



Ducast Australia

PRODUCT APPRAISAL REPORT 1923

Ductile Iron Access Covers

AS 3996:2019 Access covers and grates

Published: 20 February 2020

Document History

The following information indicates the changes made to this document.

Date	Version
5 February 2020	Client Review
5 February 2020	Peer Review
20 February 2020	Publication

Peer Reviewers

Name/Title	Organisation	Date
Product Appraisal Technical Advisory Group	WSAA	19 February 2020
WSAA Expert Panel	WSAA	19 February 2020
Peter Pittard, WSAA Consultant	WSAA	4 February 2020
Carl Radford, Product Appraisal Manager	WSAA	20 February 2020

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 2020 by WATER SERVICES ASSOCIATION of Australia Limited **All rights reserved.**

CONTENTS

1 EXECUTIVE SUMMARY	5
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	6
5 APPRAISAL CRITERIA	6
5.1 Quality Assurance Requirements	6
5.2 Performance Requirements	7
6 COMPLIANCE WITH APPRAISAL CRITERIA	7
6.1 Compliance with Quality Assurance Requirements	7
6.2 Compliance with Performance Requirements	7
6.2.1 Load resistance	7
6.2.2 Sealing	7
6.2.3 Slip resistance	8
6.2.4 Uplift resistance to pressure, flood or resistance to traffic	8
6.2.5 Dimensional	8
6.2.6 Ductile iron	8
6.2.7 Seals	8
6.2.8 Coating	9
6.2.9 Fasteners	9
6.2.10 Cover lifting systems	9
6.2.11 Cover mass	9
7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION	9
8 PRODUCT MARKING	10
9 PACKAGING AND TRANSPORTATION	10
10 PRODUCT WARRANTY	10
11 WATER AGENCY EXPERIENCE WITH THE PRODUCT OR FIELD TESTING REPORT	10
12 OUTCOMES OF EXPERT PANEL PRODUCT REVIEW	10
13 FUTURE WORKS	10
14 DISCLAIMER	10
14.1 Issue of Report	11
14.2 Limits on Reliance on Information and Recommendations	11
14.2.1 Disclaimer of liability	11
14.2.2 Intellectual Property and other rights	11
14.2.3 Need for independent assessment	11
14.3 No Updating	12
14.4 No Warranty	12
APPENDIX A – PRODUCT LITERATURE	13
APPENDIX B - QUALITY CERTIFICATIONS	20
APPENDIX C - SUPPLIER CONTACTS	25

1 EXECUTIVE SUMMARY

Ducast Australia, a business unit of Winston Scaffolding Pty Ltd, was established in 2019 to offer a range of access covers and grates to the Australian market. Ducast Australia is a sister company of Ducast Factory LLC, based in Dubai, UAE and are subsidiaries of Taurani Holding Ltd.

This Appraisal is for a range of Class A/B and Class D/E rubber sealed, solid top, cast ductile iron access covers and frames for utilisation in water and sewer systems. The range includes circular, square and rectangular access covers. See Section 4 for details.

Ducast access covers and frames are manufactured in accordance with AS 3996:2019 *Access covers and grates*.

The access covers have a skid resistant 4 mm raised pattern on the lid and incorporate U shaped EPDM seals and four Grade 316 A4-70 M10 hold down Allen bolts.

The Ducast access covers are designed with a tongue and groove arrangement to ensure that the covers cannot be incorrectly located within the frame after removal and replacement. This ensures accurate alignment of the hold down bolts.

The keyholes provided on each cover are compatible with the industry standard key lifter.

Ducast Factory LLC holds an ISO 9001:2015 Quality Management System Licence.

The Ducast access covers have ISO Type 5 product certification to AS 3996:2019 *Ductile Iron Access Covers and Frames for Drinking Water, Non-drinking Water Supply and Sewerage to AS 3996*.

This Appraisal has determined that Ducast Access Covers and Frames as detailed in Section 4, comply with the requirements of WSA PS 290 *Ductile Iron Access Covers and Frames for Drinking Water, Non-drinking Water Supply and Sewerage to AS 3996* and are considered as 'fit for purpose'.

1.1 Recommendations

It is recommended that WSAA members, subject to any specific requirements of the member, accept or authorise the Ducast Access Covers and Frames, detailed in this report, for use in water or sewerage systems provided they are installed in accordance with WSAA Codes and manufacturer's requirements, where specified.

2 THE APPLICANT

The Applicant is Ducast Australia.

2.1 The Supplier

Ducast Australia, a business unit of Winston Scaffolding Pty Ltd, was established in 2019 to offer a range of access covers and grates to the Australian market. Ducast Australia is a sister company of Ducast Factory LLC, based in Dubai, UAE and are subsidiaries of Taurani Holding Ltd.

2.2 The Manufacturer

Ducast Factory LLC was established in 1996 in Dubai, UAE. The foundry business has an annual production capacity of more than 16,000 tonnes per annum and specialises in the production of ductile iron municipality and engineering castings for the Middle East regions. A new state-of-the-art foundry is currently being built in Abu Dhabi that will double Ducast's output.

Ducast is a subsidiary of Taurani Investment Limited, a multinational conglomerate operating in four continents with more than 2,400 employees providing manufacturing, trading and other services to a vast multitude of market segments.

3 THE PRODUCT

This Appraisal is for a range of Class A/B and Class D/E rubber sealed, solid top, cast ductile iron access covers and frames for utilisation in water and sewer systems manufactured in accordance with AS 3996:2019 *Access covers and grates*. The range includes circular, square and rectangular access covers.

The access covers are cast, painted and tested at the Ducast foundry facility in Dubai, UAE.

