

WSAA PRODUCT APPRAISAL CERTIFICATE

Riteline Pty Ltd - Casing Spacers

This appraisal is for a range of Riteline Rigid Series and Flex Series casing spacers that are used to support the position of a carrier pipe (watermain or sewer) within an encasing pipe or stable ground bore hole in trenchless installations.

The Rigid Series and Flex Series spacers are each available in small medium and large sizes to accommodate a range of heights from 30mm to 125mm.

The Rigid Series incorporates supports that provide a high load bearing capacity and is recommended for most installations.

The Flex Series is designed to deform around obstacles during installation making it preferable for casing bores with rough surfaces or slight misalignments.

A listing of Quality Certificates and product details are included in the attached Schedules A and B.

Product Category	Casing Spacers
PA Number:	PA 2314
Supplier	Riteline Pty Ltd
Brand	Riteline
Standards	
WSAA Product Specification	WSA PS 324 <i>Casing Spacers</i>
Other Specifications	
Issue date	22 December 2023
Expiry date	21 December 2028
Recommendations	It is recommended that WSAA members, subject to any specific requirements of the member, accept or authorise the Riteline Rigid Series and Flex Series casing spacers, as detailed in this report, for use in pressure or non-pressure applications such as slip lining and cased crossings for carrier pipes from DN 100 with no upper size limit, provided the casing spacers are designed and installed in accordance with WSAA Codes and manufacturer's requirements.
Disclaimer	The disclaimer on Page 2 explains a number of very important limits on your ability to rely on the information in this Product Appraisal Certificate and the assessment criteria used to underlay it. Please read it carefully and take it into account when considering the content in this Certificate.

This Product Appraisal Certificate (Certificate) is issued by WSAA on the understanding that:

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

To maintain the recommendations of this Certificate any such changes shall be detailed and notified to the Product Appraisal Manager for consideration and review of the Certificate including the product appraisal criteria underlying it 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. Certificates will be reviewed and reissued at regular intervals not exceeding five (5) years.

WSAA reserves the right to withdraw this Certificate at any time in its sole and absolute discretion for any reason.

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

Any enquiries regarding this Certificate should be directed to the Product Appraisal Manager email carl.radford@wsaa.asn.au.

1.1. Issue of Certificate

This Certificate has been published and/or prepared by WSAA and nominated Project Manager and peer group of technical specialists (the Publishers).

The Certificate and the underlying product appraisal criteria have been prepared for use within Australia only by technical specialists that have expertise in the function of products such as those appraised in the Certificate (the Recipients).

By accepting this Certificate, the Recipient acknowledges and represents to the Publisher(s) and each person involved in the preparation of the Certificate and product appraisal criteria underlying it that the Recipient has understood and accepted the terms of this Disclaimer.

1.2. Limits on Reliance on Information and Recommendations

1.2.1. Disclaimer of liability

Neither the Publisher(s) nor any person involved in the preparation of the Certificate and product appraisal criteria underlying it 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 Certificate or the product appraisal criteria underlying it. This includes (without limitation) any liability for any recommendation or information in the Certificate or any errors or omissions.

1.2.2. Intellectual Property and other rights

WSAA does not undertake any assessment of whether the importation, manufacture, sale or use of the Product the subject of this Certificate infringes the intellectual property rights or proprietary rights of any person. Recipients of the Certificate 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 WSAA 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. WSAA's policy is to not refer to such allegations in its Certificate or take any other steps to put Recipients on notice of such allegations. If, however, WSAA becomes aware that the allegations have been admitted or proved in Court, then WSAA may, at its discretion, take such steps as it considers appropriate. As such, Recipients acknowledge, agree and accept that WSAA 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 Certificate and which are not otherwise communicated to Recipients.

1.2.3. Need for independent assessment

The information and any recommendation contained (expressly or by implication) in this Certificate are provided in good faith (and subject to the limitations noted in this Certificate). 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 Certificate 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 Certificate 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 Certificate, 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.

1.3. No Updating

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

1.4. 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 Certificate, or the accuracy, completeness or reasonableness of any recommendation in this Certificate.

QUALITY AND PRODUCT CERTIFICATIONS

A copy of the following Quality Certificate is available from WSAA.

TABLE A1 AMEC PLASTICS PTY LTD – MANAGEMENT SYSTEMS

35 Harrington Street Arundel Qld	
Quality Systems Standard	ISO 9001:2015
Certification Licence No.	PLAQ01-CCCQ01
Certifying Agency	Equal Assurance Pty Ltd
First Date of Certification	11 July 2023
Current Date of Certification	2 August 2023
Expiry Date of Certification	11 July 2026

PRODUCT LITERATURE



RITELINE CASING SPACERS:

FLEX SERIES

RIGID SERIES

ALL AUSTRALIAN: CONCEPT, DESIGN, OWNERSHIP AND MANUFACTURING. THIS IS TRULY AUSTRALIAN MADE!



