

VINIDEX PTY LTD

PRODUCT APPRAISAL REPORT PA 1626

PVC-U DWV PIPE AND FITTINGS FOR NON-PRESSURE APPLICATIONS

**AS/NZS 1260:2009 PVC-U PIPES AND FITTINGS FOR DRAIN,
WASTE AND VENT APPLICATION**

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WATER SERVICES
ASSOCIATION OF AUSTRALIA

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Name/Title	Organisation	Date
Alan Whittle, WSAA Contractor	WSAA	24/8/2017
Product Appraisal Technical Advisory Group	WSAA	26/6/2017
Expert Panel	WSAA	26/6/2017
Carl Radford, Product Appraisal Manager	WSAA	5/6/2017

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

Vinidex is an Australian manufacturer of thermoplastic pipe and fittings systems. Vinidex manufactures and distributes plastic piping systems used in the transportation of fluids, energy and data for infrastructure development, agriculture, mining and building. Founded in 1960, Vinidex now has factories and distribution centres located in Sydney, Wagga Wagga, Melbourne, Brisbane, Toowoomba, Townsville, Launceston, Perth, Adelaide and Darwin.

Vinidex is a member of the ALIAXIS group of companies with headquarters in Brussels, Belgium. ALIAXIS is a global producer of plastic pipe and fittings systems for building, infrastructure, plumbing, rural and industrial markets.

The Vinidex range of PVC-U DWV pipe and fittings is manufactured by Vinidex at facilities throughout Australia, all of which are covered by a third party certified ISO 9001 Quality Management System.

Vinidex has been granted StandardsMark licence for the PVC-U DWV range of pipe and fittings by SAI Global for compliance with AS/NZS 1260:2009 *“PVC-U pipes and fittings for drain, waste and vent application”*. The Certification Certificates are attached in Appendix B. The range of pipe included in this appraisal is listed in Section 4 and in Appendix B of this report.

This appraisal applies to DWV pipe in diameters ranging from DN100 to DN375 extruded at the Perth, Melbourne, Brisbane and Sydney Vinidex factories. The pipes are made with either solvent cement or elastomeric seal joints in plain wall and sandwich construction. Sandwich construction pipes are offered in either solid or foam core configurations in the pipe stiffness range of SN4 to SN10 in accordance with AS/NZS 1260.

The Vinidex PVC-U DWV pipe and fittings are intended for the conveyance of wastewater in buried and above ground applications.

The complete Vinidex PVC-U DWV product range includes:

- PVC-U pipe (plain wall and sandwich construction) in both solvent cement and elastomeric seal joint in diameters ranging from DN32 to DN475. Sandwich construction pipes are offered in either solid or foam core.
- PVC-U injection moulded fittings are available with both solvent cement and elastomeric seal joint
- PVC-U fabricated fittings also available in both solvent cement and elastomeric seal joint.

The products are used in both the plumbing and municipal sectors.

Elastomeric seals are supplied by both Hultec and Gulf Rubber. Solvent cement and priming fluid are supplied by RLA Polymers Pty Ltd. Quality Management (ISO 9001) and third party product certification, details have been provided. Details are given in Appendix B.

Vinidex injection moulded DWV fittings manufactured to AS/NZS 1260 are classified as SN6 and in accordance with the Standard are suitable for use in systems up to and including SN16 plain wall or sandwich construction pipe.

PVC-U DWV piping systems have a long history of satisfactory performance in Australia and the Vinidex PVC-U DWV range, if correctly installed, can reasonably be expected to have a service life in excess of 100 years before major rehabilitation is required. Pipe life expectancy can vary with the quality of installation workmanship, system operating conditions, operating environment and other site-specific factors.

1.1 Recommendations

It is recommended that WSAA members and associates, subject to any specific requirements of the member or associate, accept or authorise the Vinidex range of PVC-U DWV pipes (plain wall, solid core sandwich construction and foam core sandwich construction), as detailed in this report, for use in non-pressure wastewater applications provided pipeline design, installation, acceptance testing etc. are in accordance with the relevant WSAA codes, Australian Standards and manufacturer's installation requirements.

2 THE APPLICANT

Vinidex is a major Australian manufacturer of thermoplastic pipe and fittings systems. Vinidex manufactures and distributes plastic piping systems used in the transportation of fluids, energy and data for infrastructure development, agriculture, mining and building. Founded in 1960, Vinidex now has factories and distribution centres located in Sydney, Wagga Wagga, Melbourne, Brisbane, Toowoomba, Townsville, Launceston, Perth, Adelaide and Darwin.

On the 1st August 2014, Vinidex was acquired by the Aliaxis group of companies. The Aliaxis Group is a leading global manufacturer and distributor of primarily plastic fluid handling systems used in residential and commercial construction, as well as in industrial and public infrastructure applications. Vinidex is now wholly owned by Aliaxis Australia Holdings Pty Ltd.

Key Aliaxis Group facts:

- Head office in Brussels, Belgium
- Family owned
- €2.9 billion annual revenue
- Presence in 40 countries
- Over 100 manufacturing and commercial entities
- Employs 15,700 people around the world



ALIAxis GROUP BRANDS WORLDWIDE

North America	Europe	Asia
canplas Founded in 1966 IPEX IPEX, with more than 50 years of experience in plastics HARRINGTON 1959 : Harrington Industrial Plastics LLC was founded	Nicoll 1956 : Nicoll starts to manufacture fittings from PVC tubes GIRPI GIRPI originates in 1957 in Marseille with the production of PVC waste fittings REDI REDI SpA in Italy with more than 40 years of experience in producing plastic fittings Jimten Jimten was started in 1965 in Alicante (Spain) SANIT SANIT was founded 60 years ago as a handicraft business MARLEY Marley Plastics was founded in United Kingdom in 1966 SC MARLEY Marley Deutschland GmbH has more than 50 years of experience FRIATEC Recently celebrating 150 years of Friatec, active in plastics since 1979 FIP In 1954, FIP produced the first plastic valve in Europe by injection moulding technology	PALING Paling founded in 1971 in Malaysia ashirvad Ashirvad Pipes founded in India in 1975
Latin America		Australasia
Durman Since Durman created in 1959 in Costa Rica, it developed across almost all Latin America vinilit More than 40 years of experience in Vinilit (Chile)		MARLEY Marley New Zealand started in 1957 Philmac Established in 1929, Philmac (Australia), developed first all-plastic compression fittings for polyethylene pipe in 1968 REXANTO More than 30 years of experience DWX More than 70 years of experience in the plumbing business
		Africa
		MARLEY Marley Pipe systems was launched in South Africa in 1963

2.1 The Supplier

Vinidex Pty Ltd ABN 42 000 664 942

2.2 The Manufacturer

Vinidex Pty Ltd

3 THE PRODUCT

TABLE 1 PRODUCT RANGE TO WHICH THIS ASSESSMENT IS APPLICABLE

Product	Stiffness classes	Diameter range
Plain wall pipes	Minimum wall thickness as per AS/NZS1260 SN4, SN6, SN8 and SN10 as per AS/NZS 1260	DN100 to DN375
Solid core sandwich construction pipes	SN4, SN6, SN8 and SN10 as per AS/NZS 1260	DN100 to DN300
Foam core sandwich construction pipes	SN4, SN6, SN8 and SN10 as per AS/NZS 1260	DN100 to DN300

More detail of the product range and manufacturing sites nominated as part of this appraisal are tabulated in Table 2, below.