All access covers are sealed using a U-shaped elastomeric EPDM seal with the cover bolted down to the frame using four Grade 316 A4-70 M10 Allen bolts or where hinged a Grade 316 A4-70 locking pin is used.

AS 3996 nominates a minimum of two M12 fasteners is required to prevent dislodgement by traffic, flood or pressure, however an alternative design is acceptable provided a pull-out test is completed to demonstrate adequacy. Ducast has completed those tests.

Ducast access covers have a minimum of two keyholes with dimensions in accordance with AS 3996 to ensure compatibility with industry standard key lifters.

Plastic bolthole and keyhole covers are fitted to all access covers. An EPDM U shaped seal provides a water proof and gas proof fit between the cover and frame. All covers have a skid resistant 4 mm raised pattern cast into the cover surface. The access covers are coated with a bituminous paint.

See Section 4 for details of the Ducast cover and frame range covered by this Appraisal.

4 SCOPE OF THE APPRAISAL

This appraisal applies to the access cover and frames shown in Table 1 and included within the ISO Type 5 Product Certification Schedule included in Appendix B.

TABLE 1

DUCAST SOLID TOP SEALED ACCESS COVERS

Part Number	Shape	Clear Opening mm	Class	Fasteners
DA-1	Square	600 x 600	D/E	4 x M10
DA-2	Square	600 x 600	A/B	4 x M10
DA-3	Circular	600	D/E	Hinged with lock
DA-4	Circular	600	D/E	4 x M10
DA-5	Circular	600	A/B	4 x M10
DA-7	Rectangular	750 x 600	A/B	4 x M10
DA-8	Rectangular	900 x 600	A/B	4 x M10

5 APPRAISAL CRITERIA

5.1 Quality Assurance Requirements

The WSAA Product Appraisal Technical Advisory Group accepts Class A/B and Class D/E sealed, solid top ductile iron access covers and frames manufactured in compliance with AS 3996:2019 *Access covers and grates* 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

The Ducast access covers and frames have been appraised for compliance with AS 3996:2019 *Access covers and grates*

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 290 *Ductile Iron Access Covers and Frames for Drinking Water, Non-drinking Water Supply and Sewerage to AS 3996*

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

Ducast has submitted the following quality certificates:

- ISO 9001:2015 Certificate of Registration No. FM58162 issued to Ducast Factory LLC by BSI
- AS 3996:2019 ISO Type 5 product certification licence No. BMP 722424 issued to Ducast Australia by BSI

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

6.2 Compliance with Performance Requirements

6.2.1 Load resistance

Type Test reports completed by ALS Industrial Pty Ltd in Melbourne (NATA Accreditation No 14308) have been submitted by Ducast to demonstrate compliance with the load performance requirements of Appendix C of AS 3996:2019 for Class A/B and Class D/E access covers.

The type test requirements are to ensure the cover and frame:

- a) Exhibits acceptable elastic deflection after application of the serviceability design load.
- b) Exhibits acceptable permanent set of the cover or grate, after five applications of the serviceability design load.
- c) Sustains the ultimate limit state design load for 30 seconds without structural failure.

All access covers successfully passed the type tests.

6.2.2 Sealing

Type test reports completed by ALS also demonstrated cover and frame compliance with the water tightness and gas tightness requirements of AS 3996:2019.

6.2.3 Slip resistance

A test was undertaken on a cover by ALS to demonstrate a Class P3 rating in accordance with AS 4586, which complies with the requirements of AS 3996:2019.

6.2.4 Uplift resistance to pressure, flood or resistance to traffic

Type test reports completed by ALS also demonstrated cover and frame compliance with the pull-out test requirements of AS 3996:2019. Appendix J.

6.2.5 Dimensional

A dimensional inspection report has been supplied by Ducast to demonstrate compliance with the Ducast drawings and nominated dimensional requirements of AS 3996:2019 and WSA PS 290.

AS 3996:2019 requires the minimum depth of insertion for covers and frames in trafficable areas (Class D) to be 50mm.

WSA PS 290 requires that depth of insertion for Class B covers shall not be less than 35mm or 25mm with a fixing device.

WSA PS 290 specifies that the maximum gap between adjacent parts of multi-part covers and frames shall be 3mm.

The dimensions for Ducast covers and frames are shown in Table 2 and demonstrate compliance with the requirements detailed above. All Ducast access covers are secured.

TABLE 2
COVER INSERTION DEPTH AND FRAME DEPTH

Part number	Clear opening mm	Class	Cover insertion depth	Frame depth	Gap between cover and frame mm
DA-1	600 x 600	D/E	70	80	3max
DA-2	600 x 600	A/B	40	52	3max
DA-3	600	D/E	50	100	3max
DA-4	600	D/E	90	100	3max
DA-5	600	A/B	62	75	3max
DA-7	750 x 600	A/B	43	52	3max
DA-8	900 x 600	A/B	33	45	3max

6.2.6 Ductile iron

Ducast has submitted a material test report from Element Materials Technology ME Ltd, accredited to ISO/IEC 17025 by American Association for Laboratory Accreditation, to verify compliance with the ductile iron material requirements of Grade 500/10.

6.2.7 Seals

Each access cover has an EPDM U shaped rubber seal fitted between the cover and frame to provide a water proof and gas proof seal.

The EPDM-55 seal is moulded by Arab Emirates Bandac Co LLC and a type test report undertaken by Wimpey Laboratories, accredited to ISO/IEC 17025 by International Accreditation Service (IAS), was submitted to demonstrate compliance of the EPDM seal material to AS1646 and EN 168-1.

