



Advanced Piping Systems Pty Ltd

PRODUCT APPRAISAL REPORT 2115

Fox PE100 EF and Spigot Fittings for PE Pipe

AS/NZS 4129:2020 - Fittings for polyethylene (PE) pipes for pressure applications

Published: 6 September 2021

Document History

The following information indicates the changes made to this document.

Date	Version
23 August 2021	Client Review
23 August 2021	Peer Review
6 September 2021	Publication

Peer Reviewers

Name/Title	Organisation	Date
Product Appraisal Technical Advisory Group	WSAA	6 September 2021
WSAA Expert Panel	WSAA	6 September 2021
Peter Pittard, WSAA Consultant	WSAA	23 August 2021
Carl Radford, Product Appraisal Manager	WSAA	6 September 2021

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.

Copyright

This document is copyrighted. Apart from any use as permitted under the Copyright Act 1968, no part of this document may be reproduced or transmitted in any form or by any means, electronically or mechanical, for any purpose, without the express written permission of Water Services Association of Australia Limited.

© Copyright 2021 by WATER SERVICES ASSOCIATION of Australia Limited **All rights reserved.**

CONTENTS

1 EXECUTIVE SUMMARY	5
1.1 1.1 Recommendations	5
2 THE APPLICANT.....	5
2.1 The Supplier.....	5
2.2 The Manufacturer.....	5
3 THE PRODUCT	6
4 SCOPE OF THE APPRAISAL.....	7
5 APPRAISAL CRITERIA.....	7
5.1 Quality Assurance Requirements	7
5.2 Performance Requirements	8
6 COMPLIANCE WITH APPRAISAL CRITERIA.....	8
6.1 Compliance with Quality Assurance Requirements	8
6.2 Compliance with Performance Requirements.....	8
6.2.1 Polyethylene Material Composition	8
6.2.2 Effect on Water.....	8
6.2.3 Type Testing.....	8
7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION	9
8 PRODUCT MARKING	9
9 PACKAGING AND TRANSPORTATION.....	9
10 PRODUCT WARRANTY	10
11 WATER AGENCY EXPERIENCE WITH THE PRODUCT OR FIELD-TESTING REPORT.....	10
12 DISCUSSION	10
13 OUTCOMES OF EXPERT PANEL PRODUCT REVIEW.....	10
14 FUTURE WORKS.....	10
15 DISCLAIMER.....	10
15.1 Issue of Report.....	11
15.2 Limits on Reliance on Information and Recommendations.....	11
15.2.1 Disclaimer of liability.....	11
15.2.2 Intellectual Property and other rights.....	11
15.2.3 Need for independent assessment.....	11
15.3 No Updating	12
15.4 No Warranty.....	12
APPENDIX A – PRODUCT LITERATURE	13
APPENDIX B - QUALITY CERTIFICATIONS.....	18
APPENDIX C - SUPPLIER CONTACTS	22

1 EXECUTIVE SUMMARY

Advanced Piping Systems Pty Ltd is a specialist supplier of polyethylene pipes and fittings based in South Australia. The company was established in 1990 and provides a nationwide service to the water, plumbing, irrigation, mining and industrial segments.

Fox Fittings Sp. zo.o. Sp.k., based in Poland, is a leading manufacturer of polyethylene fittings and ball valves for gas and water applications with an extensive distribution network in Europe and many other countries.

This Appraisal is for a range of Fox PE100 moulded electrofusion fittings and spigot fittings for electrofusion and butt-weld jointing, manufactured in accordance with AS/NZS 4129:2020 *Fittings for polyethylene (PE) pipes for pressure applications* in sizes from DN 20 to DN 630, depending on the fitting type.

The Fox electrofusion range of fittings includes PN10, PN16 and PN25 electrofusion couplings and PN16 elbows, reducers, tees and end caps.

The spigot fittings range includes PN16 and PN10 elbows, reducers, tees, end caps and flange adapters (stub flanges). The fittings generally incorporate a long spigot suitable for electrofusion or butt weld jointing.

See Section 3 for details of the range.

