



Derwent Industries Pty Ltd

PRODUCT APPRAISAL REPORT No 1908 Issue 3

Derwent Unrestrained Mechanical Couplings

**AS/NZS 4998: 2009 Bolted unrestrained mechanical couplings
for waterworks purposes**

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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

Derwent Industries Pty Ltd is a wholly owned operating unit of the Evans Group of Companies, a private family-owned business originally established in 1963. Other members of the Evans Group include Derwent International Pty Ltd, Desal Systems Pty Ltd and Advanced Water Group Pty Ltd.

Derwent Foundry and Derwent Pipelines are trading names of Derwent Industries Pty Ltd.

This appraisal is for a range of Derwent mechanical couplings in sizes DN 100 to DN 300 complying with AS/NZS 4998:2009 *Bolted unrestrained mechanical coupling for waterworks purposes*.

This Issue 3 is to include DN 300 size couplings to the range. Issue 2 was to include DN 200, DN 225 and DN 250 sizes.

Derwent unrestrained mechanical couplings are designed to suit a wide range of pipe outside diameters and are intended for jointing spigot ends of pipes, other than PE, in water and sewerage applications, either in above or below ground situations.

The couplings are supplied with Grade 316 stainless steel barrels and polymeric coated ductile iron end rings. The fastener options are either Grade 316 coated with a Molybond dry film coating or galvanized mild steel. The seals are NBR (Nitrile).

Derwent Industries Pty Ltd has a Quality Management System Licence to ISO 9001:2015 and the products are covered by a StandardsMark ISO Type 5 product certification to AS/NZS 4998:2009 *Bolted unrestrained mechanical coupling for waterworks purposes*.

The Derwent couplings described within this appraisal meet the requirements of WSA PS 270 – *Mechanical Couplings Non-End Thrust Restraint for Pressure Applications – Drinking Water, Non-Drinking Water Supply and Sewerage* and are therefore deemed as 'fit for purpose'

1.1 Recommendation

It is recommended that WSAA members and associates, subject to any specific requirements of the member, accept or authorise the Derwent couplings, as detailed in this report, for use in water supply and sewerage pressure pipelines, 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 Derwent Industries Pty Ltd.

2.1 The Manufacturer

Derwent Industries Pty Ltd is a wholly owned operating unit of the Evans Group of Companies, a private family-owned business originally established in 1963. Other members of the Evans Group include Derwent International Pty Ltd, Desal Systems Pty Ltd and Advanced Water Group Pty Ltd. Derwent Foundry and Derwent Pipelines are trading names of Derwent Industries Pty Ltd.

The stainless-steel barrels are manufactured by Derwent at their Wodonga based fabrication and assembly facility, the ductile iron components are imported from China and the seals are sourced from a rubber manufacturer in Australia.

The Evans Group has a long history of involvement in manufacturing and marketing products for the Australian water industry. In 1981 Wang Industries Pty Ltd, a member of the Evans Group, began the manufacture of the first Australian made stainless steel repair clamp range, branded as Kawandah. In the 1990's a range of Varigib repair couplings was introduced to the market. Wang Industries acquired Derwent Foundry, located in Hobart

Tasmania, in 1997, which provided manufacturing capability for a complete range of ductile iron fittings.

In 2001 Tyco International acquired Wang Industries, however the Evans Group retained Derwent Foundry, now operating as the manufacturing arm of Derwent Industries Pty Ltd.

Derwent Industries Pty Ltd is the operations and sales arm of the group whilst Derwent International Pty Ltd is the logistics business, importing pipeline component products for Derwent Industries, to complement their manufactured products.

For more information see: www.derwentindustries.com.au

3 THE PRODUCT

Derwent couplings are unrestrained mechanical couplings, designed to suit a wide range of pipe OD's and suitable for joining spigot ends of pipe manufactured from grey or ductile cast iron, steel, PVC-U, PVC-M, PVC-O and asbestos cement. The coupling is suitable for use in contact with drinking water and neutral fluids (sewage) to a maximum temperature of 40°C.

The available size range is DN 100 to DN 300 and the couplings are available in both short and long barrel types. Fasteners can be either Grade 316 stainless steel, coated with a Molybond dry film coating, or galvanized mild steel. Plastic caps are fitted to the end of the bolts to protect the protruding thread beyond the nut.

