 PRODUCT MARKING

The Strongcast ball valves have the following markings in compliance with AS 4796:

- Manufacturer's name or trademark: Strongcast
- Nominal size: e.g. DN 20
- Pressure classification: PN16
- The number of this standard: AS/NZS 4129

- ApprovalMark and licence No: AMI 74822
- Batch marking: mm/yyyy

The fittings are also marked with the maximum operating temperature.

9 PACKAGING AND TRANSPORTATION

The fittings are generally provided within a complete meter assembly kit but may be provided separately if required. The kits are packed into cardboard cartons with suitable partitions. In line with environmental concerns no plastic materials are used in the packaging.

10 PRODUCT WARRANTY

The products are covered by the normal commercial and legal requirements of the *Competition and Consumer Act 2010 (Cth)*, which covers manufacture to the relevant standard, and details of Strongcasts's warranty is included in their terms and conditions of sale.

11 WATER AGENCY EXPERIENCE WITH THE PRODUCT OR FIELD-TESTING REPORT

Brass fittings are considered standard products. Installation trials were not required as part of this Appraisal.

12 OUTCOMES OF EXPERT PANEL PRODUCT REVIEW

No issues are outstanding.

13 FUTURE WORKS

There are no future works requirements.

14 DISCLAIMER

This Product Appraisal Report (Report) is issued by the Water Services Association of Australia Limited on the understanding that:

This Report applies to the product(s) as submitted. Any changes to the product(s) either minor or major shall void this Report.

To maintain the recommendations of this Report any such changes shall be detailed and notified to the Product Appraisal Manager for consideration and review of the Report and appropriate action. Appraisals and their recommendations will be the subject of continuous review dependent upon the satisfactory performance of products.

WSAA reserves the right to undertake random audits of product manufacture and installation. Where products fail to maintain appraised performance requirements the appraisal and its recommendations may be modified and reissued. Appraisal reports will be reviewed and reissued at regular intervals not exceeding five (5) years.

The following information explains a number of very important limits on your ability to rely on the information in this Report. Please read it carefully and take it into account when considering the contents of this Report.

Any enquiries regarding this report should be directed to the Program Manager, Carl Radford, Phone: 03 8605 7601 email carl.radford@wsaa.asn.au.

14.1 Issue of Report

This Report has been published and/or prepared by the Water Services Association of Australia Limited and nominated Project Manager and peer group of technical specialists (the Publishers).

The Report has been prepared for use within Australia only by technical specialists that have expertise in the function of products such as those appraised in the Report (the Recipients).

By accepting this Report, the Recipient acknowledges and represents to the Publisher(s) and each person involved in the preparation of the Report that the Recipient has understood and accepted the terms of this Disclaimer.

14.2 Limits on Reliance on Information and Recommendations

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Neither the Publisher(s) nor any person involved in the preparation of the Report accept(s) any liability for any loss or damage suffered by any person however caused (including negligence or the omission by any person to do anything) relating in any way to the Report or the product appraisal criteria underlying it. This includes (without limitation) any liability for any recommendation or information in the Report or any errors or omissions.

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The information and any recommendation contained (expressly or by implication) in this Report are provided in good faith (and subject to the limitations noted in this Report). However, you should treat the information as indicative only. You should not rely on that information or any such recommendation except to the extent that you reach an agreement to the contrary with the Publisher(s).

This Report does not contain all information that a person might require for the purposes of assessing any product discussed or appraised within it (Product). The product appraisal criteria used in preparing this Report may not address all relevant aspects of the Product.

Recipients should seek independent evidence of any matter which is material to their decisions in connection with an assessment of the Product and consult their own advisers for any technical information required. Any decision to use the Product should take into account the reliability of that independent evidence obtained by the Recipient regarding the Product.

Recipients should also independently verify and assess the appropriateness of any recommendation in the Report, especially given that any recommendation will not take into account a Recipient's particular needs or circumstances.

WSAA has not evaluated the extent of the product liability and professional indemnity insurance that the provider of the product maintains. Recipients should ensure that they evaluate the allocation of liability for product defects and any professional advice obtained

in relation to the product or its specification including the requirements for product liability and professional indemnity insurance.

14.3 No Updating

Neither the Publisher(s) nor any person involved in the preparation of this Report [has] [have] any obligation to notify you of any change in the information contained in this Report or of any new information concerning the Publisher(s) or the Product or any other matter.

14.4 No Warranty

The Publisher(s) do[es] not, in any way, warrant that steps have been taken to verify or audit the accuracy or completeness of the information in this Report, or the accuracy, completeness or reasonableness of any recommendation in this Report.