The fittings are suitable for use with PE pipes manufactured to AS/NZS 4130 - *Polyethylene (PE) pipes for pressure applications* for conveyance of drinking water, non-drinking water and sewerage in above ground and below ground applications.

Both Advanced Piping Systems Pty Ltd and Fox Fittings hold an ISO 9001:2015 Quality Management System Licence.

The Fox PE fittings have ISO Type 5 product certification to AS/NZS 4129:2020 *Fittings for polyethylene (PE) pipes for pressure applications*.

This Appraisal has determined that the Fox range of PE100 fittings, as detailed in this report, meet the requirements of WSA PS-208 *Plastics Fittings for Pressure Applications with PE Pipe – Drinking Water, Non-drinking Water Supply and Sewerage* and are considered as 'fit-for-purpose'.

1.11.1 Recommendations

It is recommended that WSAA members, subject to any specific requirements of the member, accept or authorise the Fox PE100 fittings, as detailed in this report, for use in drinking water, non-drinking water and sewerage applications provided the design, installation and acceptance testing are in accordance with the relevant Standards, WSAA Codes and the manufacturer's requirements.

2 THE APPLICANT

The applicant is Advanced Piping Systems Pty Ltd.

2.1 The Supplier

Advanced Piping Systems Pty Ltd is a specialist supplier of polyethylene pipes and fittings based in South Australia. The company was established in 1990 and provides a nationwide service to the water, plumbing, irrigation, mining and industrial segments.

2.2 The Manufacturer

Fox Fittings Sp. zo.o. Sp.k., based in Poland, is a leading manufacturer of polyethylene fittings and ball valves for gas and water applications with an extensive distribution network in Europe and many other countries.

3 THE PRODUCT

This Appraisal is for a range of Fox PE100 moulded electrofusion fittings and spigot fittings for electrofusion and butt-weld jointing, manufactured in accordance with AS/NZS 4129:2020 *Fittings for polyethylene (PE) pipes for pressure applications* in sizes from DN 20 to DN 630, depending on the fitting type.

The Fox electrofusion range of fittings includes PN10, PN16 and PN25 electrofusion couplings and PN16 elbows, reducers, tees and end caps.

The spigot fittings range includes PN16 and PN10 elbows, reducers, tees, end caps and flange adapters. The fittings generally incorporate a long spigot suitable for electrofusion or butt weld jointing. A range of PN10 short spigot flange adaptors (stub flanges) is available and suitable for butt weld jointing only.

The fittings are suitable for use with PE pipes manufactured to AS/NZS 4130 - *Polyethylene (PE) pipes for pressure applications* for conveyance of drinking water, non-drinking water and sewerage in above ground and below ground applications.

Table 1 summarises the range of electrofusion fittings and Table 2 summarises the range of spigot fittings.

TABLE 1 RANGE OF FOX PE100 ELECTROFUSION FITTINGS

Product Group	Product Type	DN range	PN
Electrofusion Fittings	Couplings	20 – 110	25
		20 – 630	16
		110 – 630	10
	End Caps	20 – 500	16
	90 Elbows	20 -225	
	90 Elbows (BHZ)	140 – 500	
	45 Elbows	20 – 225	
	45 Elbows (BHZ)	140 – 500	
	Reducers	20 – 250	
	Equal Tee	20 – 180	
	Equal Tee (BHZ)	140 – 500	
	Reducing Tees	20 -160	
	Reducing Tees (BHZ)	200 -315	

BHZ indicates electrofusion sockets with 2 welding zones

Fox advises that their electrofusion joint incorporates a number of unique features.

- The welding zones are extended by approximately 50% over traditional designs to provide a larger and stronger connection.
- The cold zones are wider than traditional designs to prevent flow and escape of plasticised PE thereby providing greater flexibility for the installer.
- The Fox EF element windings are coated in PE100 resin to protect the element from mechanical damage and to avoid short circuiting during welding that could lead to

weld failure. This feature also provides better gap filling properties and a stronger bond.

- Fox Universal EF pins accommodate any brand of welder whether it has a 4mm or 4.7mm lead. This avoids the need for pin adaptors.