TABLE 2 DETAIL PRODUCT RANGE FOR DIFFERENT MANUFACTURE LOCATION

Item Code	Description	Manufacture Location			
		Brisbane	Sydney	Melbourne	Perth
19007	100 SN10 PWC DWV PVC SCJ GY 6m	✓	-	-	-
18005	100 SN10 SC DWV PVC SCJ GY 6m	-	✓	✓	-
19005	100 SN10 SCS DWV PVC SCJ GY 6m	-	✓	-	-
19002	100 SN6 DWV PVC PLN GY 3m	✓	✓	✓	✓
19006	100 SN6 PWC DWV PVC SCJ GY 6m	✓	-	-	-
18000	100 SN6 SC DWV PVC SCJ GY 6m	✓	✓	✓	✓
19000	100 SN6 SCS DWV PVC SCJ GY 6m	✓	-	-	-
19070	150 SN4 SC DWV PVC SCJ GY 6m	✓	✓	✓	✓
19601	150 SN8 PWC DWV PVC RRJ GY 3m	✓	-	-	-
19610	150 SN8 SC DWV PVC RRJ GY 3m	✓	-	✓	-
18120	150 SN8 SC DWV PVC SCJ GY 3m	-	-	✓	✓
18110	150 SN8 SC DWV PVC SCJ GY 6m	-	-	✓	✓
19111	150 SN8 SC DWV PVC SCJ GY 6m	-	-	-	✓
19600	150 SN8 SCS DWV PVC RRJ GY 3m	✓	-	-	-
19141	225 SN16 DWV PVC SCJ GY 3m	-	-	-	✓
19140	225 SN4 DWV PVC SCJ GY 6m	✓	✓	✓	✓
19680	225 SN8 DWV PVC RRJ GY 3m	✓	-	-	-
19200	225 SN8 DWV PVC SCJ GY 3m	✓	-	-	✓
19180	225 SN8 DWV PVC SCJ GY 6m	-	✓	-	✓
19682	225 SN8 PWC DWV PVC RRJ GY 3m	✓	-	-	-
19202	225 SN8 PWC DWV PVC SCJ GY 3m	-	-	-	✓
19182	225 SN8 PWC DWV PVC SCJ GY 6m	-	-	-	✓

Item Code	Description	Manufacture Location			
		Brisbane	Sydney	Melbourne	Perth
19181	225 SN8 SC DWV PVC PLN GY 6m	✓	-	-	-
19681	225 SN8 SCS DWV PVC RRJ GY 3m	✓	-	-	✓
19259	300 SN16 DWV PVC SCJ GY 3m	-	-	-	✓
19210	300 SN4 DWV PVC SCJ GY 6m	✓	-	-	✓
19244	300 SN8 DWV PVC PLN GY 6m	✓	-	-	-
19258	300 SN8 DWV PVC SCJ GY 3m	-	-	-	✓
19250	300 SN8 DWV PVC SCJ GY 6m	-	-	-	✓
19731	300 SN8 PWC DWV PVC RRJ GY 3m	✓	-	-	-
19730	300 SN8 SCS DWV PVC RRJ GY 3m	✓	-	-	-
19780	375 SN8 DWV PVC RRJ GY 3m	-	-	-	✓

Further detail is provided in the StandardsMark Schedules.

The Vinidex range of PVC-U DWV pipe and fittings are manufactured by Vinidex at manufacturing facilities throughout Australia and the company has been granted StandardsMark certification for the PVC-U DWV range of pipe and fittings by SAI Global for compliance with AS/NZS 1260:2009 *“PVC-U pipes and fittings for drain, waste and vent application”*. The Certification Certificates Schedules are attached. The complete Vinidex range of PVC-U DWV range also includes:

- PVC-U pipe (plain wall and sandwich construction) with either solvent cement or elastomeric seal joint in diameters ranging from DN32 to DN475. Sandwich construction pipes are offered in either solid or foam core.
- PVC-U injection moulded fittings in both solvent cement and elastomeric seal joint configurations.
- PVC-U fabricated fittings in both solvent cement and elastomeric seal joint configurations.

The Vinidex PVC-U DWV pipes in sizes \geq DN100 are supplied in stiffness classes SN4 to SN10 in accordance with Table 1.1 of AS/NZS 1260 and are used both the plumbing and municipal sectors of the industry.

The Vinidex PVC-U DWV range has long history of successful installations throughout Australia. The first edition of AS 1260 for PVC-U pipes and fittings for sewerage applications was published in 1974 so that over 40 years' experience has been acquired with the product. More recently, improvements in manufacturing technologies have enabled Vinidex to introduce material efficient pipe products for both pressure and non-pressure applications.

In the late 1990's, sandwich construction PVC-U pipe technology was introduced to Australia, which consists of an inner and outer layer of solid virgin PVC-U material and an intermediate layer of either foamed (foam core) or solid (solid core) PVC-U material. The benefits of this technology are three-fold:

1. It provides a means to recycle PVC-U scrap material, thus avoiding waste PVC-U material going to landfill;
2. It reduces the environmental footprint of the products; and
3. It provides commercial benefits to the manufacturer and end-user.

This PVC-U sandwich construction technology (foam core and solid core) is now considered best manufacturing practice and enables organisations such as Vinidex to achieve Best Environmental Practice certification as well as Green Star compliance.

4 SCOPE OF THE APPRAISAL

The range of PVC-U DWV pipe included in this appraisal is listed in Section 4 above. In addition Vinidex has a comprehensive range of fittings and plumbing products as listed in the StandardsMark Schedules. More information is available from the SAI Global website and company catalogues.

5 APPRAISAL CRITERIA

5.1 Quality Assurance Requirements

The WSAA Product Appraisal Technical Advisory Group accepts PVC-U DWV range of pipe and fittings manufactured in compliance with AS/NZS 1260:2009 *“PVC-U pipes and fittings for drain, waste and vent application”* and duly certified by means of an ISO Type 5 product certification scheme undertaken by a JAS-ANZ accredited Certification 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.

5.2 Performance Requirements

The Vinidex PVC-U DWV range of DN100 to DN375 pipe has been appraised for compliance with AS/NZS 1260:2009.

Appraisal criteria are also determined by the WSAA Infrastructure Products and Materials Network and regularly reviewed to ensure that the criteria reflect the requirements of WSAA members.

The following Product Specification is also relevant to this application:

WSA PS-230 *Polyvinylchloride, Unplasticised (PVC-U) Pipes and Fittings for Non-Pressure Applications – Sewerage and Drainage*

Copies of the above Product Specification can be found in Appendix C or downloaded from the WSAA website.

6 COMPLIANCE WITH APPRAISAL CRITERIA

6.1 Compliance with Quality Assurance Requirements

The Vinidex range of pipe PVC-U DWV and fittings is manufactured under a Quality Management System certified as fulfilling the requirements of ISO 9001, Certificate Registration Number QEC0570, issued in Australia by SAI Global, the International Certification Network which is accredited by JAS-ANZ. This certificate was originally issued on 19th February 1991 and is currently valid until 14th September 2018.

The scope of the QEC certificate includes the Vinidex sites at the following locations: Smithfield NSW, Wagga Wagga NSW, Berrimah NT, Bohle Qld, Charlton Qld, Coopers Plains Qld, Edinburgh SA, Launceston Tas, Notting Hill Vic, Sunshine Vic and O'Connor WA. This includes the Perth, Melbourne, Sydney and Brisbane manufacturing sites referred to in Section 3 above, that is Brisbane, Sydney, Melbourne and Perth.

Vinidex supplies elastomeric seals and solvent cements – priming fluids for jointing its range of DWV PVC pipes and fittings. Elastomeric seals are produced by Hultec and Gulf Rubber and solvent cements and priming fluids by RLA Polymers Pty Ltd. All three companies have accredited ISO 9001 quality systems and third party product certification. Details of the certificates are included in Appendix B.

6.2 Compliance with Performance Requirements

The ISO Type 5 Certificate of Conformity (StandardsMark) for product compliance with AS/NZS 1260 provides confidence that the Vinidex PVC-U DWV range of pipe and fittings are manufactured for compliance with the nominated standards and requirements. In addition, a number of NATA endorsed and Quality Control test reports have been reviewed. These confirm the products tested comply with the dimensional, pipe stiffness, impact resistance, interface pressure and joint performance requirements of AS/NZS 1260. Additionally the solid and foam core sandwich construction pipes have been successfully tested for ring flexibility as required for structured wall pipes according to Clause 3.2.5 of AS/NZS 1260.