Ducast advise that the seals have a minimum service life of 50 years. Care should be taken when removing the cover from the frame to ensure there is no damage incurred to the rubber seal. Replacement seals are available from Ducast.

6.2.8 Coating

Ducast access cover and frames are coated with a standard black coloured bituminous paint to a minimum thickness of 100µm.

6.2.9 Fasteners

Ducast access covers incorporate four M10 Grade 316 A4-70 stainless steel Allen bolts to secure the cover to the frame, except for the hinged cover option.

AS3996:2019 nominates a minimum of two M12 hold down bolts to prevent dislodgement from pressure, flood or vehicular traffic applications, however, there is a provision to allow for alternative design features to prevent dislodgement, provided the access covers are subjected to a pull-out test to demonstrate adequate performance. Ducast has satisfactorily completed a pull-out test for each cover in accordance with Appendix J of AS3996:2019. Therefore, the four M10 hold down bolts are deemed acceptable.

The hinged covers are fitted with a locking arrangement utilising a Grade 316 stainless steel latch pin.

Each hold down bolt is fitted with a removable plastic plug to prevent ingress of foreign materials.

6.2.10 Cover lifting systems

Ducast access covers have a minimum of two lifting keyholes in accordance with AS 3996:2019 to ensure compatibility with the industry standard key lifter.

Each keyhole is fitted with a removable plastic plug to prevent ingress of foreign materials.

6.2.11 Cover mass

The mass for each Ducast access cover is shown in Table 3.

TABLE 3 COVER MASS

Part Number	Clear Opening mm	Class	Mass of Cover
DA-1	600 x 600	D/E	64
DA-2	600 x 600	A/B	57
DA-3	600	D/E	43
DA-4	600	D/E	51.5
DA-5	600	A/B	43
DA-7	750 x 600	A/B	62
DA-8	900 x 600	A/B	94

7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION

Access covers and frames are commonly used industry items. Training requirements for their installation, application, repair and maintenance are therefore expected to be part of common industry practice. Installation is recommended to be in accordance with EN 124 Annex F.

A copy of the Ducast Maintenance Instruction relating to the rubber seals is attached in Appendix A.

8 PRODUCT MARKING

Ducast access covers have the following permanent marking on the upper surface which satisfy the requirements of AS 3996:2019:

- Manufacturers name: Ducast UAE
- Date of manufacture: e.g. 1/05/19
- Number of the Standard: AS 3996:2019
- Load classification: Class A/B or Class D/E
- Mass of cover: xx kg
- DUCTILE
- SEALED
- SEWER (where applicable)
- Internal dislodgement testing: IPD
- BSI licence number and logo

These markings satisfy the requirements of the WSAA appraisal criteria.

9 PACKAGING AND TRANSPORTATION

Access covers and frame assemblies are typically delivered shrink wrapped on pallets in numbers appropriate to transport requirements and constraints.

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 Ducast's warranty are included in their terms and conditions of sale.

11 WATER AGENCY EXPERIENCE WITH THE PRODUCT OR FIELD TESTING REPORT

Ducast access covers are new to Australia and this Appraisal is a pre-requisite to obtaining Water Agency approvals in Australia. Ducast has extensive experience in the provision of access covers to the Middle East areas over a period of more than 20 years.

12 OUTCOMES OF EXPERT PANEL PRODUCT REVIEW

No issues have been raised.

13 FUTURE WORKS

No future works have been identified.

14 DISCLAIMER

This Product Appraisal Report (Report) is issued by the Water Services Association of Australia Limited on the understanding that:

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

To maintain the recommendations of this Report any such changes shall be detailed and notified to the Product Appraisal Manager for consideration and review of the Report and appropriate action. Appraisals and their recommendations will be the subject of continuous review dependent upon the satisfactory performance of products.

WSAA reserves the right to undertake random audits of product manufacture and installation. Where products fail to maintain appraised performance requirements the appraisal and its

recommendations may be modified and reissued. Appraisal reports will be reviewed and reissued at regular intervals not exceeding five (5) years.

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

Any enquiries regarding this report should be directed to the Program Manager, Carl Radford, Phone: 03 8605 7601 email carl.radford@wsaa.asn.au.

14.1 Issue of Report

This Report has been published and/or prepared by the Water Services Association of Australia Limited and nominated Project Manager and peer group of technical specialists (the Publishers).

The Report has been prepared for use within Australia only by technical specialists that have expertise in the function of products such as those appraised in the Report (the Recipients).

By accepting this Report, the Recipient acknowledges and represents to the Publisher(s) and each person involved in the preparation of the Report that the Recipient has understood and accepted the terms of this Disclaimer.

14.2 Limits on Reliance on Information and Recommendations

14.2.1 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.

14.2.2 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.

14.2.3 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 indemnify 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.

14.3 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.