TABLE 2 RANGE OF FOX PE100 SPIGOT FITTINGS

Product Group	Product Type	DN range	PN
Spigot Fittings	End Caps	63 - 500	10
	90 Elbows	63 - 315	
	60 Elbows	50 – 630	
	45 Elbows	63 - 315	
	30 Elbows	50 – 630	
	22 Elbows	50 – 630	
	11 Elbows	50 – 630	
	Reducers	63 - 315	
	Equal Tees	63 - 500	
	Reducing Tees	63 - 315	
	Flange Adaptors (Stub Flanges)	63 - 630	
	Flange Adaptors (Stub Flanges) – Short Spigot	63 - 630	
	End Caps	20 - 500	16
	90 Elbows	20 - 315	
	60 Elbows	32 - 630	
	45 Elbows	20 - 315	
	30 Elbows	32 - 630	
	22 Elbows	32 - 630	
	11 Elbows	32 - 630	
	Reducers	20 - 315	
	Equal Tees	20 - 500	
	Reducing Tees	63 - 315	
Flange Adaptors (Stub Flanges)	20 - 630		

4 SCOPE OF THE APPRAISAL

The scope of this appraisal is for Fox PE100 moulded electrofusion and spigot fittings in sizes from DN 20 to DN 630, as detailed in Section 3 and the ISO Type 5 Product Certification Schedule.

5 APPRAISAL CRITERIA

5.1 Quality Assurance Requirements

The WSAA Product Appraisal Technical Advisory Group accepts fittings for use with PE pipes manufactured in compliance with AS/NZS 4129:2020 *Fittings for polyethylene (PE) pipes for pressure applications* and duly certified by means of an ISO Type 5 product certification scheme undertaken by a JAS-ANZ accredited Conformity Assessment Body (CAB) or by an international accreditation system recognised by JAS-ANZ.

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

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

5.2 Performance Requirements

Fox electrofusion and spigot fittings have been appraised for compliance with AS/NZS 4129:2020 *Fittings for polyethylene (PE) pipes for pressure applications*.

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 also relevant to this application:

WSA PS-208 *Plastics Fittings for Pressure Applications with PE Pipe – Drinking Water, Non-drinking Water Supply and Sewerage*.

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

Advanced Piping Systems has submitted the following quality certificates:

- ISO 9001:2015 Certificate of Registration No. AU907-QC issued to Advanced Piping Systems Pty Ltd by TCQSI.
- ISO 9001:2015 Certificate of Registration No. 0198 100 00881 issued to Fox Fittings Sp. Zo.o Sp.k.by TUV Rheinland
- AS/NZS 4129:2020 ISO Type 5 product certification Licence No. 3025 issued to Advanced Piping Systems Pty Ltd by Australian Certification Services Pty Ltd.

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

6.2 Compliance with Performance Requirements

6.2.1 Polyethylene Material Composition

AS/NZS 4129 requires PE compounds used in the manufacture of injection moulded fittings to comply with AS/NZS 4131.

Advanced Piping Systems has provided documentation to indicate that Ineos Eltex TUB121 N6000 (with a high slow crack growth resistance) is utilised in the manufacture of the Fox PE fittings.

Eltex TUB121 N6000 is listed in PIPA Industry Guidelines POP 004A as complying with AS/NZS 4131.

6.2.2 Effect on Water

Ineos Eltex TUB121 N6000 is listed in POP 004A as complying with AS/NZS 4020:2005, quoting a report dated December 2018.

Advanced Piping Systems has also submitted a copy of a test report N0. SM-ST200093 from Standardmark Laboratory Sdn Bhd (Standards Malaysia Accreditation No. 786) for a Fox Fittings DN 63 PE Adaptor to demonstrate compliance with AS/NZS 4020:2018.

It is the responsibility of the fittings manufacturer to ensure that AS/NZS 4020 certification for the PE100 compounds remains current.

6.2.3 Type Testing

AS/NZS 4129:2020 references ISO 4427-3 for general requirements for electrofusion and spigot fittings. Tests specified for mechanical characteristics include hydrostatic tests at

20°C at 12.4MPa for 100 hours, 80°C at 5.4MPa for 165 hours, 80°C at 5MPa for 1000 hours, cohesive resistance for electrofusion socket fittings and tensile strength for spigot fittings. In addition, tests are specified for melt mass flow rate (MFR) and oxidation induction time (OIT).