7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION

PVC-U DWV pipes and fittings have been used in Australia for many years. Experience in handling and installing the products is well established. Additionally design and installation instructions are provided in:

AS/NZS 2032 Installation of PVC pipe systems.

AS/NZS 2566.1 Buried flexible pipelines Part 1: Structural design.

AS/NZS 2566.2 Buried flexible pipelines Part 2: Installation.

WSAA recommends that for overall design, installation, pipeline testing and installer training requirements for PVC-U DWV pipeline systems agencies refer to WSA 02-2014 Gravity Sewerage Code of Australia available from the bookshop at the WSAA web site www.wsaa.asn.au.

Satisfactory completion of a recognised PVC pipeline installer training program is a recommended pre-requisite for all PVC pipeline installers and supervisors.

Additional product information and installation instructions together with technical information is available at the Vinidex [website](#). Refer to Appendix A for additional information.

8 PRODUCT MARKING

Refer: AS/NZS 1260:2009 Clause 4.6.

The Vinidex PVC-U DWV range of pipe and fittings are product certified and are marked in accordance with the requirements of AS/NZS 1260:2009, that is, PVC-U DWV pipes are marked in accordance with as per the following:

- Manufacturer's name or registered trademark, or both.
- Nominal size in the form 'DN100', or '100' as appropriate.
- The letters 'PVCU'.
- The letters 'DWV'.
- For structural wall pipes of sandwich construction the letters 'SC'.

NOTE: Vinidex also adds the letters 'FDWV' for foam core sandwich construction DWV pipe and 'SDWV' for solid core sandwich construction DWV pipe.

- Class in the form SN4, SN6, SN8, SN10 or SN16, as applicable, in sizes 100 and above.
- Date of manufacture, in the form 170615 (i.e., the 15th of June 2017), as appropriate.
- Identification of place of manufacture. The manufacturer's code is acceptable, e.g. P1.

- The number of the Standard, i.e., AS/NZS 1260.
- For pipes classified as best environmental practice PVC, the letters 'BEP PVC' or the words 'BEST ENVIRONMENTAL PRACTICE PVC'.
- Standards Mark symbol – II) I>>>>I
- Licence Number: LNxxxx as appropriate
- WaterMark symbol: W.

Example PVC-U DWV Pipe

[9323714546963] 19601 VINIDEX BEP PVC {Long Life Recyclable PVC Logo} PHONE 13 11 69 DWV 150 PVCU SN8 {WaterMark Logo} || Lic. No. 1014 AS/NZS 1260 BL03 [0] 170326 16:07

9 PACKAGING AND TRANSPORTATION

The Vinidex range of DN100 to DN375 PVC-U DWV pipes are packed in crates. Fittings are packed in cartons as required and are labelled as described above in the Product Marking.

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 Vinidex warranty is included in their terms and conditions of sale.

11 WATER AGENCY EXPERIENCE WITH THE PRODUCT OR FIELD TESTING REPORT

A field testing report of the Vinidex PVC-U DWV range of pipe and fittings has not been submitted as this range is a mature and widely installed product.

12 DISCUSSION

The Vinidex PVC-U DWV range has long history of successful installations throughout Australia. The first edition of AS 1260 for PVC-U pipes and fittings for sewerage applications was published in 1974 so that over 40 years' experience has been acquired with the product. More recently, improvements in manufacturing technologies have enabled Vinidex to introduce material efficient pipe products for both pressure and non-pressure applications.

In the late 1990's, sandwich construction PVC-U pipe technology was introduced to Australia, which consists of an inner and outer layer of solid virgin PVC-U material and an intermediate layer of either foamed (foam core) or solid (solid core) PVC-U material. The benefits of this technology are three-fold:

- It provides a means to recycle PVC-U scrap material, thus avoiding waste PVC-U material going to landfill;
- It reduces the environmental footprint of the products; and
- It provides commercial benefits to the manufacturer and end-user.

This PVC-U sandwich construction technology (foam core and solid core) is now considered best manufacturing practice and enables organisations such as Vinidex to achieve Best Environmental Practice certification as well as Green Star compliance.

13 OUTCOMES OF EXPERT PANEL PRODUCT REVIEW

Comments received by members of the Expert Panel during the peer review period have been addressed in this version of the Report.

14 LIFE EXPECTANCY

The preface of AS/NZS 1260 advises it should be noted that, by convention, plastics pipe systems are often designed on the basis of 50 years extrapolated test data. This is established international practice but is not intended to imply the service life of drainage pipes is limited to 50 years. For correctly manufactured and installed systems, the actual life cannot be predicted, but can logically be expected to be well in excess of 100 years before major rehabilitation is required.

Experience in Australia with PVC-U sanitary drains and sanitary plumbing now exceeds 40 years.

15 FUTURE WORKS

No future works items have been identified

16 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.

16.1 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.

16.2 Limits on Reliance on Information and Recommendations

16.2.1 Disclaimer of liability

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. 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.

16.3 No Updating

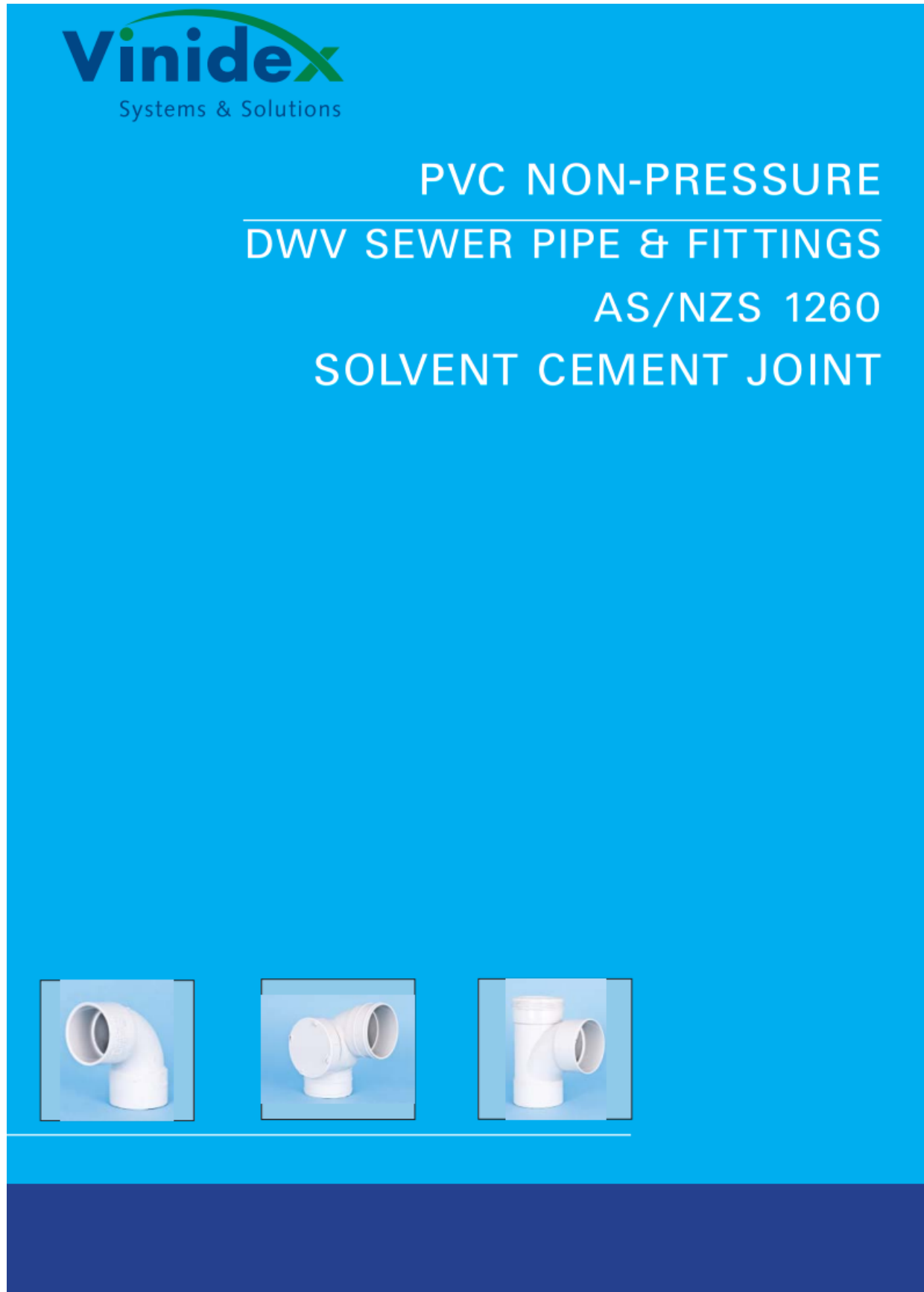
Neither the Publisher(s) nor any person involved in the preparation of this Report [has] [have] any obligation to notify you of any change in the information contained in this Report or of any new information concerning the Publisher(s) or the Product or any other matter.