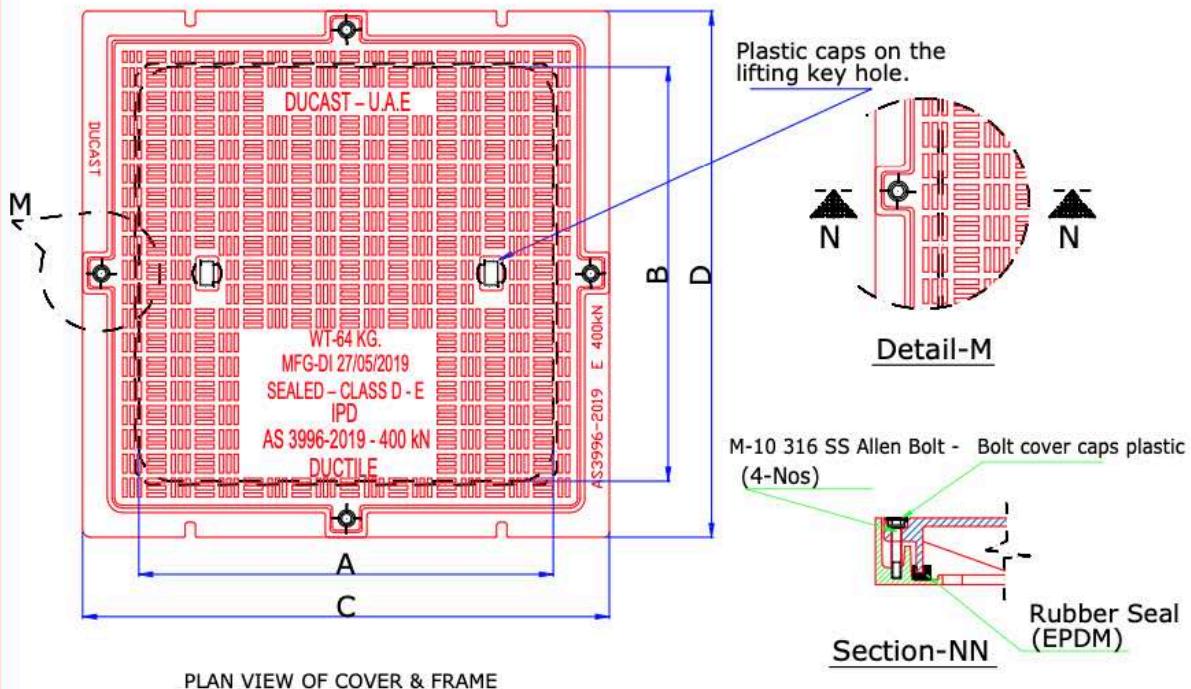
14.4 No Warranty

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



DUBAI. UAE.
info@ducast.com
www.ducast.com

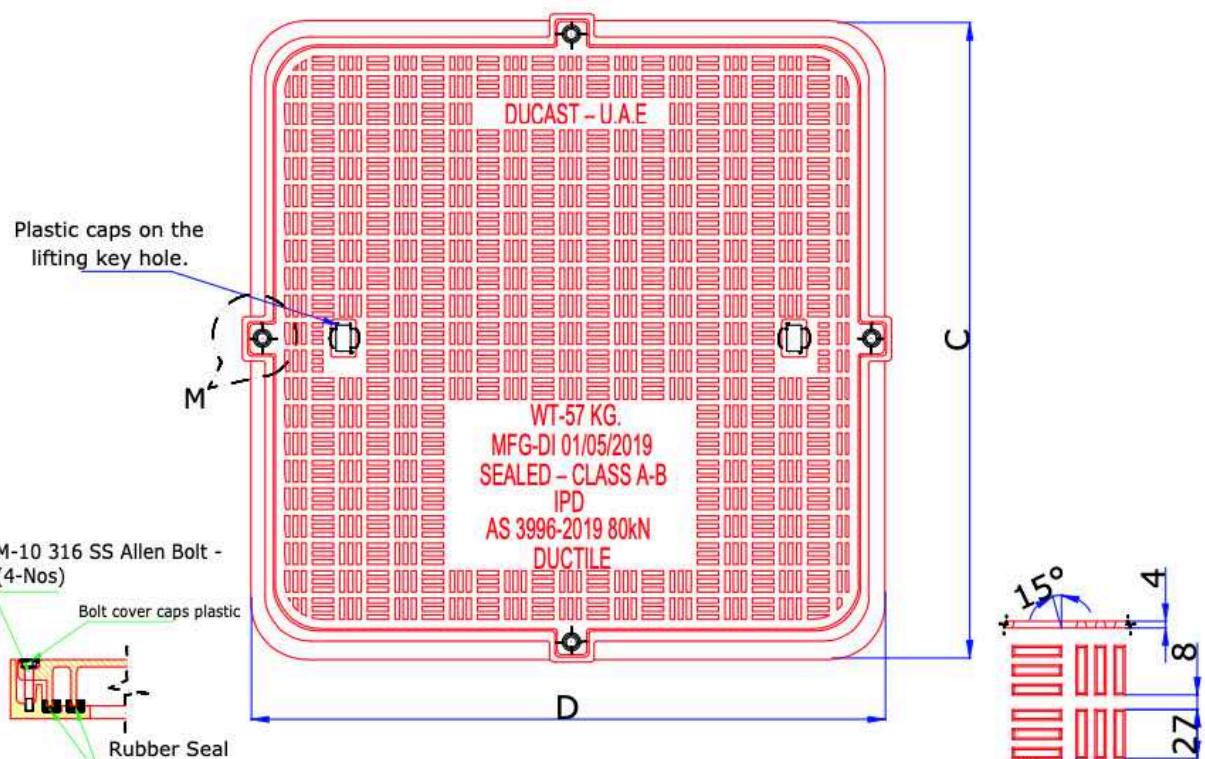


Note :- Anti -Slip Design .
:- Cover seating surface area will machine if required .
:- Black Bituminous Paint.