RITELINE CENTRALISERS: Enhancing Precision In Trenchless Installations

Introducing Riteline Centralisers, an innovative solution designed to revolutionise the accuracy of trenchless installations. These centralisers are meticulously crafted to provide unparalleled support to the carrier pipe, ensuring its fixed position relative to the bored hole or encasement pipe.



Unmatched Customisation and Durability

Experience the ultimate in customisable centralisers and casing spacers, manufactured from durable engineering polymers. Contractors rave about their adaptability, with Riteline proving its strength and durability time and time again.

With three different sized bands, and with both flex and rigid options, adjustable Riteline Centralisers have 34 possible settings, and the ability to be modified to heights ranging from 30mm to 125mm.



Flexibility and Height Customisation

Riteline Centralisers offer the flexibility you need, with both flex and rigid options available. What sets them apart from other centralisers on the market is their adjustability feature. With the ability to be modified to different heights, ranging from 30mm up to 125mm, there's no need to stock multiple products. Contractors can effortlessly configure the centralisers to meet their precise requirements.

Unparalleled Control and Streamlined Installations

Riteline Centralisers are spring-loaded, allowing for effortless tension adjustment, and providing greater flexibility and control during the installation process. Even obstacles like rocks aren't a problem. The centralisers are designed to flex and allow for elastic deformation when they hit obstacles. This unique characteristic eases the installation process by preventing floating during

grouting, preventing jamming and ensuring a seamless installation.

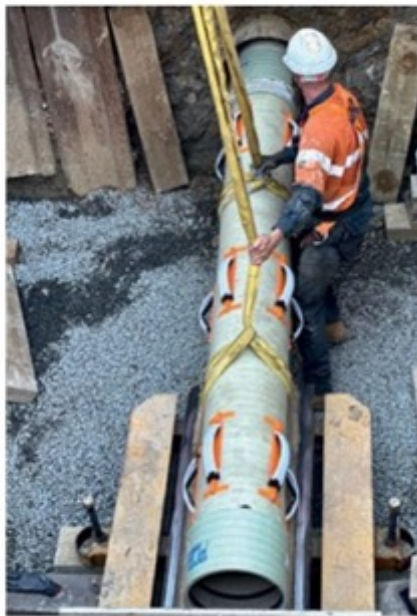
Efficiency at its Core

Manufactured from inert and durable engineering polymers with a low coefficient of friction, Riteline casing spacers make pipe installation easier and more efficient. They provide a slip lining between the pipe and the bored hole, simplifying the installation process and ensuring optimal performance.





- Use only what's needed for pipe load
- No additional tools required
- Reduce excess stock held
- Versatile, adjustable and reliable



Simplified Customisation and Secure Installation

Thanks to their adjustable ratchet design, Riteline casing spacers can be instantly customised to fit the requirements of any installation. Say goodbye to stocking multiple units in different sizes. Riteline's integrated, very high-bond adhesive strips simplify installation, prevent slippage and eliminate the need for pre-wrapping or treating the pipe. Plus, there's no need for additional tools; Riteline can provide a jig to make the ratcheting process even more efficient.



Grout-Friendly and Versatile

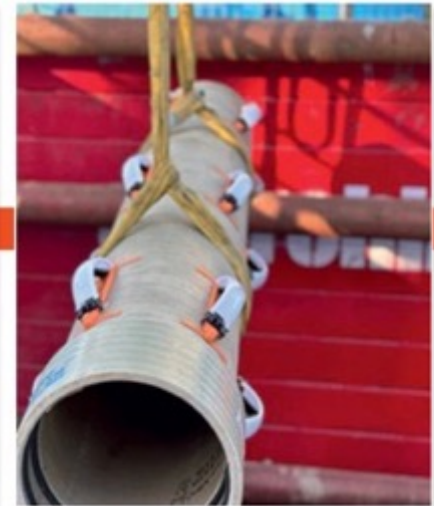
With a low-profile design, Riteline casing spacers allow grout to flow easily around them, preventing grouting failure and ensuring a secure installation. Riteline Centralisers fit pipes from 100mm in diameter with no upper limit. The number of spacers required is solely based on the load, ensuring a tailored and efficient solution.

Discover the power of precision with Riteline Centralisers.

Contact the team today to learn more and revolutionise your trenchless installations.

07 3522 5353 / riteline.com.au

With Riteline Centralisers, contractors can have peace of mind knowing that they have a reliable, adaptable, and effective tool at their disposal to ensure the success of their trenchless installations.



OVER 100,000 UNITS PRODUCED AND USED IN THE FIELD.

Riteline is part of the OptionX Group, a collection of companies dedicated to serving the drilling, tunnelling and boring industry.



