RPC Pipe Systems Pty Ltd

PRODUCT APPRAISAL REPORT 1211 Issue 7

FLOWTITE® Filament Wound GRP Pipes and Fittings for Water and Sewerage

ISO 23856:2021 – Plastics piping systems for pressure and non-pressure water supply, drainage or sewerage – Glass reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin.

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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

RPC Pipe Systems Pty Ltd, located in Lonsdale SA, is the exclusive Australian licensed manufacturer of Flowtite® GRP pipes and fittings for both buried and trenchless applications.

The Flowtite technology is owned by the Amiblu Group, formed in 2017 as a joint venture company incorporating Hobas Europe and Amiantit Europe, both market leaders in the manufacturer of GRP pipes.

This Issue 7 is to update the Appraisal to align with WS PS 219 which calls up ISO 23856:2021 and includes details of Australian preferred outside diameters. See Section 5.1.

Issue 6 was a replacement for the previous version of the appraisal which had reached its 5-year expiry date.

This appraisal is for a range of Flowtite Filament Wound Glass Reinforced Plastic (GRP) pipes and associated fittings for water and sewerage applications manufactured in conformance with ISO 23856:2021 *Plastics piping systems for pressure and non-pressure water supply, drainage or sewerage – Glass reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin.*

The pipes are available in sizes from DN 300 to DN 3000 with nominal pressures from PN1 to PN32 and standard pipe stiffness ratings of SN2500, SN5000, SN10000 or SN20000. Other stiffnesses and higher pressure ratings can be supplied upon request.

The pipes are designated as Series B, based on the external diameter of the pipe.

DN 300 to DN 750 pipes have spigot outside diameters complying with Australian Standard ductile iron pipe OD's. DN 900 to DN 3000 pipes have spigot outside diameters complying with ISO 23856 Table 5 Series B1. See Table 1 for details.

The standard length of Flowtite pipes is 3m, 6m or 12m although specific lengths up to 13m can be manufactured.

A range of pipe fittings are moulded or fabricated using the same materials that are used to produce the Flowtite pipe.

RPC Pipe Systems Pty Ltd holds an ISO 9001:2015 Quality Management System Licence.

The GRP pipes have ISO Type 5 'S' Mark Product Certification to ISO 23856:2021.

This Appraisal has determined that Flowtite GRP pipes, as detailed in this report, meet the requirements of WSA PS-219 *Glass reinforced thermosetting plastics (GRP) pipes and fittings for pressure and non-pressure applications – Drinking water, non-drinking water supply and sewerage* and are considered as 'fit for purpose'.

1.1 Recommendations

It is recommended that WSAA members, subject to any specific requirements of the member, accept or authorise Flowtite filament wound GRP pipes and fittings, as detailed in this report, for use in pressure and non-pressure water supply applications, provided they are installed in accordance with any relevant conditions relating to the design, installation and acceptance testing provided in relevant standards, WSAA Codes and the manufacturer's requirements.

2 THE APPLICANT

The Applicant is RPC Pipeline Systems Pty Ltd.

2.1 The Suppliers

Global Pipe Australia Pty Ltd have been appointed as the exclusive distributors of the Flowtite range of products in Australia and New Zealand.

Reece Australia Pty Ltd, via Reece Civil and Viadux, have been appointed as sub-distributors.

Global Pipe is a major supplier of pipe and tunneling products for infrastructure projects throughout Australasia.

Reece is a leading distributor of plumbing, waterworks, heating, ventilation, air conditioning and refrigeration products to commercial and residential customers through multiple branches in Australia and New Zealand.

2.2 The Manufacturer

RPC Pipe Systems Pty Ltd, located in Lonsdale SA, is the exclusive Australian licensed manufacturer of Flowtite GRP pipes and fittings for both buried and trenchless applications.

The Flowtite technology is owned by the Amiblu Group, formed in 2017 as a joint venture company incorporating Hobas Europe and Amiantit Europe, both market leaders in the manufacturer of GRP pipes.

Fibrelogic Pty Ltd established the purpose-built factory in May 2006. RPC acquired the business in 2011.