The pipe outside diameter range (reach) and barrel lengths of the couplings are given in Table 1.

TABLE 1 DERWENT COUPLINGS

DN	Barrel Length mm		Size Range – Reach (mm)		Fasteners
	Short	Long	Min	Max	
100	110	176	109	133	SS or Gal
150	110	176	158	182	SS or Gal
200	-	176	214	238	SS or Gal
225	-	176	240	264	SS or Gal
250	-	176	272	296	SS or Gal
300	-	216	310	334	SS or Gal
300	-	216	330	354	SS or Gal

The DI end rings are polymeric coated and the elastomeric seals are moulded from NBR (Nitrile) rubber. The couplings have an allowable operating pressure of 1600 kPa.

The maximum allowable angular deflection varies by size and is nominated in Derwent's literature and marked on the product. Refer to Appendix A for details.



FIGURE 1 DERWENT COUPLINGS

4 SCOPE OF THE APPRAISAL

The scope of this appraisal covers Derwent unrestrained mechanical couplings in sizes DN 100 to DN 300 with DI polymeric coated end rings and Grade 316 stainless steel barrel with either grade 316 stainless steel or galvanized mild steel fasteners.

5 APPRAISAL CRITERIA

5.1 Quality Assurance Requirements

The WSAA Product Appraisal Technical Advisory Group accepts unrestrained mechanical couplings manufactured in compliance with AS/NZS 4998:2009 *Bolted unrestrained mechanical coupling for waterworks purposes* and duly certified by means of an ISO Type 5 product certification scheme undertaken by a JAS-ANZ accredited Conformity Assessment Body (CAB) or by an international accreditation system recognised by JAS-ANZ.

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

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

5.2 Performance Requirements

Derwent couplings have been appraised for compliance with AS/NZS 4998:2009 *Bolted unrestrained mechanical couplings for waterworks purposes*.

Appraisal criteria are also determined by the WSAA Product Appraisal Technical Advisory Group and regularly reviewed to ensure that the criteria reflect the requirements of WSAA members.

The following Product Specification is relevant to this application:

WSA PS 270 – *Mechanical Couplings Non-end Thrust Restraint for 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/35716>

6 COMPLIANCE WITH APPRAISAL CRITERIA

6.1 Compliance with Quality Assurance Requirements

Derwent has submitted the following quality certificates:

- ISO 9001:2015 Certificate of Registration No QEC2004 issued to Derwent Industries Pty Ltd by SAI-Global.
- AS 4998:2009 StandardsMark ISO Type 5 Product Certification Licence No SMK 40909 issued to Derwent Industries Pty Ltd by SAI-Global.

Copies of ISO 9001:2015 certificates for the suppliers of the ductile iron end rings and rubber seals have been submitted by Derwent however the identity of the suppliers has been requested to remain commercial in confidence.

Copies of the primary Quality Assurance and Product Certification licences have been included in Appendix B and other copies are available from WSAA subject to client approval.

6.2 Compliance with Performance Requirements

6.2.1 Material Requirements

6.2.1.1 End rings and Barrel

AS/NZS 4998:2009 specifies allowable material requirements for the coupling components.

End rings manufactured from Ductile Iron shall conform to minimum AS 1831 Grade 400-15 or higher tensile grades. Barrels manufactured from stainless steel shall conform to minimum ASTM A240M for Grade 316L or ASTM A276 for Grade 316.

Typical material test reports have been supplied by Derwent to demonstrate compliance with the material requirements.

6.2.1.2 *Elastomeric seals*

AS/NZS 4998:2009 allows for EPDM, NBR or SBR elastomeric joint seals in compliance with AS 1646 and AS 681.1.

Derwent coupling seals are manufactured from NBR (Nitrile). Test reports have been supplied to demonstrate compliance with the performance requirements of AS 1646 and AS 681.1.

6.2.1.3 *Stainless Steel Fasteners*

The Derwent couplings utilise M16 bolts, nuts and washers. They are available as Grade 316 stainless steel or galvanized mild steel.

A Molybond coating is applied to the fastener threads as a galling prevention measure.

6.2.1.4 *Polymeric Coatings*

AS/NZS 4998 specifies that Ductile Iron components shall be coated with a thermal bonded polymeric coating in accordance with AS/NZS 4158.