Advanced Piping Systems has submitted a sample of type test reports completed by Istituto Italiano Dei Plastica (Accredia Certification No.0097) and IMA Dresden (Dakks Certification No. D-PL-13119-02-00) to demonstrate compliance with the required performance requirements.

7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION

A copy of the Fox installation instructions for electrofusion welding is attached in Appendix A.

Polyethylene pipe systems have been commonly used in the Australian urban water industry for many years.

Electrofusion welding and butt fusion processes may be used for joining pipe-to-pipe or fitting-to-pipe. All welding is required to be performed by welders who have successfully completed training by a Registered Training Organisation, endorsed by the Plastics Industry Pipe Association for the relevant welding method(s).

The Plastics Industry Pipe Association provides technical guidelines for electrofusion welding in the following documents.

(a) POP001 Electrofusion Jointing of Pipes and fittings for Pressure Applications

(b) POP003 Butt Fusion Jointing of PE Pipes and Fittings – Recommended Parameters.

POP001 contains recommendations for equipment required, jointing, maintenance, servicing and calibration procedures, training and records to be kept.

POP003 is a guide to the butt fusion of polyethylene pipe using AS/NZS 4130 material as a basis, recommending the butt fusion procedures and parameters as specified in ISO 21307.

Copies of these documents can be downloaded from the PIPA website at www.pipa.com.au

Polyethylene pipe systems should be installed in accordance with AS/NZS 2033:2008 *Installation of polyethylene pipe systems*.

8 PRODUCT MARKING

The markings on Fox PE fittings are either moulded into the body of the fitting or included on an adhesive label in compliance with AS/NZS 4129 as follows:

- Manufacturer's name: Fox
- Batch number: (on label)
- Nominal size: e.g., DN 160
- Material identification: PE100
- Classification: e.g., SDR 11, SDR17
- The number of this Standard: AS/NZS 4129.

9 PACKAGING AND TRANSPORTATION

Fox electrofusion fittings are packed in individual bags then collectively into cartons. The number of fittings per carton is dependent on the size and type of fitting. Electrofusion fittings should be stored in their individual bags until installation.

Spigot fittings are packaged in cartons.

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 Advanced Piping System's warranty is included in their terms and conditions of sale.

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

Whilst Fox PE fittings are widely used in Europe and many other countries the brand is new to Australia. This product appraisal is a pre-requisite for obtaining Australian Water Agency authorisations.

Electrofusion fittings are a mature and widely installed product; however, the Australian water industry has had varied experience with the performance of these fittings.

Many Water Agencies are cautious about the use of electrofusion fittings due to the lack of confidence in the skill of installers. Due to the history of erratic installation quality, it is imperative that a pre-requisite for all PE pipeline installers includes satisfactory completion of a recognised PE pipeline installation training program. In addition, it is recommended that for PE pipelines where electrofusion fittings are used, an attentive site supervision regime be adopted using qualified, experienced supervisors until the individual installer or contractor can demonstrate competence in all aspects of installation.

12 DISCUSSION

For information on quality polyethylene pipeline design, installation and testing processes refer to the WSAA Polyethylene Pipeline Code - WSA 01.

Electrofusion jointing of PE pipelines offers a permanently sealed and jointed system provided the electrofusion process is carried out correctly. The electrofusion jointed PE pipeline has the potential to have life expectancy equal to and in some cases well beyond other pipeline materials and jointing systems. The PE material is corrosion resistant and correctly made joints are permanently fused to provide a high level of joint integrity against leakage and/or infiltration over the long-term. Similar to other plastic pipe systems, PE is susceptible to fatigue from cyclic pressure changes and additional design considerations must be made if used in a pumped pipeline. Refer to WSAA Technical Note TN4.

PE pipelines are susceptible to permeation of specific organic chemicals (as are other pipeline systems) and care must be exercised if designing for installation in contaminated ground and/or brownfield sites.

13 OUTCOMES OF EXPERT PANEL PRODUCT REVIEW

Responses have been included in to this report.