Additional information is available at the following link: https://www.rpcpipesystems.com/

3 THE PRODUCT

3.1 General

This appraisal is for a range of Flowtite Filament Wound Glass Reinforced Plastic (GRP) pipes and associated fittings for water and sewerage applications manufactured in conformance with ISO:2021 Plastics *piping systems for pressure and non-pressure water supply, drainage or sewerage – Glass reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin.*

The pipes are available in sizes from DN 300 to DN 3000 with nominal pressures from PN1 to PN32 and standard pipe stiffness ratings of SN2500, SN5000, SN10000 or SN20000.

Other stiffnesses and higher pressure ratings can be supplied upon request.

Pipes less than SN8000 are not recommended for buried applications while pipes with SN20000 rating are recommended for deep trench and poor soil applications.

GRP pipes offer a high strength, long life, flexible pipe with high chemical and corrosion resistance suitable for drinking water and non-drinking water, sewerage, storm water and seawater applications.

3.2 Manufacture of filament wound GRP

Flowtite filament wound GRP pipes are manufactured using the continuous advancing mandrel process. The basic raw materials used are resin, fibreglass and silica sand. Figure 1 shows a typical cross section of a pipe laminate.

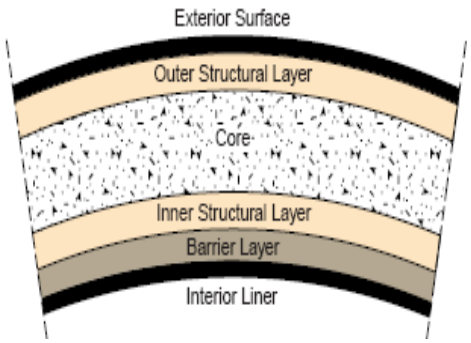

FIGURE 1 FLOWTITE PIPE LAMINATE

3.2.1 Reinforcement

The Lonsdale plant uses E or ECR glass to manufacture pipes for water supply and sewerage. ECR-Glass is a requirement for all sewer applications whereas E or ECR glass can be used for water applications. Both chopped strand and continuous rovings are used to provide longitudinal and hoop strength.

3.2.2 Resin

GRP pipes utilise orthophthalic polyester resin EPS 1, supplied by Allnex. Flowtite specifies that the heat distortion temperature of the cured resin, when tested in accordance with ISO 75-2, should be at least 75°C, which allows a maximum operating temperature with standard orthophthalic resin of 55°C.

Other resins are available for specialized applications such as higher temperatures.

3.2.3 Aggregate and fillers

Silica sand is used as a filler in Flowtite pipes. Flowtite specifies that less than 3% of the sand have particles larger than 0.71 mm and no particles shall be larger than 1 mm. The sand is sourced locally from a deposit in the Adelaide region. The locally sourced sand results in an “almost white’ pipe unlike other GRP products common to the Australian water industry.

3.3 External diameters

DN 300 to DN 750 pipes have spigot outside diameters compatible with Australian Standard ductile iron pipe OD’s. DN 900 to DN 3000 pipes have spigot outside diameters complying with ISO 23856 Table 5 Series B1. See Table 1 for details.

TABLE 1 FLOWTITE GRP PIPE EXTERNAL DIAMETERS

DN	Outside Diameter mm
300	345
375	426
450	507
500	560
525	587
600	667
675	747
750	826
900	924
1000	1026
1100	1127
1200	1229
1300	1331
1400	1434
1500	1535
1600	1638

DN	Outside Diameter mm
1700	1739
1800	1842
1900	1943
2000	2046
2200	2250
2500	2555
3000	3066

Filament wound GRP pipe is internal diameter controlled and therefore the external diameter may vary slightly during the production process. At least 30% of manufactured pipes will comply with spigot dimensional tolerances over the entire barrel length. These pipes will be identified as “adjustment pipe” and may be used as cut pipe on site. The tolerance on the outside diameter of the pipe does not exceed the spigot diameter by more than 2 mm for smaller diameter pipes (diameters ≤1200 mm) and 5 mm for larger diameters. This tolerance should not pose any operational risk when using mechanical couplings, tapping bands and repair clamps given that most fittings accommodate a range of pipe outside diameters.