16.4 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

The following brochure can be downloaded from the Vinidex website: [VIN297 PVC Non Pressure DWV SCJ \[2Mb\]](#)



The following brochure can be downloaded from the Vinidex website: [VIN296 PVC Non Pressure DWV RRJ \[503Kb\]](#)

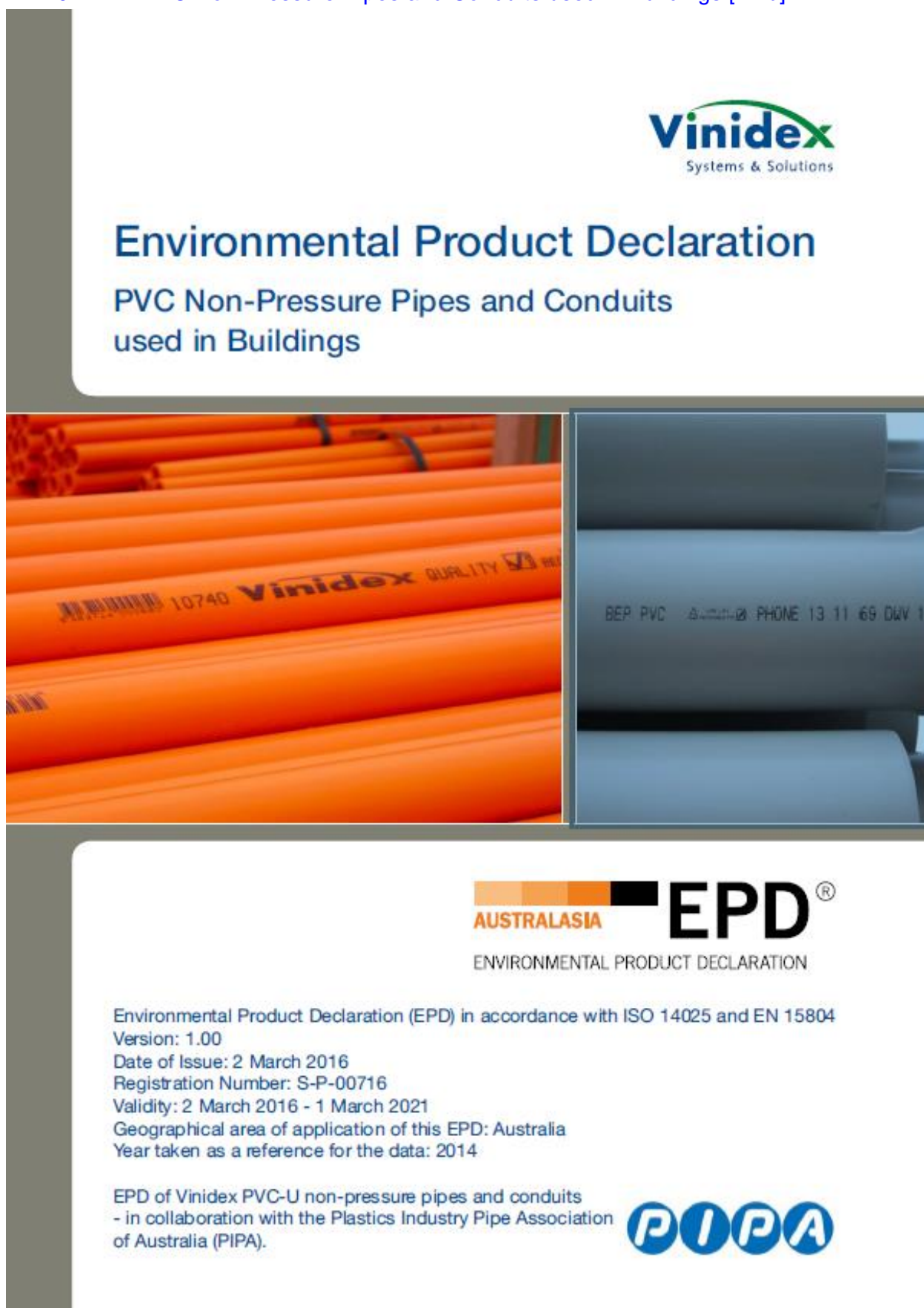


PVC NON-PRESSURE DWV SEWER PIPE & FITTINGS AS/NZS 1260 RUBBER RING JOINT



The following brochure can be downloaded from the Vinidex website:

[VIN102 EPD PVC Non-Pressure Pipes and Conduits used in Buildings \[1Mb\]](#)



Vinidex
Systems & Solutions

Environmental Product Declaration

PVC Non-Pressure Pipes and Conduits used in Buildings

AUSTRALASIA EPD[®]
ENVIRONMENTAL PRODUCT DECLARATION

Environmental Product Declaration (EPD) in accordance with ISO 14025 and EN 15804
Version: 1.00
Date of Issue: 2 March 2016
Registration Number: S-P-00716
Validity: 2 March 2016 - 1 March 2021
Geographical area of application of this EPD: Australia
Year taken as a reference for the data: 2014

EPD of Vinidex PVC-U non-pressure pipes and conduits
- in collaboration with the Plastics Industry Pipe Association
of Australia (PIPA).

PIPA

APPENDIX B - QUALITY CERTIFICATIONS

Copies of the following Quality Certification Certificates are available for downloading from the WSAA 'Members Only' Product Appraisal Technical Advisory Group Portal Website.

TABLE B1 VINIDEX PTY LTD QUALITY- MANAGEMENT SYSTEMS

VINIDEX PTY LTD (covers all sites)	
O'Connor, WA, Bohle, QLD, Notting Hill, VIC, Sunshine, VIC, Smithfield, NSW, Smithfield, NSW, Bohle, QLD, Coopers Plains, QLD, Berrimah, NT, South Launceston, TAS, Wagga Wagga, NSW, Edinburgh, SA, Charlton, QLD, Darlinghurst, NSW	
Quality Systems Standard	ISO 9001- 2008
Certification licence no.	QEC0570
Certifying agency	SAI GLOBAL
First date of certification	19 February 1991
Current date of certification	26 April 2016
Expiry date of certification	14 September 2018

TABLE B2 VINIDEX PTY LTD – PRODUCT CERTIFICATION

Manufacturing Plant - Smithfield NSW	
Product Standard/Spec.	AS/NZS 1260
Confirmation No.	SMK1246
Issuing certification body	SAI Global
Originally Certified :	28 Jul 1993
Issued Date :	29 Jun 2016
Currently Certified :	29 Jun 2016
Expires :	26 Jul 2021

TABLE B3 VINIDEX PTY LTD – PRODUCT CERTIFICATION

Manufacturing Plant - Coopers Plains Qld	
Product Standard/Spec.	AS/NZS 1260
Confirmation No.	SMKP1014
Issuing certification body	SAI Global
Originally Certified :	10 Aug 2011
Issued Date :	10 Aug 2016
Currently Certified :	10 Aug 2016
Expires :	9 Aug 2021