14 FUTURE WORKS

No future work items have been identified.

15 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.

15.1 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.

15.2 Limits on Reliance on Information and Recommendations

15.2.1 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.

15.2.2 Intellectual Property and other rights

The Water Services Association of Australia Limited does not undertake any assessment of whether the importation, manufacture, sale or use of the Product the subject of this Report infringes the intellectual property rights or proprietary rights of any person. Recipients of the report should undertake their own assessment of whether (as relevant) the importation, manufacture, sale or use of the relevant Products infringe the intellectual property rights or other proprietary rights of any person. If the Product infringes intellectual property rights or other proprietary rights there is potential for the supply of the Products to be interrupted.

From time to time the Water Services Association of Australia Limited and the other Publishers may receive notice of allegations that the importation, manufacture, sale or use of the Product infringes intellectual property rights or other proprietary rights. The Water Services Association of Australia Limited's policy is to not refer to such allegations in its reports or take any other steps to put Recipients on notice of such allegations, unless and until it is aware that the allegations have been admitted or proved in Court. As such, Recipients acknowledge, agree and accept that the Water Services Association of Australia Limited may have information in its possession about intellectual property rights infringement allegations or other infringement allegations in relation to the Product which are not referred to or disclosed in this Report and which are not otherwise communicated to Recipients.

15.2.3 Need for independent assessment

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

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

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

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

WSAA has not evaluated the extent of the product liability and professional indemnity insurance that the provider of the product maintains. Recipients should ensure that they evaluate the allocation of liability for product defects and any professional advice obtained in relation to the product or its specification including the requirements for product liability and professional indemnity insurance.

15.3 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.

15.4 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

A copy of the product catalogue may be sourced directly from Advanced Piping Systems, WSAA or downloaded from the Fox website at:

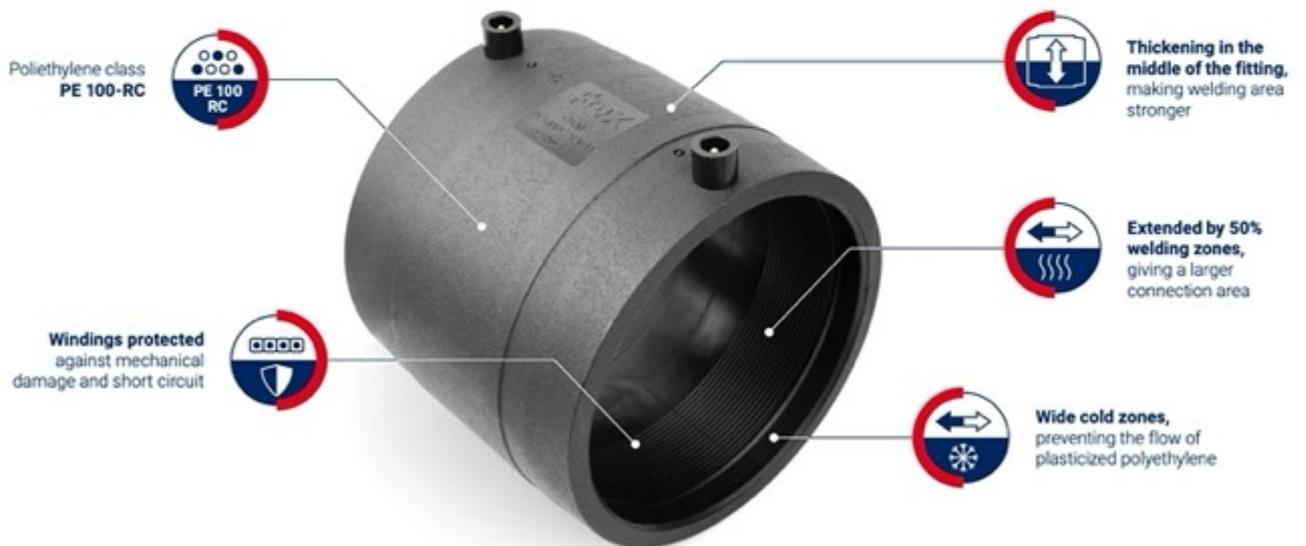
<https://www.foxittings.com/Pages/brochures>