APPENDIX A – PRODUCT LITERATURE







APPENDIX B - QUALITY CERTIFICATIONS

Copies of the following Quality Certification Certificates are available for downloading from the WSAA members website

**TABLE B1
STRONGCAST PTY LTD – MANAGEMENT SYSTEMS**

59 Luke Street Hemmant Queensland	
Quality Systems Standard	ISO 9001:2015
Certification Licence No.	99152334453Q
Certifying Agency	Best Practice Certification
First Date of Certification	18 July 2019
Current Date of Certification	15 April 2020
Expiry Date of Certification	17 July 2022

**TABLE B2
STRONGCAST PTY LTD – PRODUCT CERTIFICATION**

59 Luke Street Hemmant Queensland	
Product Standard/Spec.	AS 4129:2008
Certificate No.	AMI 74822
Issuing Certification Body	ApprovalMark International
First Date of Certification	6 May 2020
Current Date of Certification	6 May 2020
Expiry Date of Certification	5 May 2023



Strongcast Pty Ltd

Best Practice Certification Pty Ltd has assessed the above company as complying with the following management system standard requirements at the address shown.

Standard:	ISO 9001:2015 Quality Management System Requirements	
Scope of Certification:	Provision of design, manufacture, distribution, and supply of ancillary water meter components in Australasia, including consultation and turnkey services.	
Head Office Address:	59 Luke Street, Hemmant QLD 4174 Australia	
Initial Certification Date:	18/07/2019	
Issue Date:	Expiry Date:	Certificate Number:
15/04/2020	17/07/2022*	99152334453Q
Additional Sites & Activities:	See Certificate Schedule # 99152334453Q	
Additional Registered Entities Covered By This Certification:	Strongcast NZ LP Strongcast Limited Strongcast Innovations Pty Ltd	



CERTIFICATION APPROVED:

Kobi Simmat
Managing Director
Best Practice Certification Pty Ltd

a» Suite 2, Level 2, Building B
122-126 Old Pittwater Road
Brookvale NSW 2100

p» 1300 402 602

w» <https://bestpracticecertification.com.au>



WWW.JAS-ANZ.ORG/REGISTER



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* Subject to regular surveillance audits



CERTIFICATE OF CONFORMITY



ApprovalMark International hereby grants:

STRONGCAST PTY LTD

59 Luke Street
Hemmant, 4174
AUSTRALIA

Evaluated to:

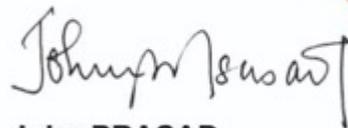
AS/NZS 4129:2008 - Fittings for Polyethylene (PE) pipes for pressure applications

The ISO Type 5 licensee shall comply with all the terms and conditions as stipulated by the governance of the operating rules of the ISO Type 5 scheme, and shall comply with the standard requirements at all times including when the standard is amended. The ISO Type 5 license only covers the product which is identified in the attached product schedule.

Certificate No. AMI 74822

Issued: 6th May 2020
Expires: 5th May 2023

Original Issue: 6th May 2020



John PRASAD
Director



Registered by: ApprovalMark International Pty Ltd (ABN 69 143 259 974) Unit 20, 33 Holbeche Road, Arndell Park NSW 2148 Australia. The assessment was carried with appropriate skill and assessment by ApprovalMark International Pty Ltd; however it will only accept its responsibility for proven negligence. The certificate remains the property of ApprovalMark International Pty Ltd.

ApprovalMark



Product Schedule

STRONGCAST PTY LTD

59 Luke Street
Hemmant, QLD 4174
AUSTRALIA

ISO Type 5 Certificate of Conformity

Evaluated to:

AS/NZS 4129:2008 – Fittings for polyethylene (PE) pipes for pressure applications

Model Id	Model Name	Brand Name	Product Description	Endorsement Date
QC7079	20mm Water Meter Fitting – PE	Strongcast	PE25 *14TPI Nut	6 th May 2020
C7078	15mm Water Meter Fitting – PE	Strongcast	PE25*G3/4"Nut	6 th May 2020
ZC7079	20mm Water Meter Fitting – PE	Strongcast	PE25*G1"Nut	6 th May 2020
NC7079	20mm Water Meter Fitting – PE	Strongcast	PE25 *36.6*14TPI Nut	6 th May 2020
C6704	20mm Water Meter Housing Fitting	Strongcast	PE25*14TPI	6 th May 2020

End of record

Certificate No: AMI 74822

The models identified above in the schedule are endorsed for ISO Type 5 application only.

ApprovalMark

APPENDIX C - SUPPLIER CONTACTS

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