PRODUCT CODE	CLEAR OPENING AXB (mm)	OVER BASE CXD (mm)	FRAME DEPTH E (mm)	LOADING kN	STANDARD
DA-1	600X600	760X760	80	400kN	AS 3996-2019
DATE : 03-07-19	<u>DESCRIPTION :</u> 600X600 MM CLEAR OPENING DUCTILE IRON LOADING CLASS E 400kN SINGLE SEAL SOLID TOP COVER & FRAME WITH RUBBER SEAL & BOLTED .				REV : 01
APP.BY : PC					SCALE : NTS
CHECKED BY: AAB					ALL DIMENSIONS ARE IN MM
DRAWN BY : MKC					LOADING: E 400kN ACCORDING TO AS3996

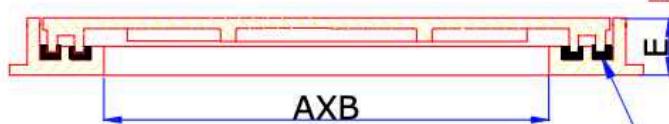


DUBAI. UAE.
info@ducast.com
www.ducast.com



PLAN VIEW OF COVER & FRAME

RAISED PATTERN DETAILS
RAISED PATTERN THICKNESS 4.0MM



SECTIONAL VIEW

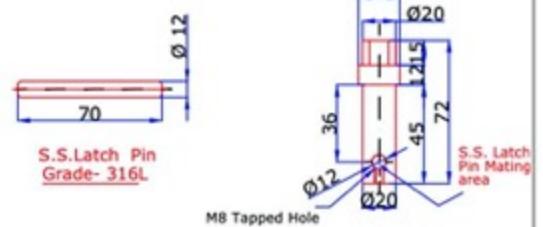
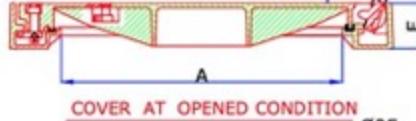
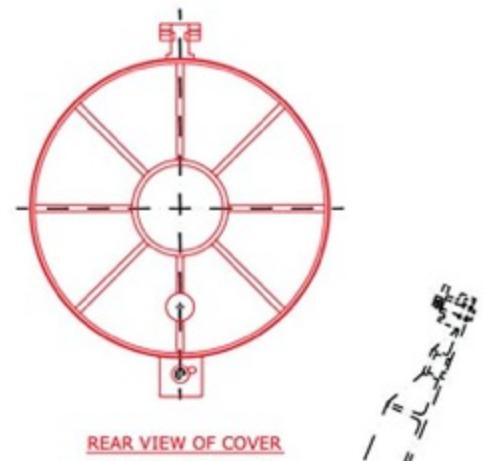
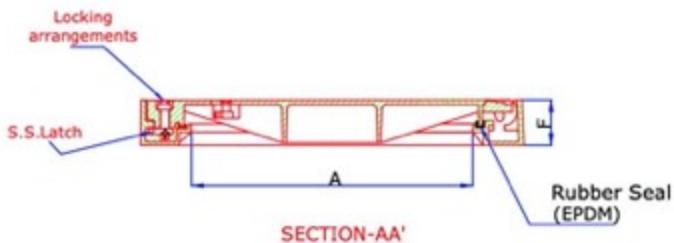
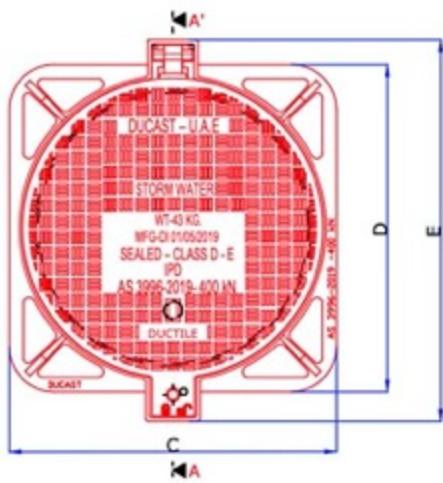
Rubber Seal (EPDM)

Note :-Anti -Slip Design.

- Cover seating surface area will be machined if required .
- Black Bituminous Paint .

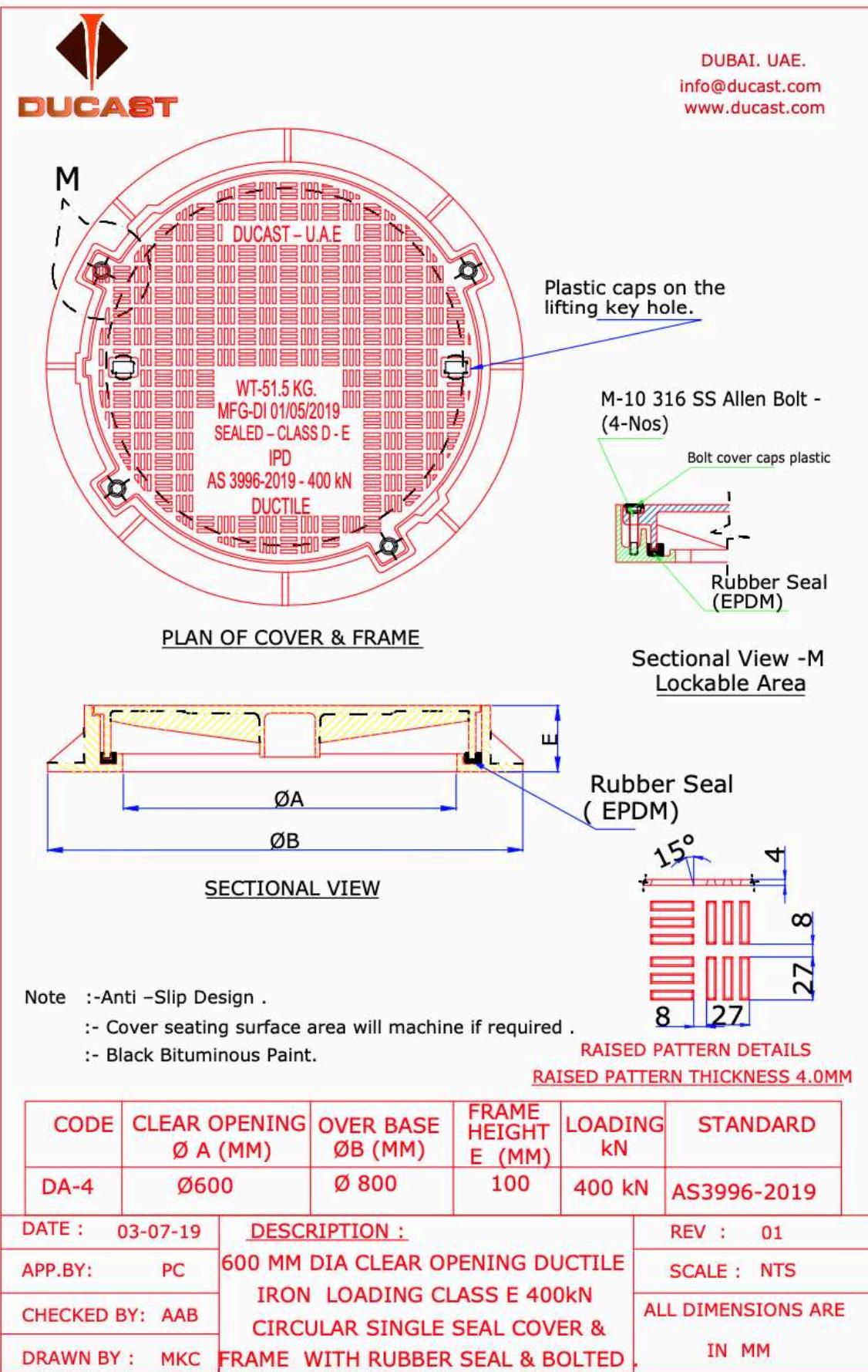
CODE	CLEAR OPENING AXB (mm)	OVER BASE CXD (mm)	DEPTH E (mm)	LOADING KN	STANDARD
DA-2	600X600	772X772	52	80 KN	AS3996-2019