TABLE B4 VINIDEX PTY LTD – PRODUCT CERTIFICATION

Manufacturing Plant – Cooper Plains, Qld	
Product Standard/Spec.	AS/NZS 1260
Confirmation No.	SMKP1014
Issuing certification body	SAI Global
Originally Certified :	10 Aug 2011
Issued Date :	10 Aug 2016
Currently Certified :	10 Aug 2016
Expires :	9 Aug 2021

TABLE B5 VINIDEX PTY LTD – PRODUCT CERTIFICATION

Manufacturing Plant – Sunshine Victoria	
Product Standard/Spec.	AS/NZS 1260
Confirmation No.	SMKP1079
Issuing certification body	SAI Global
Originally Certified :	10 Aug 2011
Issued Date :	10 Aug 2016
Currently Certified :	10 Aug 2016
Expires :	9 Aug 2021

TABLE B6 BEST ENVIRONMENTAL PRACTICE PVC CERTIFICATION

Coopers Plains Qld, Smithfield NSW, Sunshine Vic and O'Connor WA. (Attach all QA system certificates in full including schedules and last audit report)	
Product Standard/Spec.	AS/NZS 1260
Confirmation No.	BEP-PVC 570
Issuing certification body	ApprovalMark
Originally Certified :	20 Feb 2012
Issued Date :	11 Feb 2016
Currently Certified :	20 Feb 2016
Expires :	20 Feb 2018

TABLE B7 RLA POLYMERS PTY LTD QUALITY- MANAGEMENT SYSTEMS

RLA Polymers Pty Ltd Kilsyth Victoria	
Quality Systems Standard	ISO 9001- 2015
Certification no.	QMS41509
Certifying agency	SAI GLOBAL
First date of certification	20 May 2015
Current date of certification	20 April 2017
Expiry date of certification	30 April 2020

TABLE B8 RLA POLYMERS PTY LTD – PRODUCT CERTIFICATION

RLA Polymers Pty Ltd Kilsyth Victoria	
Product Standard/Spec.	AS/NZS 3879
Confirmation No.	WaterMark Level 1 25224
Issuing certification body	SAI Global
Originally Certified :	17 March 2016
Issued Date :	21 March 2017
Expires :	16 March 2021

TABLE B9 THAI DUONG JOINT STOCK COMPANY (HULTEC VIETNAM) QUALITY-MANAGEMENT SYSTEMS

THAI DUONG JOINT STOCK COMPANY (HULTEC VIETNAM)	
Quality Systems Standard	ISO 9001- 2008 and ISO 14001:2004
Certification no.	01 100 106571 and 01 104 106571 TUV Rheinland
Certifying agency	TUV Rheinland
Current date of certification	4 September 2015
Expiry date of certification	3 September 2018

TABLE B10 THAI DUONG JOINT STOCK COMPANY (HULTEC VIETNAM) – PRODUCT CERTIFICATION

THAI DUONG JOINT STOCK COMPANY (HULTEC VIETNAM)	
Product Standard/Spec.	AS/NZS 1646:2007
Confirmation No.	ISO Type 5 AMI 74510
Certifying agency	ApprovalMark International
Issued Date :	10 February 2013
Expires :	10 February 2018

TABLE B11 GULF RUBBER AUSTRALIA PTY LTD QUALITY- MANAGEMENT SYSTEMS

GULF RUBBER AUSTRALIA PTY LTD QUALITY- MANAGEMENT SYSTEMS REVESBY NSW	
Quality Systems Standard	ISO 9001- 2008
Certification no.	QEC23575
Certifying agency	SAI GLOBAL
First date of certification	26 November 1998
Current date of certification	18 May 2015
Expiry date of certification	14 May 2018

TABLE B12 GULF RUBBER AUSTRALIA PTY LTD – PRODUCT CERTIFICATION

GULF RUBBER AUSTRALIA PTY LTD QUALITY– MANAGEMENT SYSTEMS THONG NHAT RUBBER COMPANY RUTHIMEX REVESBY NSW	
Product Standard/Spec.	AS/NZS 1646:2007
Confirmation No.	StandardsMark SMKP20133
Issuing certification body	SAI Global
Originally Certified :	10 December 2003
Issued Date :	15 December 2014
Expires :	9 December 2018

Complete schedules for all Product Certification Certificates are included on the WSAA members only portal



CERTIFICATE OF REGISTRATION

This is to certify that:

Vinidex Pty Ltd

ABN 42 000 664 942

Level 4 26 College Street Darlinghurst NSW 2010 AUSTRALIA
(Refer to Attachment to Certificate of Registration dated 28 April 2016 for additional certified sites)

operates a
QUALITY MANAGEMENT SYSTEM

which complies with the requirements of
ISO 9001:2008

for the following scope

The design, manufacture and distribution of polyethylene, polypropylene and unplasticised PVC pipes, conduits and associated fittings for the water supply, sewerage, drainage, electrical, mining, gas, rural and communications industries.

Certificate No: QEC0570

Issued: 28 April 2016
Expires: 14 September 2018

Originally Certified: 19 February 1991
Current Certification: 26 April 2016

Heather Mahon
Acting Head of Policy, Risk and Certification



ISO 9001



WWW.JAS-ANZ.ORG/REGISTER

Registered by:

SAI Global Certification Services Pty Ltd (ACN 108 716 669) 680 George Street Sydney NSW 2000 Australia with SAI Global Limited 680 George Street Sydney NSW 2000 Australia ("SAI Global") and subject to the SAI Global Terms and Conditions for Certification. While all due care and skill was exercised in carrying out this assessment, SAI Global accepts responsibility only for proven negligence. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. To verify that this certificate is current please refer to SAI Global On-Line Certification register at <http://www.saiglobal.com>



SAI GLOBAL

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ATTACHMENT TO CERTIFICATE OF REGISTRATION

**These sites are registered under Certificate No: QEC0570
issued on 28 April 2016.**

Vinindex Pty Ltd

ABN 42 000 664 942

Extrusion 254 Woodpark Road Smithfield NSW 2164 AUSTRALIA

Injection Moulding 254 Woodpark Road Smithfield NSW 2164 AUSTRALIA

101 Byrnes Road Wagga Wagga NSW 2650 AUSTRALIA

3846 Marjorie Street Berrimah NT 0828 AUSTRALIA

49 Enterprise Street Bohle QLD 4818 AUSTRALIA

14 Enterprise Street Bohle QLD 4818 AUSTRALIA

Lot 2, Witmack Road Charlton QLD 4350 AUSTRALIA

224 Musgrave Road Coopers Plains QLD 4108 AUSTRALIA

9 - 11 Kaurna Avenue Edinburgh SA 5111 AUSTRALIA

15 Thistle Street South Launceston TAS 7249 AUSTRALIA

Unit 1 10 Duerdin Street Notting Hill VIC 3168 AUSTRALIA

231 - 245 St Albans Road Sunshine VIC 3020 AUSTRALIA

Sainsbury Road O'Connor WA 6163 AUSTRALIA

These registrations are dependent on Vinindex Pty Ltd maintaining their scope of registration
to ISO 9001:2008.

Registered by:

SAI Global Certification Services Pty Ltd (ACN 108 716 669) 680 George Street Sydney NSW 2000 Australia with
SAI Global Limited 680 George Street Sydney NSW 2000 Australia ("SAI Global") and subject to the SAI Global Terms and Conditions
for Certification. While all due care and skill was exercised in carrying out this assessment, SAI Global accepts responsibility only for
proven negligence. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. To verify that
this certificate is current please refer to SAI Global On-Line Certification register at <http://www.sai-global.com>



SAI GLOBAL
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STANDARDSMARK LICENCE

SAI Global hereby grants:

Vinidex Pty Ltd

ABN 42 000 664 942

Extrusion, 254 Woodpark Road, Smithfield, NSW 2164, Australia

StandardsMark Licence

Manufactured to:

AS/NZS 1260:2009 - PVC-U pipes and fittings for drain, waste and vent application

"the StandardsMark Licensee" the right to use the STANDARDSMARK as shown below only in respect of the goods described and detailed in the Schedule which are produced by the Licensee or on behalf of the Licensee* and which comply with the appropriate Standard referred to above as from time to time amended. The Licence is granted subject to the rules governing the use of the STANDARDSMARK and the Terms and Conditions for certification and licence. The Licensee covenants to comply with all the Rules and Terms and Conditions.