EVERY FOX PRODUCT



PROVEN SOLUTIONS





MANUAL FOR ELECTROFUSION WELDING

Instrukcja zgrzewania elektrooporowego
Инструкция по сварки для электросварных
фитингов



REMEMBER | PAMIĘTAJ | ЗАПОМНИ:

- 1. Use calibrated machine** | Użyj skalibrowanej zgrzewarki | Используйте калиброванный (поверенный) аппарат для сварки
- 2. Before scrapping the pipe, highlight with marker the scraping zone, so that after scraping the marker highlights won't be visible** | Przed skrobaniem rury, zakreśl markerem skrobaną powierzchnię, tak aby po wyczyszczeniu nie były widoczne ślady markera | Перед очисткой трубы, чистящим средством, выделите маркером зону очистки верхнего слоя трубы и убедитесь что после очистки следы от маркера не остались
- 3. Clean the pipe only with liquids recommended by the producer** | Czyść rurę tylko płynami zalecanymi przez producenta | Для очистки трубы используйте жуткость рекомендованную производителем
- 4. Cover the entire heating coil of the fitting** | Zakryj całkowicie spiralę grzejną kształtki | Устанавливайте фитинг так чтобы вся нагревательная, часть была на трубе



1. Measure diameter of the pipe

- Zmier średnicę rury
- Измерьте диаметр трубы



2. Choose the right fitting

- Dobierz właściwą kształtkę
- Выберите правильный фитинг



3. Cut the pipe straight

- Obetnij rurę prosto
- Отрежьте трубы ровно



4. Measure the scraping zone

- Odmierz powierzchnię skrobania
- Измерьте поверхность сварки



5. Scrap the welding zone of the pipe

- Oskrob rurę na całej strefie zgrzewania
- Зачистите скребком зону сварки



6. Clean the welding zone with special liquid

- Wyczyść strefę zgrzewania specjalnym płynem
- Очистите зону сварки специальной жидкостью



7. Mark the insertion depth of the fitting

- Zaznacz markerem głębokość nałożenia kształtki
- Обозначьте маркером глубину наложение фитинга на трубу



8. Put the pipe inside the clamps and put the fitting on

- Włóż rury do centratora i nałóż kształtkę
- Вставьте трубу в позиционер и установите фитинг



9. Read the barcode

- Sczytaj kod kreskowy
- Считайте штрих-код



10. Proceed according to the requirements of the machine

- Postępuj zgodnie z wytycznymi zgrzewarki
- Действуйте в соответствии с требованиями сварочного аппарата



11. Start welding

- Rozpocznij zgrzewanie
- Начните сварку



12. Deduct the pressure test of the pipeline

- Przeprowadź próbę ciśnieniową sieci
- После сварки сделайте тест на давления сети

APPENDIX B - QUALITY CERTIFICATIONS

Copies of the following Quality Certification Certificates are available from WSAA

TABLE B1**ADVANCED PIPING SYSTEMS PTY LTD - QUALITY MANAGEMENT SYSTEMS**

30 Charles Street Beverley South Australia	
Quality Systems Standard	ISO 9001:2015
Certification Licence No.	AU907-QC
Certifying Agency	TQCSI
First Date of Certification	19 March 2008
Current Date of Certification	5 July 2021
Expiry Date of Certification	29 August 2024

TABLE B2**FOX FITTINGS SP. Z O.O. SP.K.- QUALITY MANAGEMENT SYSTEMS**

Ul Wiezniow Oswiecimia 50 43-330 Wilamowice Poland	
Quality Systems Standard	ISO 9001:2015
Certification Licence No.	0198 100 00881
Certifying Agency	TUV Rheinland
First Date of Certification	-
Current Date of Certification	1 October 2020
Expiry Date of Certification	30 September 2023

TABLE B3**ADVANCED PIPING SYSTEMS PTY LTD - PRODUCT CERTIFICATION**

30 Charles Street Beverley South Australia	
Product Standard/Spec.	AS/NZS 4129:2020
Certificate No.	3025
Issuing Certification Body	Australian Certification Services
First Date of Certification	28 May 2021
Current Date of Certification	28 May 2021
Expiry Date of Certification	27 May 2026



Quality Certified

Certificate of Registration

Advanced Piping Systems Pty Ltd

ABN: 89 627 058 495

30 Charles Road, BEVERLEY, SA, 5009, Australia

operates a

Quality Management System

which complies with the requirements of:

ISO 9001:2015

The registration covers the warehousing and distribution of piping systems, fabrication of piping requirements and the sale and hire of specialised pipe welding equipment.