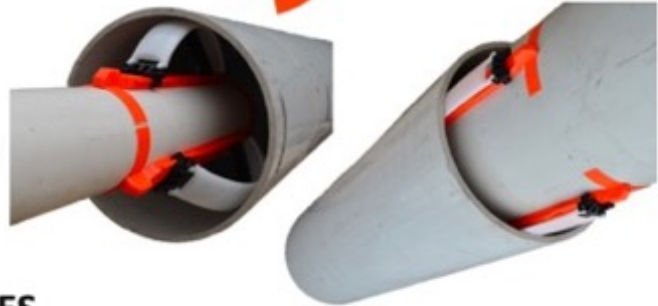


RIGID/FLEX SERIES



APPLICATION

Instantly customisable casing spacers with very high pipe adhesion, used for slip lining and pipe centralizing in medium to heavyweight pipe-in-cavity installations. Compatible with all pipe materials including steel, DICL, MSCL, GRP, PVC and HDPE. Suitable for all diameters from 100mm and greater.

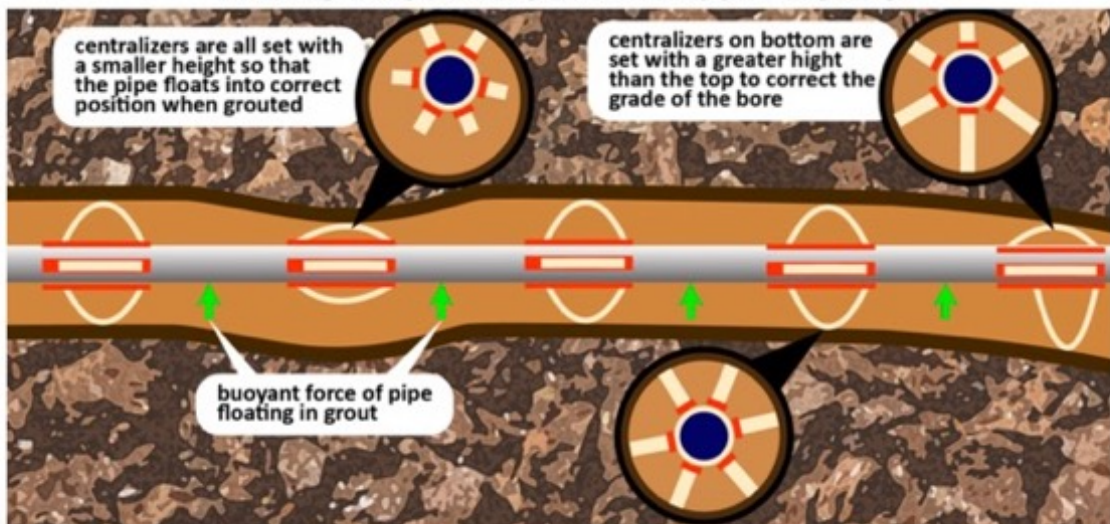


FEATURES AND PROPERTIES

- Made entirely from inert and durable engineering polymers with low co-efficient of friction which makes pipe installation easier and more efficient by providing a slip lining between the pipe and the bored hole
- Primarily designed for horizontal pipe installations, but easily used in vertical.
- Flexible spring-like design allows for elastic deformation around obstacles, easing the installation process and preventing jamming.
- Adjustable ratchet design allowing for spacers to be instantly customised to fit the requirements of installations and eliminating the need for stocking many different units.
- Integrated very high bond adhesive strips simplifying installation on the pipe and preventing any slippage as well as eliminating the need to pre-wrap or treat the pipe.
- Requires no tools for installation, a jig can be provided to make the ratcheting easier and more efficient.
- Low profile design which allows for grout to flow around them easily which prevents grouting failure.
- Fits Pipes from 100mm diameter with no upper limit. The number of spacers required is solely based on load.