Certificate No:SMK1246

Issued: 29 June 2016

Expires: 26 July 2021

Originally Certified: 28 July 1993

Current Certification: 29 June 2016

Paul Simpson
Global Policy Risk and Certification Manager



* For details of manufacture, refer to the licensee

The STANDARDSMARK is a registered certification trademark of SAI Global Limited (A.C.N. 050 644 642) and is issued under licence by SAI Global Certification Services Pty Limited (ACN 108 716 669) ("SAI Global") 680 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. Refer to www.saiglobal.com, for the list of product models.





STANDARDSMARK LICENCE

SAI Global hereby grants:

Vinidex Pty Ltd

ABN 42 000 664 942

224 Musgrave Road, Coopers Plains, QLD 4108, Australia

StandardsMark Licence

Manufactured to:

AS/NZS 1260:2009 - PVC-U pipes and fittings for drain, waste and vent application

"the StandardsMark Licensee" the right to use the STANDARDSMARK as shown below only in respect of the goods described and detailed in the Schedule which are produced by the Licensee or on behalf of the Licensee* and which comply with the appropriate Standard referred to above as from time to time amended. The Licence is granted subject to the rules governing the use of the STANDARDSMARK and the Terms and Conditions for certification and licence. The Licensee covenants to comply with all the Rules and Terms and Conditions.

Certificate No:SMKP1014

Issued: 10 August 2016

Expires: 9 August 2021

Originally Certified: 10 August 2011

Current Certification: 10 August 2016

Paul Simpson
Global Policy Risk and Certification Manager



* For details of manufacture, refer to the licensee

The STANDARDSMARK is a registered certification trademark of SAI Global Limited (A.C.N. 050 644 642) and is issued under licence by SAI Global Certification Services Pty Limited (ACN 108 716 669) ("SAI Global") 660 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. Refer to www.saiglobal.com, for the list of product models.





STANDARDSMARK LICENCE

SAI Global hereby grants:

Vinidex Pty Ltd

ABN 42 000 664 942

Sainsbury Road, O'Connor, WA 6163, Australia

StandardsMark Licence

Manufactured to:

AS/NZS 1260:2009 - PVC-U pipes and fittings for drain, waste and vent application

"the StandardsMark Licensee" the right to use the STANDARDSMARK as shown below only in respect of the goods described and detailed in the Schedule which are produced by the Licensee or on behalf of the Licensee* and which comply with the appropriate Standard referred to above as from time to time amended. The Licence is granted subject to the rules governing the use of the STANDARDSMARK and the Terms and Conditions for certification and licence. The Licensee covenants to comply with all the Rules and Terms and Conditions.

Certificate No:SMKP1075

Issued: 10 August 2016

Expires: 9 August 2021

Originally Certified: 10 August 2011

Current Certification: 10 August 2016

Paul Simpson
Global Policy Risk and Certification Manager



*** For details of manufacture, refer to the licensee**

The STANDARDSMARK is a registered certification trademark of SAI Global Limited (A.C.N. 050 644 642) and is issued under licence by SAI Global Certification Services Pty Limited (ACN 108 716 669) ("SAI Global") 680 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. Refer to www.saiglobal.com, for the list of product models.





STANDARDSMARK LICENCE

SAI Global hereby grants:

Vinidex Pty Ltd

ABN 42 000 664 942

231 - 245 St Albans Road, Sunshine, VIC 3020, Australia

StandardsMark Licence

Manufactured to:

AS/NZS 1260:2009 - PVC-U pipes and fittings for drain, waste and vent application

"the StandardsMark Licensee" the right to use the STANDARDSMARK as shown below only in respect of the goods described and detailed in the Schedule which are produced by the Licensee or on behalf of the Licensee" and which comply with the appropriate Standard referred to above as from time to time amended. The Licence is granted subject to the rules governing the use of the STANDARDSMARK and the Terms and Conditions for certification and licence. The Licensee covenants to comply with all the Rules and Terms and Conditions.

Certificate No:SMKP1079

Issued: 10 August 2016

Expires: 9 August 2021

Originally Certified: 10 August 2011

Current Certification: 10 August 2016

Paul Simpson
Global Policy Risk and Certification Manager



*** For details of manufacture, refer to the licensee**

The STANDARDSMARK is a registered certification trademark of SAI Global Limited (A.C.N. 050 644 642) and is issued under licence by SAI Global Certification Services Pty Limited (ACN 108 716 669) ("SAI Global") 680 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. Refer to www.saiglobal.com, for the list of product models.





BEST ENVIRONMENTAL PRACTICE



ApprovalMark International hereby grants:

VINIDEX PTY LIMITED
224 MUSGRAVE RD, COOPERS PLAIN, QLD 4108
254 WOODPARK RD, SMITHFIELD, NSW 2164
234 ST ALBAN RD, SUNSHINE VIC 3020
SAINSBURY RD, O'CONNOR WA 6163

Best Environmental Practice - PVC

Evaluated to:

AS/NZS 1254: 2010 – PVC-U Pipes and fittings for stormwater and surface water applications

AS/NZS 1260: 2009 – PVC-U Pipes and fittings for drain, waste and vent applications

AS/NZS 1477: 2006 – PVC-U Pipes and fittings for pressure applications

AS/NZS 4441: 2008 - Oriented PVC (PVC-O) pipes for pressure applications (Smithfield & Coopers Plain Site only)

AS/NZS 4765: 2007 – Modified PVC (PVC –M) for pressure applications

AS/NZS 2053:2 2001 – Conduits and fittings for electrical installations Part 2 Rigid plain conduits and fittings of insulating material

Complies with the requirement of Best Environmental Practice – PVC as per the relevant Australian Standard and Best Practice Guidelines for PVC in the Build Environment as per specified in the Green Building Council Literature Review and Best Practice Guidelines for the Life Cycle of PVC Building Product document. The Manufacturer's Technical Documentation have been reviewed and found to comply with the following:

- Manufacture of PVC Resin
- Manufacture and end of life management of PVC products
- Use of PVC Recyclate in PVC products

Any changes introduced to above requirements shall immediately be reported to ApprovalMark International in order to examine the validity of the certificate.

Certificate No. BEP-PVC 570

Issued: 11th February 2016
Expires: 20th February 2018

Originally Certified: 20th February 2012
Current Certification: 20th February 2016

Certification Manager
John PRASAD

**ISO
TYPE 5**

CERTIFICATE OF CONFORMITY



ApprovalMark International hereby grants:

THAI DUONG JOINT STOCK COMPANY

Lot A 6B-CN, My Phuoc 3 Industrial Park
Ben Cat District, Binh Duong Province
VIETNAM

Evaluated to:

AS 1646 - 2007 Elastomeric seals for waterworks purposes

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

Certificate No. AMI 74510

Issued: 10th February 2013

Expires: 10th February 2018

A handwritten signature in black ink, appearing to read "John PRASAD".