The DI end rings on the Derwent couplings are fully coated with Jotun Jotaguard VA 5001, a fusion bonded epoxy powder coating. The coating is StandardsMark product certified by SAI-Global and a copy is retained on file by WSAA.

The coating is applied utilising an electrostatic spray method by a subcontractor coating applicator in Melbourne.

A typical production test report has been submitted to demonstrate compliance with adhesion, cure, continuity and thickness requirements of AS/NZS 4158.

The coating application process is also audited as part of the product certification licensing procedures by SAI-Global.

6.2.1.5 *Contamination of Drinking Water*

The materials in contact with water are the polymeric coating, the Nitrile seal and the stainless-steel barrel. Akzo Nobel maintains AS/NZS 4020 certification as a component of their product certification and a test report is held on file by WSAA. Stainless steel is known to have no deleterious effect on drinking water.

Derwent has supplied a test report from Australian Water Quality Centre dated December 2018 to demonstrate compliance of the Nitrile material with AS/NZS 4020:2005.

6.2.2 Design, Manufacture and Operation

6.2.2.1 *Design*

The Derwent coupling is of basic standard design, using 3 bolts for DN 100 and DN 150, 5 bolts for DN 200 and DN 225 and 6 bolts for DN 250 and DN 300 sizes.

The pipe diameter sealing range is typical for this type of coupling and is detailed in Table 1.

6.2.2.2 *Barrel lengths*

AS/NZS 4998 specifies minimum barrel lengths.

The Derwent barrel lengths meet the minimum requirements specified in AS/NZS 4998.

6.2.2.3 Nominated Joint Deflection

AS/NZS 4998 requires the manufacturer to nominate the maximum joint deflections allowable at each coupling end, for both minimum and maximum pipe outside diameters within the nominated coupling reach.

Derwent advises that an allowable deflection of 6° can be achieved at each end of the DN 100 and DN150 couplings, 3° at each end of the DN 200, DN 225 and DN 250 couplings and 1.5° at each end of the DN 300 couplings for both minimum and maximum pipe diameters within the reach of the coupling.

This information is included in the Data Sheet and is also included in the marking on the coupling.

6.2.2.4 Nominal Pipe setting Gap

Derwent has nominated the pipe setting gap range as 10 to 20mm for 110mm long barrels, 10 to 60mm for 176mm long barrels and 20 to 80 for 216mm long barrels. See Appendix A.

6.2.2.5 Welding Stainless Steel

Welding is required to be carried out in accordance with AS/NZS 1554.6 with welding quality B and meet the requirements of the intergranular corrosion test specified in AS 2205.10.1. All stainless-steel components are required to be passivated in accordance with ASTM A380.

Documentation from independent assessors has been provided to indicate compliance with these requirements.

6.2.3 Performance Tests

Derwent has submitted test reports to demonstrate conformance to the Type Test requirements of AS/NZS4998:2009.

Queensland Testing Laboratory (NATA Accreditation No: 14783) conducted the type tests for each size coupling.

The Type Tests completed for each size were as follows:

- Hydrostatic leak tightness test
- Joint infiltration test
- Assembly test

6.2.3.1 Hydrostatic leak tightness test

These tests were carried out using pipe pieces with outside diameters equal to the minimum outside diameter of the nominated reach of the couplings. The test was undertaken at the maximum nominated angular joint deflection and the maximum pipe setting gap with a test pressure of 2400 kPa for 2 hours.

The couplings displayed no leakage, seal cracking or other failure.

6.2.3.2 Joint infiltration test

These tests were carried out using pipe pieces with outside diameters equal to the minimum outside diameter of the nominated reach of the couplings. The test was undertaken at the maximum nominated angular joint deflection and the maximum pipe setting gap with a test pressure of –80 to –85 kPa for 2 hours.

The couplings met the requirement of no greater than 10% increase in pressure over that period.

6.2.3.3 Assembly test

These tests were carried out on pipe pieces that have an outside diameter equal to the maximum outside diameter of the nominated reach of the coupling.

There was no interference observed between the coupling and the pipes.

7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION

A copy of Derwent's Coupling Fitting Instructions is included in Appendix A.

The mechanical coupling is a common fitting in the water industry and installation training is not regarded as an industry requirement.