3.4 Nominal Stiffnesses

The standard nominal pipe stiffness ratings are SN2500, SN5000, SN10000 and SN20000.

Other stiffness ratings can be manufactured. Pipes less than SN8000 are not recommended for buried applications while pipes with SN20000 rating are recommended for deep trench and poor soil applications.

3.5 Nominal Pressures

Pressure classes from PN1 to PN32 are offered. Higher pressure ratings can be manufactured.

3.6 Nominal length

The standard length of Flowtite pipes is 3m, 6m or 12m, although specific lengths up to 13m can be manufactured.

3.7 Load Capacity Values

Tables for hoop tensile and axial tensile load capacity are available in the *Flowtite Pipe Systems-Technical Characteristics* manual available at the following link: https://www.flowtite.com/downloads/

3.8 Fittings

Flowtite pipe fittings are moulded or fabricated using the same materials that are used to produce the Flowtite pipe. Fittings are generally supplied with spigot ends to suit the Flowtite double socketed coupling but may also include flanges.

The most common fittings include:

- Double socketed couplings
- Bends, 11¼º, 22½º, 45º, and 90º
- Tees, equal or reduced
- Connectors, Flange - Spigot
- Reducers, concentric or eccentric

- Manhole connectors
- End caps
- Saddles
- Y's

Other fittings may be manufactured to meet the customer's specific needs.

Flanges are manufactured to be compatible with AS/NZS 4087 Figure B5 for Class PN 16 flanges and AS 4087 Figure B6 for PN 35 flanges. The thickness of the flanges is in accordance with BS 4994.

It is recommended that backing rings are used on GRP flanges when connecting to metallic flanges for pressure applications.

Ancillary products such as flange gaskets, fasteners, backing rings and jointing lubricant are available from Reece/Viadux.

3.9 Pipe couplings

Pipes are joined using Flowtite GRP double socket couplings based on the REKA system. The couplings incorporate EPDM elastomeric REKA sealing gaskets and a stopper located in the middle of the coupling to avoid the pipe spigot ends from touching. The EPDM components are located in precision-machined grooves. The REKA gasket system has been successfully used for more than 75 years. See Figure 2.

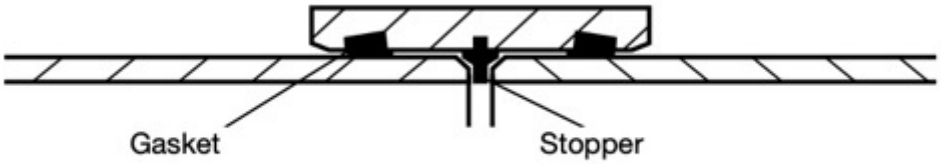

FIGURE 2: DOUBLE SOCKET COUPLING

The maximum angular deflections for the Flowtite couplings are indicated in Table 2.

TABLE 2 MAXIMUM ANGULAR JOINT DEFLECTON

DN	Maximum angle of deflection, degrees			
	≤ PN16	PN 20	PN 25	PN32
≤ DN 525	3.0	2.5	2.0	1.5
> DN 525 ≤ DN 800	2.0	1.5	1.3	1.0
> DN 800 ≤ DN 1800	1.0	0.8	0.5	0.5
> DN 1800	0.5	-	-	-

4 SCOPE OF THE APPRAISAL

The scope of this appraisal includes Filament Wound Glass Reinforced Plastic (GRP) pipes and associated fittings for water and sewerage applications in sizes from DN 300 to DN 3000 with nominal pressures from PN1 to PN32 and standard pipe stiffness ratings of SN2500, SN5000, SN10000 and SN2000, as described in Section 3 and included in the ISO Type 5 'S' Mark Product Schedule included in Appendix B.

5 APPRAISAL CRITERIA

5.1 General

The WSAA Product Appraisal Technical Advisory Group accepts Filament Wound GRP pipe and fittings manufactured in compliance with ISO 23856:2021 *Plastics piping systems for pressure and non-pressure water supply, drainage or sewerage – Glass reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin* 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 publication of ISO 23856:2021 combined and replaced ISO 10639:2017 (for water) and ISO 10467:2018 (for drainage and sewerage). ISO 23856 now provides a single standard to cover both Filament Wound and Centrifugally Cast GRP pipes for water, drainage or sewerage applications.