DATE : 03-07-19	DESCRIPTION : 600X600 MM CLEAR OPENING DUCTILE IRON LOADING CLASS B 80 KN SINGLE SEAL SOLID TOP COVER & FRAME WITH RUBBER SEAL & BOLTED.	REV : 01
APP.BY: PC		SCALE : NTS
CHECKED BY: AAB		ALL DIMENSIONS ARE
DRAWN BY : MKC		IN MM



Note :-Anti -Slip Design .
:- Cover seating surface area will machine if required .
:- Black Bituminous Paint.

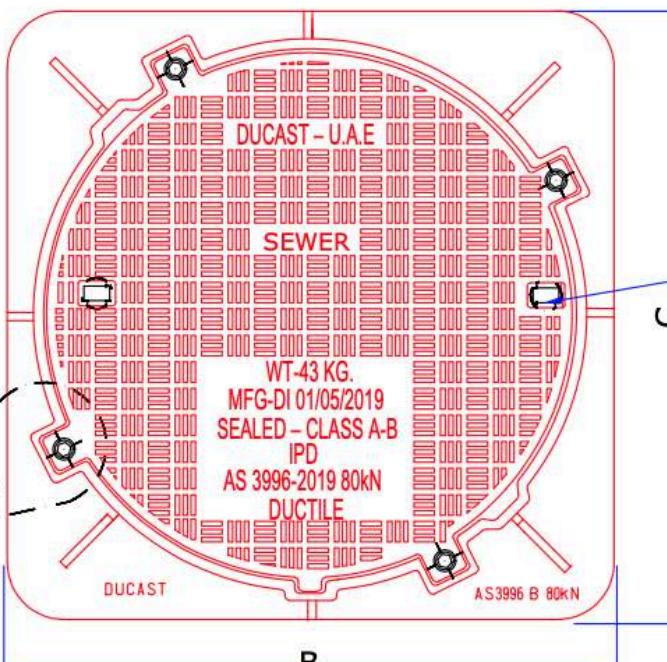
PRODUCT CODE	CLEAR OPENING A (mm)	OVER BASE CXDXE (mm)	DEPTH F (mm)	LOADING kN	STANDARD
DA-3	Ø 600	725X725X850	100	E 400kN	AS 3996-2019



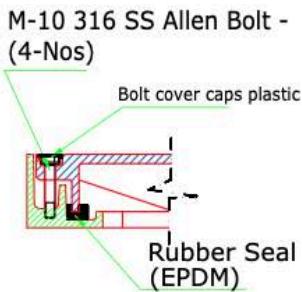


DUCAST

DUBAI. UAE.
info@ducast.com
www.ducast.com

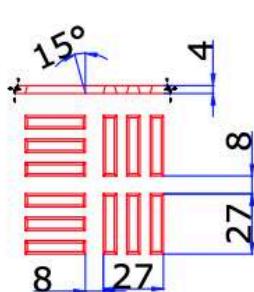


PLAN



**Sectional View -M
Lockable Area**

SECTIONAL VIEW OF COVER & FRAME



RAISED PATTERN DETAILS
RAISED PATTERN THICKNESS 4.0MM

Note :-

- Anti -Slip Design.**
- Cover seating surface area will be machined if required .**
- Black Bituminous Paint .**