8 PRODUCT MARKING

The coupling has the following markings on the end clips and / or barrels in accordance with AS/NZS 4998. The markings on the end rings are cast on whilst the markings on the barrel are applied by an electro-chemical etching technique.

- Name of Manufacturer: DERWENT
- Product Code: e.g., KJC-FCS-0109
- Date of manufacture: e.g., 310509
- Bolt torque: e.g., Tension 70Nm
- Nominal diameter: e.g., DN100
- The number of this standard: AS/NZS 4998
- Reach in mm: e.g., RANGE 109-133
- PN rating: PN16
- Maximum angle of deflection: e.g. Max Def 6 Deg each end @109-133mm
- Product certification licence number: LIC 40909 ✓✓✓✓✓



FIGURE 2 EXAMPLE OF MARKING

9 PACKAGING AND TRANSPORTATION

Couplings are packed onto pallets with sheets of cardboard separating the layers. The whole package is then shrink wrapped prior to transport.

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

Derwent couplings have been approved by the major Australian water Agencies. Similar products have been in general use within the industry for many years and a field trial is not deemed necessary.

11 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 Derwent's warranty is included in their terms and conditions of sale.

12 FUTURE WORKS

There are no outstanding future works items.

13 DISCLAIMER

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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.

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APPENDIX A – PRODUCT LITERATURE

KAWANDAH - VARIABLE OD COUPLINGS



Variable Coupling

Derwent Industries Variable Couplings are Australian manufactured. The couplings have been designed to alleviate the issues encountered when connecting pipes of different outside diameters and/or pipe materials. The DERGIB provides the installer with a precise simple way of connecting pipes that have OD variances of up to 24mm.

Features:

- 316 Stainless Steel Sleeve for superior corrosion protection
- 316 SS Bolts and Nuts coated with molybond to prevent galling
- Flanges are Ductile Iron, Fusion Coated
- Nitrile Gasket
- Sleeves are fully passivated, ensuring superior quality
- Ease of installation via tension wrench
- All bolts are supplied with plastic thread protectors
- Barrel is convex (not straight) allowing for angular deflection to be achieved.



Applications:

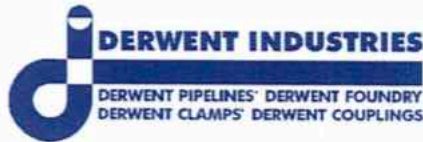
The Derwent Industries Variable Couplings are the perfect solution for joining two sections of pipe together. The coupling allows for an OD variance between pipes requiring joining, allowing for a simple repair to damaged sections of pipe or for new joins. Regulations at water authorities may differ as to allowable usage.

Variable Couplings are not suited to all type of pipe, such as Polyethylene unless a form of restraint is included in the coupling.

Please refer to installation instruction for all installations.

Technical Data:

Size Range:	DN100 – DN300 (Other sizes available)
Temperature Range:	-10°C to 60°C
Max. Operating Pressure:	1600 kPa (DN40 - DN600)
Deflection:	DN100 - DN150 - 6° each end on range of coupling. DN200 - DN250 - 3° each end on range of coupling. DN300 - 1.5° each end on range of coupling.
Quality Assurance:	ISO9001:2015
Certificate Number:	QEC2004



DERWENT COUPLING

COUPLING FITTING INSTRUCTION



1. Ensure pipe is clean and free of damage where coupling is to be located. The condition of the pipe can affect the sealing capabilities of the coupling.
2. Ensure the rubber ring is lubricated and slides freely on the sleeve surface. Use approved RRJ lubricant if not appropriately lubricated.
3. Align the pipes and mark reference lines on the pipe to ensure pipe ends are central in the coupling.
4. Fit the coupling onto one of the pipes being used.
5. Locate the pipe to be joined into position ensuring correct gap is achieved and that pipes are properly aligned. (See table over page for recommended pipe gaps.)
6. Position the coupling centrally over the pipe ends.
7. While tightening the nuts check that coupling is still properly aligned and pipe is located centrally in the coupling. Evenly tighten nuts to keep coupling aligned. Do not tighten one side excessively as this will cause alignment issues.
8. Tension nuts to the required torque (which is printed on the coupling)
9. After approximately 30 minutes tension nuts again as rubber may have compressed.