AS 3571.1:2009 and AS 3571.2:2009, clones of ISO 10467:2004 and ISO 10639:2004 respectively, with an Appendix to specify Australian preferred outside diameters for some sizes, have not been maintained to align with current ISO standards.

WSAA has now replaced its previous four product specifications: WSA PS 205 (FW GRP for Water), WSA PS 205S (FW GRP for Sewerage), WSA PS 237 (CC GRP for Water) and WSA PS 237S (CC GRP for sewerage) with one specification, WSA PS 219. This new Specification calls up ISO 23856:2021 and includes details of Australian preferred outside diameters.

This Appraisal now aligns with WSA PS 219.

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

Flowtite filament wound GRP pipe and fittings for sewerage and water applications have been appraised for compliance with the requirements of ISO 23856:2021.

The following Product Specification is relevant to this application:

- WSA PS-219 *Glass reinforced thermosetting plastics (GRP) pipes and fittings for pressure and non-pressure applications – Drinking water, non-drinking water supply and sewerage*

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

https://www.wsaa.asn.au/shop/product/60961

6 COMPLIANCE WITH APPRAISAL CRITERIA

6.1 Compliance with Quality Assurance Requirements

RPC has submitted the following quality certificates:

- ISO 9001:2015 Certificate of Registration No. AU005041-1 issued to RPC Group (includes RPC Pipe systems Pty Ltd) by Bureau Veritas.
- ISO 23856:2021 ISO Type 5 ‘S’ Mark Product Certification Licence No. 2977 issued to RPC Pipe Systems Pty Ltd by Bureau Veritas.

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

Copies of Quality Assurance certificates have also been supplied for the major component suppliers.

6.2 Compliance with Performance Requirements

RPC submitted a comprehensive range of test reports when the original appraisal was undertaken to indicate compliance with the material, performance and batch release requirements of AS 3571.1 and AS 3571.2. These requirements have not changed in ISO 23856.

It is a requirement of WSA PS-219 that pipes are required to meet the resistance to chemical attack and AS/NZS 4020 requirements regardless of whether the pipe is intended for water or sewerage applications.

6.2.1 Type Tests

Performance type tests as listed below have been completed for the original appraisal.

- Pipe
  - Long-term specific ring stiffness
  - Ultimate long-term resistance to failure in a deflected condition
  - Long-term failure pressure
  - Resistance of pressure pipes to cyclic internal pressure
- Resistance to chemical attack
- Joints
  - Resistance to leakage and vacuum in joint test configurations including draw and angular deflection

6.2.2 Elastomeric seal

The couplings incorporate EPDM elastomeric REKA sealing gaskets (55 IRHD) and stopper (60 IRHD). The elastomeric components are supplied by Umm Al Quwain Rubber Industries located in UAE.

A test report No 65304 from Smithers UK (UKAS Accreditation No. 0067) has been submitted to demonstrate compliance of the EPDM material to EN 681.1

SBR compounds may be specified as an alternative to EPDM.

6.2.3 Abrasion resistance

RPC has submitted a copy of Test Report No. T-97-113-B, Abrasion Resistance Test. This report describes an abrasion resistance test program using the Darmstadt rocker test procedure performed on DN 600, PN 10, SN 5000 Flowtite pipes. The average abrasion loss was found to be 0.34 mm / at 100,000 cycles.

The abrasion resistance of individual pipeline materials is difficult to determine because test methods do not duplicate the varied abrasion conditions found in sewers. Comparative Darmstadt rocker test results often show performance ratings of plastic pipe materials exceed other harder pipe materials. The test results indicate minimal wear and a calculated life expectancy well beyond the requirements of most water agencies.

6.2.4 Temperature and pressure re-rating

RPC advises that pipelines carrying liquids at 35ºC and below requires no pressure re-rating. Re-rating is required for temperatures 36ºC to 50ºC and further re-rating for temperatures 51ºC to 70ºC.