John PRASAD
Certification Manager



ApprovalMark Certification



ApprovalMark



Product Schedule

Thai Duong Joint Stock Company
 Lot A 6B-CN, My Phuoc 3 Industrial Park
 Ben Cat District, Binh Duong Province,
 Vietnam

ISO Type 5 Certificate of Conformity

Evaluated to:

AS 1646: 2007 - Elastomeric seals for waterworks purposes

Model Id	Model Name	Brand Name	Product Description	Endorsement Date
6230xx6	AS TYTON EPDM	HULTEC	100 - 750	10 th February 2013
6230xx4	BS TYTON EPDM	HULTEC	100 - 800	10 th February 2013
6210xxx	AS TYTON NITRILE	HULTEC	100 - 750	10 th February 2013
7230xxx	CI AS EPDM	HULTEC	100 - 750	10 th February 2013
7230xx6	CI AS NITRILE	HULTEC	100 - 750	10 th February 2013
88883xxx	PLASTYT ADAPTOR RING	HULTEC	100 - 600	10 th February 2013
88893xxx	MULTIGIB / EZIGIB SEAL	HULTEC	80 - 250	10 th February 2013
6310xxx	TOP GASKET, GATE VALVE	HULTEC	80 - 900	10 th February 2013
6320xxx	BODY GASKET, GATE VALVE	HULTEC	80 - 900	10 th February 2013
6330001	TOP COVER GASKET, H&AV ISOLATOR	HULTEC	n/a	10 th February 2013
6330002	TOP COVER GASKET, SA FIREPLUG	HULTEC	n/a	10 th February 2013
6330003	SEAL HOUSING GASKET, H&AV ISOLATOR	HULTEC	n/a	10 th February 2013
6330004	TOP COVER GASKET, WA HYDRANT	HULTEC	n/a	10 th February 2013
6340xxx	TOP GASKET, CHECK VALVE	HULTEC	100 - 150	10 th February 2013
6350500	DN 500 / 600 BYPASS CHECKVALVE GASKET	HULTEC	n/a	10 th February 2013
6400100	MULTITAP TOP HAT SEAL 3/4 Inch - 1	HULTEC	n/a	10 th February 2013
6400200	MULTI-TAP LIP SEAL 1 1/4 Inch - 2	HULTEC	n/a	10 th February 2013
6400806	SPRING HYDRANT SEAL 6mm THICK	HULTEC	n/a	10 th February 2013
829	Spring Hydrant Washer Ribbed EPDM	HULTEC	n/a	10 th February 2013
9909xxx	RRJ-S SINTAJOINT EPDM	HULTEC	324 - 1451	10 th February 2013
99090000	RRJ-S SINTAJOINT EPDM STRIP	HULTEC	n/a	10 th February 2013
5501xxx	RRJ-D SINTAJOINT EPDM	HULTEC	762 - 1829	10 th February 2013
88903xxx	GIBALT EPDM	HULTEC	50 - 750	10 th February 2013
88904xxx	GIBALT NITRILE	HULTEC	50 - 750	10 th February 2013
88911xxx	Pressure D/Hard SBR	HULTEC	50 - 375	10 th February 2013
88931xxx	Blue Brute SBR	HULTEC	100 - 450	10 th February 2013
88921xxx	Sewer S-Type SBR	HULTEC	100 - 375	10 th February 2013
88942xxx	Black Max Ring EPDM	HULTEC	225 - 600	10 th February 2013
88943xxx	Black Max Ring SBR	HULTEC	225 - 600	10 th February 2013



Product Schedule

Model Id	Model Name	Brand Name	Product Description	Endorsement Date
88900100	Iplex DWV Pan Collar	HULTEC	n/a	10 th February 2013
6500225	Riser Cap Rubber Ring	HULTEC	n/a	10 th February 2013
89000025	SWV PLUG WASHER	HULTEC	n/a	10 th February 2013
88980100	Pan-collar Seal - Vx	HULTEC	n/a	10 th February 2013
88961xxx	POLY SBR	HULTEC	50 - 375	10 th February 2013
88951xxx	VINYL IRON SBR	HULTEC	100 - 375	10 th February 2013
88991xxx	ULTRA RIB SBR	HULTEC	150 - 375	10 th February 2013
88975xxx	VINITITE SBR (Sewer)	HULTEC	100 - 300	10 th February 2013
88401xxx	POLYPRO RING SBR	HULTEC	150 - 900	10 th February 2013
113	A1 Sureseal NBR	HULTEC	n/a	10 th February 2013
9224xxxx	REPAIR MAT (80)	HULTEC	238 - 1400	10 th February 2013
9124xxxx	REPAIR MAT (135)	HULTEC	238 - 1400	10 th February 2013
3xxxxxxx	REPAIR MAT - CASCADE	HULTEC	238 - 1400	10 th February 2013
9230100	100mm DWV	HULTEC	n/a	10 th February 2013
11xxxxx	Z RING SBR	HULTEC	50 - 375	10 th February 2013
1012041	ORING (41mm X 8.5mm)	HULTEC	n/a	10 th February 2013
1012062	ORING (62mm X 11mm)	HULTEC	n/a	10 th February 2013
1013005	LIPSEAL RING SMALL	HULTEC	n/a	10 th February 2013
1013010	LIPSEAL RING LARGE	HULTEC	n/a	10 th February 2013
10110xx	TAP / BAND TAPTITE NUT	HULTEC	20 - 25	10 th February 2013
773	SPRING HYDRANT WASHER FLAT	HULTEC	n/a	10 th February 2013
7210xxx	GRIPTITE EPDM	HULTEC	80 - 600	10 th February 2013
7220xxx	NORTITE EPDM	HULTEC	80 - 375	10 th February 2013
7240xxx	MECHANICAL JOINT EPDM	HULTEC	80 - 600	10 th February 2013
7250xxx	AF MFJ Short	HULTEC	80 - 200	10 th February 2013
7260xxx	AF MFJ STD	HULTEC	80 - 600	10 th February 2013
7270xxx	WTRP EPDM	HULTEC	100 - 200	10 th February 2013
7231xxx	Hultec Sewer SBR	HULTEC	100 - 375	31 st August 2016
88952xxx	Ezipit TEGRA Seal SBR	HULTEC	100 - 600	31 st August 2016

End of record

Certificate No: AMI 74510

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



CERTIFICATE OF REGISTRATION

This is to certify that:

Gulf Rubber Australia Pty Ltd

ABN 13 118 010 263

12-13 Green Street Revesby NSW 2212 AUSTRALIA

operates a

QUALITY MANAGEMENT SYSTEM

which complies with the requirements of

ISO 9001:2008

for the following scope

The design and manufacture of elastomeric, thermoplastic and moulded rubber and rubber to metal moulded components.

Certificate No: QEC23575

Issued: 18 May 2015
Expires: 14 May 2018

Originally Certified: 26 November 1998
Current Certification: 15 May 2015

Samer Chaouk
Head of Policy, Risk and Certification

Paul Butcher
Global Head – Assurance Services



ISO 9001



WWW.JAS-ANZ.ORG/REGISTER

Registered by:

SAI Global Certification Services Pty Ltd (ACN 108 716 669) 680 George Street Sydney NSW 2000 Australia with SAI Global Limited 680 George Street Sydney NSW 2000 Australia ("SAI Global") and subject to the SAI Global Terms and Conditions for Certification. While all due care and skill was exercised in carrying out this assessment, SAI Global accepts responsibility only for proven negligence. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. To verify that this certificate is current please refer to SAI Global On-Line Certification register at <http://www.sai-global.com>



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WaterMark Level 1

Certificate of Conformity

Australian Certification Services Pty Ltd grants to the WaterMark User:

RLA Polymers Pty Ltd

Trading as RLA Polymers Pty Ltd

the right to use the WaterMark as shown above in conjunction with the Certificate No. on product/s as identified in the WaterMark Schedule and as listed on the WaterMark database www.abcb.gov.au/product-certification which have been shown to comply with the relevant Standard/s and level of certification referred to below. The WaterMark User is granted a licence to use the WaterMark subject to the rules governing the use of the WaterMark.

Product Type: Solvent Cements and Priming Fluids
Evaluated to: AS/NZS 3879:2011 Solvent cements and priming fluids for PVC (PVC-U and PVC-M) and ABS and ASA pipes and fittings

Issue Date: 21st July 2017
Initial Issue Date: 17th March 2016
Expiry Date: 16th March 2021

Paul Greig
General Manager

Certificate No.: 25224

This certificate remains the property of Australian Certification Services Pty Ltd

WaterMark Level 1 certification is a conformity assessment scheme based on ISO Guide 67 (system 5)





STANDARDSMARK LICENCE

SAI Global hereby grants:

Gulf Rubber Australia Pty Ltd

ABN 13118010263

Thong Nhat Rubber Company Ruthimex

12-13 Green Street, Revesby, NSW 2212, Australia

StandardsMark Licence

Manufactured to:

AS 1646-2007 - Elastomeric seals for waterworks purposes

"the StandardsMark Licensee" the right to use the STANDARDSMARK as shown below only in respect of the goods described and detailed in the Schedule which are produced by the Licensee or on behalf of the Licensee* and which comply with the appropriate Standard referred to above as from time to time amended. The Licence is granted subject to the rules governing the use of the STANDARDSMARK and the Terms and Conditions for certification and licence. The Licensee covenants to comply with all the Rules and Terms and Conditions.