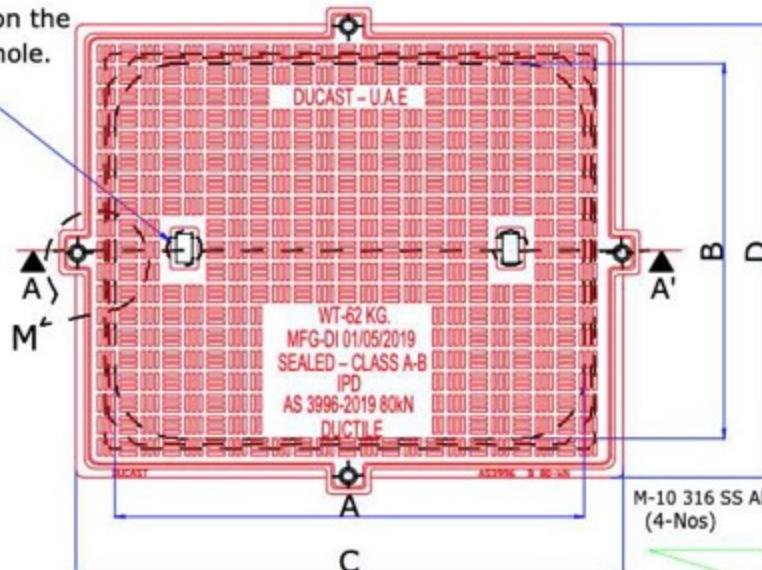
CODE	CLEAR OPENING A (mm)	OVER BASE BXC (mm)	DEPTH E (mm)	LOADING kN	STANDARD
DA-5	Ø600	750x750	75	80 kN	AS3996-2019

DATE : 03-07-19	DESCRIPTION : 600 MM DIA CLEAR OPENING DUCTILE IRON LOADING CLASS B 80kN CIRCULAR	REV : 0
APP.BY: PC .		SCALE : NTS
CHECKED BY: AAB.	SINGLE SEAL COVER & FRAME	ALL DIMENSIONS ARE
DRAWN BY : MKC .	WITH RUBBER SEAL & BOLTED .	IN MM



DUBAI. UAE.
info@ducast.com
www.ducast.com

Plastic caps on the
lifting key hole.



PLAN VIEW OF COVER & FRAME

M-10 316 SS Allen Bolt -
(4-Nos)

Bolt cover caps plastic

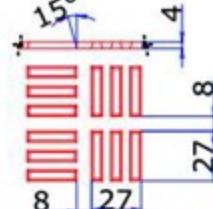
Rubber Seal
(EPDM)

Section-NN



SECTION - A-A'

Rubber Seal
(EPDM)



RAISED PATTERN DETAILS
RAISED PATTERN THICKNESS 4.0MM

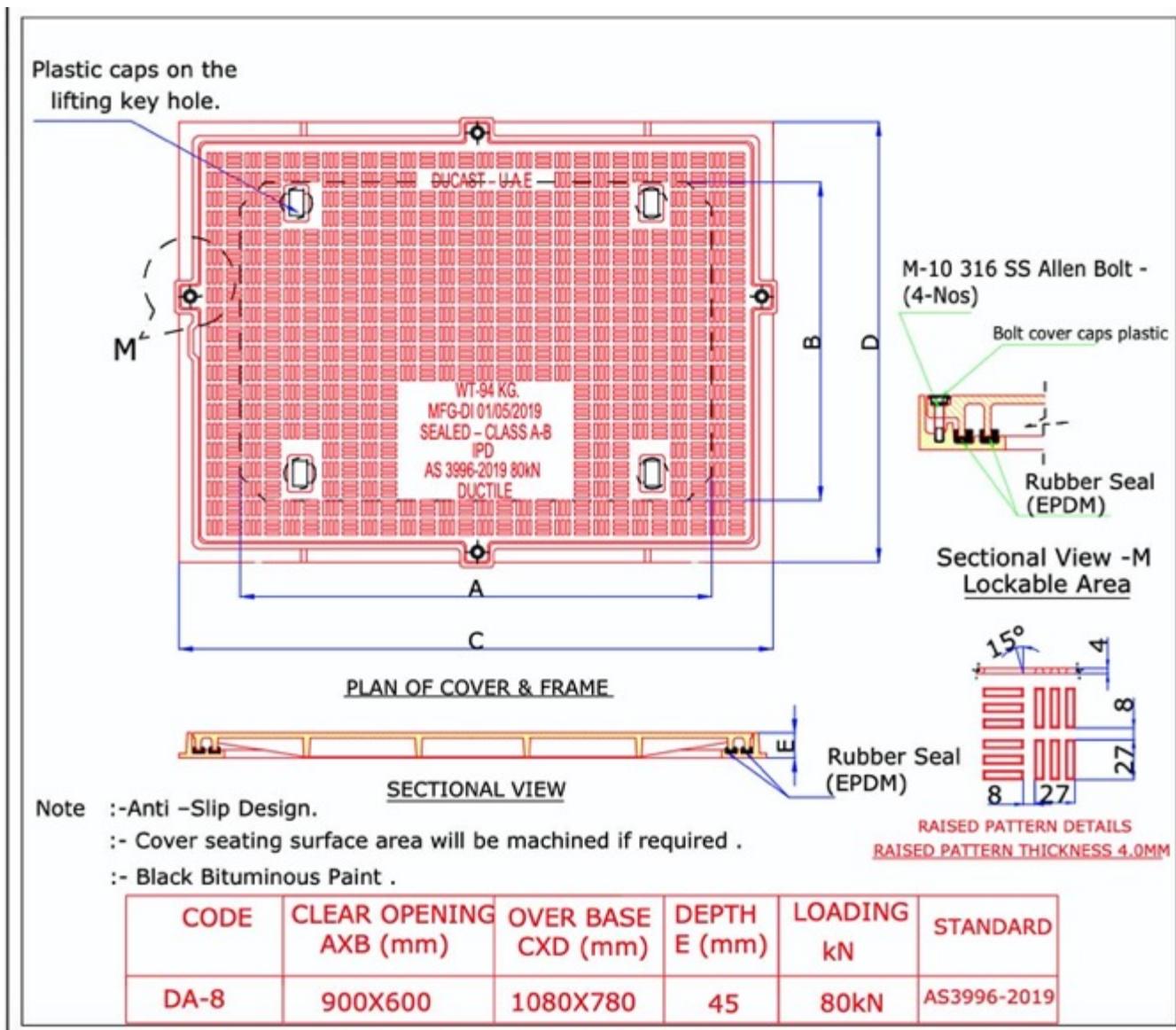
Note :-Anti -Slip Design.