RPC can provide specialist recommendations on resin use and re-rating for specific applications.

6.2.5 Resistance to ultraviolet degradation

There is no evidence to suggest that ultraviolet degradation is a factor that affects the long-term service life of Flowtite GRP pipes. The exposed outermost surface will be affected by discoloration and in the longer-term glass fibres may be exposed, however will not affect the long-term performance of the pipe. If desired, the external surface of the Flowtite pipe may be painted with a two-part urethane paint, however this may require ongoing maintenance.

6.2.5 Contact with drinking water

AS 3571.2 requires compliance to AS/NZS 4020 with testing to be completed every 10 years.

RPC has submitted test report No. 230272 from Australian Water Quality Centre (NATA Accreditation No 1115) dated 19th July 2018 for Flowtite GRP pipe to demonstrate compliance with AS/NZS 4020:2005.

Test report No 256486 from AWQC dated 5th August 2019 for the REKA EPDM has also been submitted to demonstrate compliance with AS/NZS 4020:2005.

It is the responsibility of the manufacturer to ensure that current AS/NZS 4020 testing requirements are maintained.

WSA PS-219 requires pipes to meet AS/NZS 4020 requirements regardless of whether the pipe is intended for water or sewerage applications.

7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION

RPC Pipe Systems has advised that installer training is available either as a course or on-site field instruction.

A comprehensive suite of manuals and other documentation is available for Flowtite GRP pipes available from the following link: https://www.flowtite.com/downloads/

8 PRODUCT MARKING

Marking conforms to ISO 23856 and includes:

- Number of the standard: ISO 23856
- Nominal size: e.g. DN 300
- Stiffness rating: e.g. SN 10,000
- Pressure rating: e.g. PN 6
- Manufacturers name or identification: RPC Flowtite
- Date of manufacture: e.g. 8/02/21
- Intended use: e.g., SEWAGE or NON-DRINKING WATER

An example is shown in Figure 2.

FIGURE 2 EXAMPLE OF MARKING

9 PACKAGING AND TRANSPORTATION

RPC Pipe Systems has advised that all products will be transported to site in timber cradles and storage on site should be in accordance with the manuals provided.

The Amiblu *Installation Manual for Buried Pipes* includes sections titled ‘Transportation and handling of pipes and fittings’ and ‘Storage’.

This manual can be downloaded at the following link: https://www.flowtite.com/downloads/

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 RPC Pipe Systems warranty is included in their terms and conditions of sale.

11 OUTCOMES OF EXPERT PANEL PRODUCT REVIEW

Most questions submitted for the previous Issue of this Appraisal have been addressed within the report. The following queries have been retained here:

Question 1: For pipes that are cut in the field, what action must the constructor undertake to ensure the spigot ends of the cut pipes are suitable for jointing?

Answer: Each Flowtite pipe is assessed for dimensional compliance along its full length during the manufacturing process. Pipes that meet spigot dimensional tolerances along the entire barrel are identified as ‘adjustment pipe’ (see pipe marking example in Appendix ‘A’). Constructors only need to chamfer the cut ends before jointing. Pipes that only meet spigot dimensional tolerances at each end will require field machining and chamfering before jointing if they are cut. Generally, there is no reason why a constructor who manages his pipe stocks diligently will need to field machine cut pipes given that at least 30% - 70% of pipes will be “adjustment pipes” suitable for field cutting without the need for machining.

Sealing of the cut ends of the pipe is not required as demonstrated by extensive testing of the Flowtite product. Long term pressure and strain corrosion testing are carried out with the cut ends untreated.

Q 2. Are there any limitations on the under-pressure cut-in connection of Flowtite pressure pipe using flanged off-take clamps and the use of repair clamps?

Answer: Flowtite pipes cannot be directly tapped but will require either a tapping band or mechanical flanged off-take clamp, depending on the diameter of the service connection.

The under pressure cut-in performed in accordance with the method described in WSA 03:2011 Appendix C – Under Pressure Cut-in-Connections to Pressure Pipe ≥ DN80 can be carried out successfully on GRP pipe using a diamond impregnated shell cutter of the appropriate diameter.