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Form No: 5:39 R1

COUPLING FITTING GUIDE

REQUIRED GAP BETWEEN PIPE ENDS

SLEEVE LENGTH	MIN.	MAX.
110L	10mm	20mm
175L	10mm	60mm
215L	20mm	80mm

APPENDIX B - QUALITY CERTIFICATIONS

Copies of the following Quality Certification Certificates are available from WSAA.

TABLE B1 DERWENT INDUSTRIES PTY LTD – MANAGEMENT SYSTEMS

102-104 Sunderland St Derwent Park TAS 8 Stead St Wodonga VIC	
Quality Systems Standard	ISO 9001:2015
Certificate licence no.	QEC2004
Certifying agency	SAI-Global
First date of certification	8 August 1994
Current date of certification	25 June 2021
Expiry date of certification	4 July 2024

TABLE B2 DERWENT INDUSTRIES PTY LTD – PRODUCT CERTIFICATION

8 Stead St Wodonga VIC	
Product Standard/Spec.	AS/NZS 4998:2009
Certificate No.	SMK40909
Issuing certification body	SAI-Global
First date of certification	5 August 2019
Current date of certification	29 September 2021
Expiry date of certification	4 August 2024



CERTIFICATE OF REGISTRATION

This is to certify that:

Derwent Industries Pty Ltd

ABN 48 096 997 152

8 Stead Street Wodonga VIC 3690 AUSTRALIA

102 - 104 Sunderland Street Derwent Park TAS 7009 AUSTRALIA

operates a

QUALITY MANAGEMENT SYSTEM

which complies with the requirements of

ISO 9001:2015

for the following scope

Design, manufacturing, sourcing and distribution of pipeline fittings and accessories for the water, waste treatment, gas and irrigation industries as well as castings made to clients specifications and other merchandise which has been bought in to complement our own ranges.

Certificate No: QEC2004

Issued: 25 June 2021

Originally Certified: 8 August 1994

Expires: 4 July 2024

Current Certification: 25 June 2021

Frank Camasta
Global Head of Technical Services
SAI Global Assurance



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 Pty 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://register.saiglobal.com/>





STANDARDSMARK LICENCE

SAI Global hereby grants:

Derwent Industries Pty Ltd

ABN 48 096 997 152

102 - 104 Sunderland Street, Derwent Park, TAS 7009, Australia

StandardsMark Licence

Manufactured to:

AS/NZS 4998:2009 - Bolted unrestrained mechanical couplings 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.

Licence No: SMK40909

Issued : 29 September 2021

Expires : 4 August 2024

Originally Certified : 5 August 2019

Current Certification : 29 September 2021

Frank Camasta
Global Head of Technical Services
SAI Global Assurance



* For details of manufacture, refer to the licensee

The STANDARDSMARK is a registered certification trademark of SAI Global Pty 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.



SCHEDULE TO STANDARDSMARK LICENCE

SAI Global hereby grants:

Derwent Industries Pty Ltd

102 - 104 Sunderland Street, Derwent Park, TAS 7009, Australia

StandardsMark Licence

Manufactured to:

AS/NZS 4998:2009 - Bolted unrestrained mechanical couplings for waterworks purposes

Model identification of the goods on which the STANDARDSMARK may be used:

Model Identification	Model Name	Brand Name	Product Description	Product Type	Nominal Size	Pressure Classification PN	Coating	Maximum angle of deflection (°)	Materials	Application	Date Endorsed
KJC-FAG-0109	COUPLING	DERWENT	DN100 JOINER 109-133 X110LONG-BOLT GAL	Unrestrained Mechanical coupling	DN 100	PN 16	POLYMERIC AS4156	6	316SS & DI	Coupling Pipes	2 Aug 2019
KJC-FAD-0158	COUPLING	DERWENT	DN150 JOINER 158-182 X110LONG-BOLT GAL	Unrestrained Mechanical coupling	DN 150	PN 16	POLYMERIC AS4156	6	316SS & DI	Coupling Pipes	2 Aug 2019
KJC-FAS-0109	COUPLING	DERWENT	DN100 JOINER 109-133 X110LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 100	PN 16	POLYMERIC AS4156	6	316SS & DI	Coupling Pipes	2 Aug 2019
KJC-FAS-0158	COUPLING	DERWENT	DN150 JOINER 158-182 X110LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 150	PN 16	POLYMERIC AS4156	6	316SS & DI	Coupling Pipes	2 Aug 2019
KJC-FCG-0109	COUPLING	DERWENT	DN100 JOINER 109-133 X176LONG-BOLT GAL	Unrestrained Mechanical coupling	DN 100	PN 16	POLYMERIC AS4156	6	316SS & DI	Coupling Pipes	2 Aug 2019
KJC-FCG-0158	COUPLING	DERWENT	DN150 JOINER 158-182 X176LONG-BOLT GAL	Unrestrained Mechanical coupling	DN 150	PN 16	POLYMERIC AS4156	6	316SS & DI	Coupling Pipes	2 Aug 2019
KJC-FCG-0214	COUPLING	DERWENT	DN200 JOINER 214-238 X176LONG-BOLT GAL	Unrestrained Mechanical coupling	DN 200	PN 16	POLYMERIC AS4156	3	316SS & DI	Coupling Pipes	25 Jun 2020
KJC-FCG-0240	COUPLING	DERWENT	DN225 JOINER 240-264 X176LONG-BOLT GAL	Unrestrained Mechanical coupling	DN 225	PN 16	POLYMERIC AS4156	3	316SS & DI	Coupling Pipes	29 Jun 2020
KJC-FCG-0272	COUPLING	DERWENT	DN250 JOINER 272-296 X176LONG-BOLT GAL	Unrestrained Mechanical coupling	DN 250	PN 16	POLYMERIC AS4156	3	316SS & DI	Coupling Pipes	29 Jun 2020
KJC-FCS-0109	COUPLING	DERWENT	DN100 JOINER 109-133 X176LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 100	PN 16	POLYMERIC AS4156	6	316SS & DI	Coupling Pipes	2 Aug 2019
KJC-FCS-0158	COUPLING	DERWENT	DN150 JOINER 158-182 X176LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 150	PN 16	POLYMERIC AS4156	6	316SS & DI	Coupling Pipes	2 Aug 2019

Licence No: SMK40909

Issued Date: 29 September 2021

This schedule supersedes all previously issued schedules



* For details of manufacture, refer to the licensee

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SCHEDULE TO STANDARDSMARK LICENCE

Model Identification	Model Name	Brand Name	Product Description	Product Type	Nominal Size	Pressure Classification PN	Coating	Maximum angle of deflection (°)	Materials	Application	Date Endorsed
KJC-FCS-0214	COUPLING	DERWENT	DN200 JOINER 214-236 X178LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 200	PN 16	POLYMERIC AS4158	3	316SS & DI	Coupling Pipes	25 Jun 2020
KJC-FCS-0240	COUPLING	DERWENT	DN225 JOINER 240-264 X178LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 225	PN 16	POLYMERIC AS4158	3	316SS & DI	Coupling Pipes	29 Jun 2020
KJC-FCS-0272	COUPLING	DERWENT	DN250 JOINER 272-296 X178LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 250	PN 16	POLYMERIC AS4158	3	316SS & DI	Coupling Pipes	29 Jun 2020
KJC-FDG-310	COUPLING	DERWENT	DN300 JOINER 310-334 X 216 LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 300	PN 16	POLYMERIC AS4158	1.5	316SS & DI	Coupling Pipes	29 Sep 2021
KJC-FDG-330	COUPLING	DERWENT	DN300 JOINER 330-354 X 216 LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 300	PN 16	POLYMERIC AS4158	1.5	316SS & DI	Coupling Pipes	29 Sep 2021
KJC-FDS-310	COUPLING	DERWENT	DN300 JOINER 310-334 X 216 LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 300	PN 16	POLYMERIC AS4158	1.5	316SS & DI	Coupling Pipes	29 Sep 2021
KJC-FDS-330	COUPLING	DERWENT	DN300 JOINER 330-354 X 216 LONG-BOLT 316SS	Unrestrained Mechanical coupling	DN 300	PN 16	POLYMERIC AS4158	1.5	316SS & DI	Coupling Pipes	29 Sep 2021

End of Record

Licence No: SMK40909

Issued Date: 29 September 2021

This schedule supersedes all previously issued schedules



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APPENDIX D - SUPPLIER CONTACTS

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