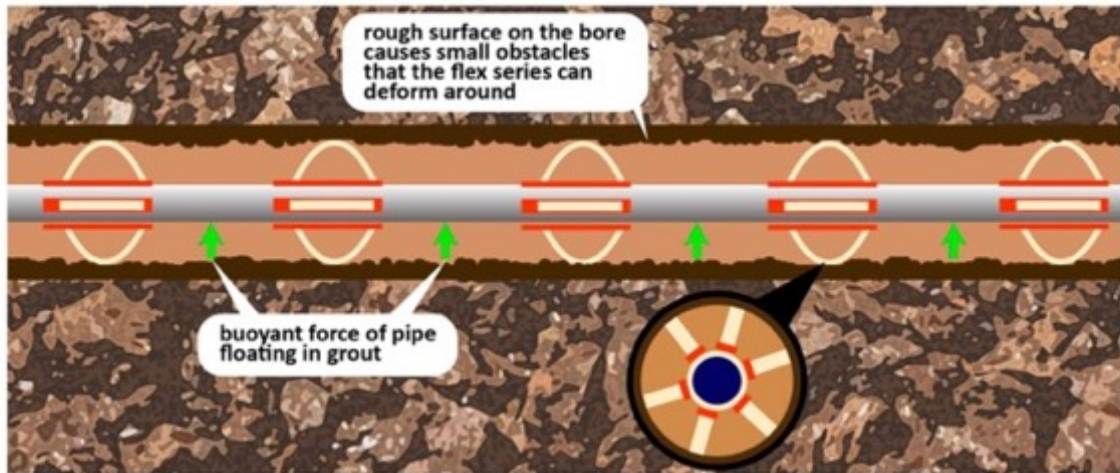


FIXING PROBLEMS IN DIFFICULT BORES



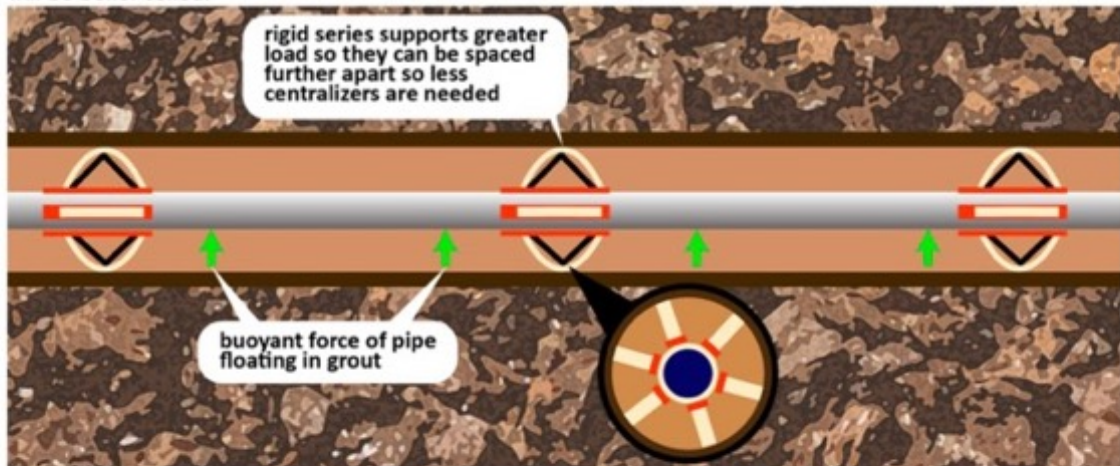
THE FLEX SERIES

The flex series can flex and deform around obstacles during installation, it is ideal for use in bores that have rough surfaces and in bores with slight misalignments, the flex series will prevent jamming in these problematic cases. The flex series can't support as much load so more of them are needed for installations with high loads.



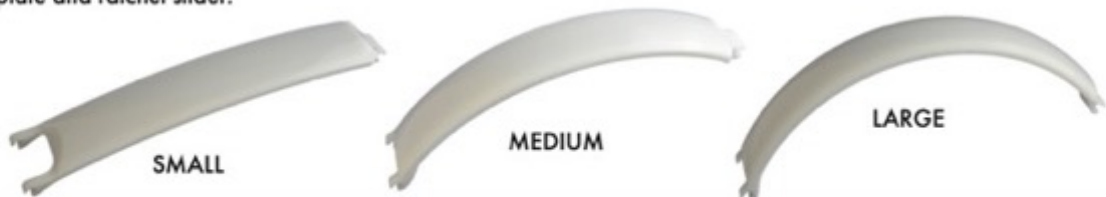
THE RIGID SERIES

The rigid series has got supports that give it much higher load bearing capability than the flex, this means that the spacers can be positioned further apart which decreases the total amount of spacers needed per installation. The Rigid series can only deflect a small amount when loaded so in rough uneven bores the flex will be better suited.



BAND SIZES

Both the rigid and flex series come in 3 sizes; small, medium and large. The different sizes have the same load rating and are solely to accommodate the full range of height up to 125mm, each size uses the same base plate and ratchet slider.





FLEX SERIES



RIGID SERIES



FLEX DEFORMATION AROUND OBSTACLES



UNIQUE INDIVIDUAL ATTACHMENT SYSTEM

Riteline spacers incorporate very high adhesion grip pads that give each centralizer a very strong anchor to the pipe. This means that the number of centralizers required is solely determined by the weight of the unfilled pipe in grouted installations and the max weight of the installation (i.e. Pipe full of water) for un-grouted installations. The diameter of the pipe has no effect on the number of centralizers needed as each one is attached individually, and therefore, are not reliant on a series of connected segments to fully support the pipe like other centralizer designs which require more centralizers increasing the cost of the installation.



A jig is used to easily and efficiently set the ratchet mechanism to get the desired height (right)





SUPPLIER CONTACTS

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