Mechanical flanged off-take clamps complying with AS 4181 Type F for flexible pipes are recommended.

Q 3. The Australian water industry has experienced incidences of osmotic blistering of the internal corrosion barriers (gel-coats) of other GRP pipes and to address that issue has developed requirements that limit the type of resin to orthophthalic polyester with specified properties. What comments does RPC Pipe Systems make with respect to this issue?

Answer: RPC Pipe Systems is unaware of any incidences of osmotic blistering with Flowtite pipe. Our technical experts advise that osmotic blistering is primarily caused by the PVA binders used on some types of glass reinforcement, which forms acetic acid in service which migrates to the resin interface where through a process of osmosis blisters form. The E and ECR glass used in the manufacture of Flowtite pipes and fittings uses no such binders. In addition, osmotic blistering can be caused by poor material choice and poor workmanship. The continuous advancing mandrel process used by Flowtite produces a well compacted and cured laminate which eliminates osmotic blistering.

Q 4. Can RPC pipes and fittings be colour coded?

Answer: The Flowtite pipe manufacturing process can accommodate the incorporation of a coloured thread within the outer layers of the pipe or the use of pigmented resin (such as purple) for colour coding pipes. Coloured threads have been used successfully for identification of multiple pressure classes on a single site whereas pigmented resin has been used to identify recycled water pipelines. Either the thread or pigmenting has the advantage of the colour being encapsulated within the wall of the pipe ensuring permanent identification.

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

RPC advises that in excess of 1200km of Flowtite GRP pipe and 50km of Flowtite GRP jacking pipe has been supplied since the establishment of the Lonsdale plant in 2006. Approval for Flowtite GRP pipe is in place with most major water agencies.

13 FUTURE WORKS

No future works have been identified.

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, 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.

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APPENDIX A – PRODUCT LITERATURE

Complete copies of the following manuals are available from RPC or WSAA or may be downloaded from the following link: https://www.flowtite.com/downloads/

Amiblu®

FLOWTITE

FLOWTITE Pipe Systems

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Amiblu®

Amiblu Pipe Systems
Engineered for the next generations

Installation Manual for Buried Pipes

FLOWTITE

HOBAS®

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APPENDIX B - QUALITY CERTIFICATIONS

Copies of the following Quality Certificates are available from WSAA

TABLE B1 RPC PIPE SYSTEMS PTY LTD – MANAGEMENT SYSTEMS

11 Christie Road Lonsdale SA	
Quality Systems Standard	AS 9001:2015
Certification Licence No.	AU005041-1
Certifying Agency	Bureau Veritas
First Date of Certification	5 December 1995
Current Date of Certification	23 May 2022
Expiry Date of Certification	15 March 2025

TABLE B2 RPC PIPE SYSTEMS PTY LTD – PRODUCT CERTIFICATION

11 Christie Road Lonsdale SA	
Product Standard/Spec.	ISO 23856:2021
Certificate No.	2977
Issuing Certification Body	Bureau Veritas
First Date of Certification	31 May 2024
Current Date of Certification	31 May 2024
Expiry Date of Certification	30 May 2029

BUREAU VERITAS
Certification

Certification

Awarded to

RPC GROUP

RPC TECHNOLOGIES PTY LTD & RPC PIPE SYSTEMS PTY LTD

& P.T. RPC INDONESIA

24 POWERS ROAD, SEVENS HILLS, NSW 2147
AUSTRALIA

(SEE APPENDIX FOR FURTHER SITES)

Bureau Veritas certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards indicated below

STANDARD

ISO 9001:2015

SCOPE OF SUPPLY

MANUFACTURE, MARKETING, DESIGN , ENGINEERING AND PROJECT MANAGEMENT OF GLASS REINFORCED PLASTIC AND COMPOSITE PIPES AND PRODUCTS INCLUDING SPECIALTY FABRICATION WORKSHOP AT SEVEN HILLS

Original Approval Date: **5 December 1995**

Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until: **15 March 2025**

To check the validity of this certificate please call tel. **1800 855 190**

Further clarification regarding the scope of this certificate and the applicability of the Management System requirements may be obtained by consulting the organisation.