Original Certification: 19 March 2008
Certification/Reissue Date: 5 July 2021

Registration No: AU907-QC
Expiry Date: 29 August 2024

Craig J Bates
President
TQCS International (Group) Pty Ltd

For the TQCSI Certification Approval Panel

Sean Bates
Accreditation Manager
TQCS International Pty Ltd

This certificate verifies the original certificate issued and is valid as long as it is displayed as an electronic copy at www.tqcsi.com and surveillance audits are satisfactorily completed. TQCS International Pty Ltd (ABN 59 065 953 924) of Quality House, 117A Tapleys Hill Road, Hendon, SA, 5014, Australia issues certification subject to the TQCSI Rules of Certification.



www.tqcsi.com



www.aacb.com.au



www.iaf.nu



www.ias-anz.org/register

Certificate

Standard **ISO 9001:2015**

Certificate Registr. No. 0198 100 00881

Certificate Holder:



FOX FITTINGS Sp. z o.o. Sp. k.
ul. Więźniów Oświęcimia 50
43-330 Wilamowice
Poland

Scope: Production and distribution of polyethylene fittings

Proof has been furnished by means of an audit that the requirements of ISO 9001:2015 are met.

Validity: The certificate is valid from 2020-10-01 until 2023-09-30.
First certification 2002

2020-09-24

Gregorz Guabka

TÜV Rheinland Polska Sp. z o.o.
ul. 17 Stycznia 56 · 02-146 Warszawa

© TÜV, TÜEV and TÜV are registered trademarks. Any use or application requires prior approval.

www.tuv.com



AC 129
QMS



TÜVRheinland®
Genau. Richtig.

The ISO Type 5 Product Schedule contains 38 pages and has not been included in this report. A copy of the product schedule may be obtained from Advanced Piping Systems or WSAA.



PRODUCT CONFORMITY SCHEME – FULL CERTIFICATION

Certification Licence

Australian Certification Services Pty Ltd grants to:

Advanced Piping Systems Pty Ltd

Trading as Advanced Piping Systems Pty Ltd

the right to use the Certification Mark as shown above in conjunction with the Certificate No. on product/s as identified in the Schedule and as listed on the Australian Certification Services Website www.certificationservices.com.au and have been shown to comply with the relevant Standard/s referred to below. The Licensee is granted a licence to use the Certification Mark subject to the rules governing the use.

Product Type: Polyethylene (PE) Fittings
Product Use: Water Supply
Brand: FOX Fittings
Evaluated to: AS/NZS 4129:2020 Fittings for polyethylene (PE) pipes for pressure applications

Issue Date: 28th May 2021
Initial Issue Date: 28th May 2021
Expiry Date: 27th May 2026

Paul Greig
General Manager

Certificate No.: 3025

This certificate remains the property of Australian Certification Services Pty Ltd

The Product Conformity Scheme (PCS) – Full Certification is a conformity assessment scheme based on ISO/IEC 17067 (Scheme Type 5)



APPENDIX C - SUPPLIER CONTACTS

Advanced Piping Systems Pty Ltd

30 Charles Street

Beverley, South Australia

Phone: 1300 216 706

Email: sales@advancedpiping.com.au

Website: www.advancedpiping.com.au



Melbourne Office

Level 8, Suite 8.02
401 Docklands Drive
Docklands VIC 3008

Sydney Office

Level 9 420 George Street
Sydney NSW 2000
GPO Box 915
Sydney NSW 2001

P +61 (0) 3 8605 7666
email: info@wsaa.asn.au

www.wsaa.asn.au