Certificate No:SMKP20133

Issued: 15 December 2014

Expires: 9 December 2018

Originally Certified: 10 December 2003

Current Certification: 15 December 2014

Samer Chaouk
Head of Policy, Risk and Certification



* For details of manufacture, refer to the licensee

The STANDARDSMARK is a registered certification trademark of SAI Global Limited (A.C.N. 050 644 642) and is issued under licence by SAI Global Certification Services Pty Limited (ACN 108 716 669) ("SAI Global") 680 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. Refer to www.saiglobal.com, for the list of product models.



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Certificate

Standard **ISO 9001:2008 and ISO 14001:2004**
Certificate Registr. No. 01 100 106571 and 01 104 106571


Certificate Holder: **THAI DUONG JOINT STOCK COMPANY
(HULTEC VIETNAM)**
Lot A-6B-CN, My Phuoc 3 Industrial Park,
Chanh Phu Hoa Ward, Ben Cat Town,
Binh Duong Province, Vietnam

Scope: **Manufacture of Technical Rubber Products**

Proof has been furnished by means of an audit that the
requirements of ISO 9001:2008 and ISO 14001:2004 are met.

Validity: The certificate is valid from 04.09.2015 until 03.09.2018.

18.08.2015


TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

www.tuv.com





CERTIFICATE OF REGISTRATION

This is to certify that:

RLA Polymers Pty Ltd

ABN 89 004 709 915

215 Colchester Road Kilsyth VIC 3137 AUSTRALIA

operates a

QUALITY MANAGEMENT SYSTEM

which complies with the requirements of

ISO 9001:2015

for the following scope

The development, formulation, manufacture and stockholding of adhesives, sealants, industrial compounds, coatings, carpet underlay and ancillary products.

Certificate No: QMS41509

Issued: 20 April 2017
Expires: 30 April 2020

Originally Certified: 20 May 2015
Current Certification: 16 April 2017

Nicole Grantham
General Manager SAI Global Certification Services



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Registered by:

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APPENDIX C - WSAA PRODUCT SPECIFICATION

WATER SERVICES ASSOCIATION of Australia

PRODUCT SPECIFICATION

WSA PS - 230 POLYVINYLCHLORIDE, UNPLASTICISED (PVC-U) PIPES AND FITTINGS FOR NON-PRESSURE APPLICATIONS – SEWERAGE AND DRAINAGE

230.1 SCOPE

This specification covers PVC-U non-pressure pipes and fittings, including solvent cements and priming fluids, for use in gravity sewerage and drainage.

230.2 REQUIREMENTS

- (a) PVC-U pipes and fittings shall comply with AS/NZS 1260:2017.
- (b) PVC-U pipes and fittings shall be marked 'BEP PVC' or the words 'BEST ENVIRONMENTAL PRACTICE PVC'.
- (c) Pipes shall be Stiffness Class SN8 (for DN 150 and above) and SN10 (for DN 100).
- (d) Fittings shall be Stiffness Class SN8 or higher.
- (e) Joints:
 - (i) Elastomeric seals shall be EPDM or CR or SBR complying with AS 1646:2007 and AS 681.1:2008 (EN 681-1:1996).
 - (ii) Solvent cement and priming fluid for use with tapered socketed fittings shall be Type N¹ or Type G² complying with AS/NZS 3879:2011.
 - (iii) Solvent cement for use with parallel socketed fittings shall comply with manufacturer's requirements.
 - (iv) A threaded spigot and socket joint with an elastomeric sealing ring system that accommodates tensile and compressive loads to manufacturer's requirements.³

230.3 QUALITY ASSURANCE

- (a) PVC-U non-pressure pipes and fittings shall have product certification (ISO Type 5) to AS/NZS 1260:2017. The ISO Type 5 Product Certification Scheme shall meet the criteria described in WSA TN-08⁴.
- (b) Elastomeric joint seals shall have product certification (ISO Type 5) to AS 1646:2007 and AS 681.1:2008 (EN 681-1:1996).
- (c) Solvent cements shall have product certification (ISO Type 5) to AS/NZS 3879:2011.
- (d) All products shall be marked in accordance with the conformity assessment body's requirements.

230.4 AGENCY OR PROJECT SPECIFIC REQUIREMENTS

Limitations on wall construction (plain wall, ribbed, solid core sandwich construction or foam core sandwich construction)	
Joint type (elastomeric seal or solvent cement or threaded spigot and socket joint)	

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with an elastomeric seal ⁹⁾	
Alternative pipe stiffness Class (e.g. SN16)	
Alternative elastomeric material for joint seals (e.g. NBR)	

NOTES:

- 1 Type N is used for jointing PVC pipe systems with tapered/interference fit joints which will not be subjected to internal pressure or other applications where high bond strength is not required.
- 2 Type G is used for joining PVC and ABS pressure or non-pressure pipes where parallel/no or low interference fit joints are used and where a high bond strength and ability to fill small gaps is required.
- 3 Restrained joint and seal ring systems are designed to accommodate tensile and compressive loads, installation using trenchless methods where pipes may be "pushed" or "pulled" into place depending on the installation methodology.
- 4 Water Services Association of Australia Technical Note (WSA TN-08) sets out additional product conformity assessment requirements that are associated with demonstration of conformity to AS/NZS 1260:2017.

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APPENDIX D - SUPPLIER CONTACTS

For orders, product enquiries, technical information, delivery and order status please contact Vinidex customer service.

PHONE: 13 11 69

FAX: 13 24 43

EMAIL: sales@vinidex.com.au

or contact your State sales office:

Queensland: qldsales@vinidex.com.au

Victoria: vicsales@vinidex.com.au

Western Australia: wasales@vinidex.com.au

New South Wales: nswsales@vinidex.com.au

For all other enquiries please contact our administration office;

PHONE: (02) 8278 0500

FAX: (02) 8278 0552

EMAIL: info@vinidex.com.au

APPENDIX E - NATA LABORATORY TEST RESULTS AND QC REPORTS

Name of the NATA accredited laboratory to be mentioned with the Accreditation No.

NATA Report 1141 Pressure test on RRJ foam core SC DN150 SN8 pipe.

NATA Report 1142 Liquid infiltration test on RRJ foam core SC DN150 SN8 pipe.

NATA Report 1143 Interface pressure and contact width test on RRJ foam core SC SN8 pipe.

NATA Report 1144 Ring flexibility test on RRJ foam core SC SN8 pipe.

NATA Report 1145 Ring flexibility test on RRJ solid core SC SN8 pipe.

QC Report dated 170324 on plain wall DN150 DWV pipe including dimensions and impact resistance.

QC Report dated 170209 on plain wall DN150 DWV pipe including dimensions, impact resistance and pipe stiffness.

QC Report dated 161125 on foam core SC DN150 DWV pipe including dimensions, impact resistance and pipe stiffness.

QC Report dated 170213 on foam core SC DN150 DWV pipe including dimensions, impact resistance and pipe stiffness.

QC Report dated 160709 on solid wall SC DN150 DWV pipe including dimensions, impact resistance and pipe stiffness.

QC Report dated 161115 on solid wall SC DN150 DWV pipe including dimensions, impact resistance and pipe stiffness.

QC Summary report (xls file) for solid wall DWV pipe on the period 27/12/16 to 27/3/17.

QC Summary report (xls file) for foam core SC DWV pipe on the period 24/10/16 to 16/2/17.

QC Summary report (xls file) for solid core SC DWV pipe on the period 7/7/16 to 16/11/16.

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