Certificate Number: **AU005041-1**

Date: **23 May 2022**

Andrew Mortimore
Vice President – I&F Pacific Region

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Issuing office: Bureau Veritas Pty Ltd, Level 11, 500 Collins Street, Melbourne, Victoria, 3000, Australia

JAS-ANZ

BUREAU VERITAS

BUREAU VERITAS
Certification

Bureau Veritas Certification have issued this appendix

to the Certificate of Approval awarded to

RPC GROUP

RPC TECHNOLOGIES PTY LTD & RPC PIPE SYSTEMS PTY LTD

& P.T. RPC INDONESIA

CERTIFICATE NUMBER

AU005041-1

LOCATION OF SITES

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24 POWERS ROAD, SEVEN HILLS, NSW, 2147
56 CLYDE STREET, BROADMEADOW, NSW, 2292

VIC
285 HEALES ROAD, CORIO, VIC, 3214

SA
11 CHRISTIE ROAD, LONSDALE, SA, 5160

INDONESIA
P.T SEKUPANG LOGISTICS, JL RE MARTADINATA SEKUPANG,
BATAM ISLAND, INDONESIA, 29428

ISSUE DATE: 23 May 2022

BUREAU VERITAS
Certification

'S' Mark Licence

Awarded to

RPC PIPE SYSTEMS PTY LTD

11 CHRISTIE ROAD LONSDALE, SA 5160 AUSTRALIA

Bureau Veritas grants the above organization the right to use the Product Certification 'S' Mark as shown below only in respect of the products described and detailed in the Schedule to this Licence and manufactured in accordance with the requirements of the Standard indicated below under an approved Quality Management System. The Licence is granted subject to the 'Bureau Veritas Conditions of Service' and the 'Rules governing the use of Product Certification Licences'.

STANDARD

ISO 23856:2021

Plastics piping systems for pressure and non-pressure water supply, drainage or sewerage —Glassreinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP)resin

Licence No: 2977

Date Granted: 31 May 2024

Expiry Date: 30 May 2029

Signed on behalf of Bureau Veritas

Sam Guindi
Product Certification Manager

CERTIFIED TO APPROVED STANDARD

BUREAU VERITAS

This Licence and its associated Schedule remain the property of Bureau Veritas and must be returned if certification is terminated. The constant compliance with the certification requirements is confirmed by regular surveillance measures from Bureau Veritas. In the case of serious non-compliance the certification will be withdrawn and deleted from the Register.

To check the validity of this certificate please contact: **Bureau Veritas Australia Pty Ltd**
Issuing office: Bureau Veritas Pty Ltd, 11/500 Collins Street, Melbourne, Victoria, 3000

SCHEDULE TO PRODUCT CERTIFICATION LICENCE NO: 2977

LICENCE DETAILS

Scheme: 'S' Mark Product Certification

Licensee: RPC PIPE SYSTEMS PTY LTD

Address: 11 Christie Road Lonsdale, Sa 5160 Australia

CONFORMANCE REQUIREMENTS

Standard: ISO 23856:2021, Plastics piping systems for pressure and non-pressure water supply, drainage or sewerage —Glass reinforced thermosetting plastics (GRP)systems based on unsaturated polyester (UP)resin

Quality System: Product Certification Quality System Requirements (QSR) ISO Type 5

CERTIFIED MODEL OR TYPE

Model ID	Brand Name	Product Description
DN300	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN375	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN450	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN500	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN525	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN600	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN675	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN750	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN900	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN1000	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN1100	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN1200	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN1300	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN1400	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN1500	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN1600	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN1700	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN1800	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000

DN1900	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN2000	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN2100	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN2200	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN2300	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN2400	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN2500	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN2600	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN2700	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN2800	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN2900	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN3000	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN300	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000
DN375	RPC Flowtite	GRP Pipe and Fittings, PN1 to PN35, SN2,500 to SN20,000

Revision Date: 31 May 2024

APPENDIX C - SUPPLIER CONTACTS

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Website store locator: https://www.viadux.com.au/about-us/locations

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