:- Cover seating surface area will be machined if required .

:- Black Bituminous Paint .

CODE	CLEAR OPENING AXB (mm)	OVER BASE CXD (mm)	DEPTH E (mm)	LOADING kN	STANDARD
DA-7	750X600	876X727	52	80 kN	AS3996-2019

DATE : 03-07-19	DESCRIPTION : 750X600 MM CLEAR OPENING DUCTILE IRON LOADING CLASS B 80 kN SINGLE SEAL SOLID TOP COVER & FRAME WITH RUBBER SEAL & BOLTED .	REV : 0
APP.BY: PC		SCALE : NTS
CHECKED BY: AAB		ALL DIMENSIONS ARE IN MM
DRAWN BY : MKC		





MAINTENANCE INSTRUCTION

(U-shaped rubber seal insert)

Product - AS3996- 2019 Access covers

Please follow the relevant recommendation for access cover opening/closing.

Ducast access covers may require basic level of maintenance. However, at each opening and closing of the covers, the sealing rings shall be checked and wiped off any stones, debris or dust, apply grease or oil suitably to ensure their longevity.

In case of damaged seal due to opening and closing operation or during routine check, the operator shall inform the relevant authority for replacement.

Ducast U-type EPDM rubber seals have been designed to have a minimum service life of 50 years under normal usage. Service life may increase depending upon proper care and service conditions.

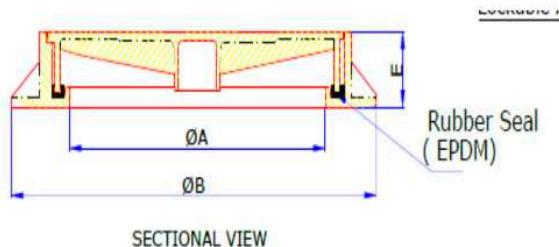
Replacing the Rubber seal

1. Open the cover by suitable tools and open it on the Safety position
2. Remove the old/damaged rubber seal by pulling manually
3. Check that there is no mud, dust, water on the groove area (clean if necessary)
4. Place the new insert on the groove area (apply glue if necessary)
5. Apply grease or oil suitably in the sealing area for smooth functioning
6. Handle the cover (opening/closing) to check that the cushioning insert is well placed.

HSE

Please follow the site HSE norms, and use required safety tools / equipment.

Please dispose off the used EPDM rubber seal properly.



APPENDIX B - QUALITY CERTIFICATIONS

Copies of the following Quality Certification Certificates are available for downloading from the WSAA members website.

TABLE B1 DUCAST FACTORY LLC – MANAGEMENT SYSTEM

Al-Quoz Industrial Area Dubai United Arab Emirates	
Quality Systems Standard	ISO 9001:2015
Certification licence no.	FM 58162
Certifying agency	BSI
First date of certification	20 March 2001
Current date of certification	20 February 2019
Expiry date of certification	19 February 2022

TABLE B2 DUCAST AUSTRALIA – PRODUCT CERTIFICATION

2 Stacey Street Bankstown NSW 2200	
Product Standard/Spec.	AS 3996-2019
Certificate No.	BMP 722424
Issuing certification body	BSI
First date of certification	9 December 2019
Current date of certification	9 December 2019
Expiry date of certification	8 December 2024



Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Ducast Factory LLC
PO Box 28480
AL-Quoz Industrial Area
Dubai
United Arab Emirates

Holds Certificate No:

FM 58162

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

Manufacturing and sales of ductile iron and grey iron casting gully tops, manhole tops for vehicular and pedestrian areas. Manufacturing and sales of scaffolding castings including jack nuts, prop nuts, wedge plates and ancillary items.

For and on behalf of BSI:


Andrew Launn, EMEA Systems Certification Director

Original Registration Date: 2001-03-20

Effective Date: 2019-02-20

Latest Revision Date: 2019-02-07

Expiry Date: 2022-02-19

Page: 1 of 1



...making excellence a habit.™

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.
An electronic certificate can be authenticated [online](#).
Printed copies can be validated at www.bsigroup.com/ClientDirectory

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000

BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.



By Royal Charter

Certificate

This is to certify that

DUCAST AUSTRALIA T/A Winston Scaffolding P/L

ABN 12 081 340 392

Head Office Address 2 Stacey Street
Bankstown NSW 2200
AustraliaHolds Certificate Number **BMP 722424**

Is authorised to use the BSI registered Benchmark Product Certification Trademark, on products identified in the Product Certification Schedule that is attached to this Product Certification Certificate. Such products have been Type Tested and are manufactured under the Product Certification Requirements monitored by BSI to ensure that the manufacturing process has the capability to consistently produce products in compliance with and are Certified to:

AS 3996:2019 Access covers and grates

Marc Barnes, Managing Director, BSI Group ANZ Pty Ltd

For and on behalf of BSI

Originally registered
09/12/2019Latest issue
09/12/2019Expiry date
08/12/2024

...making excellence a habit.

The use of this certificate and of the Benchmark Product Certification mark trademark is subject to the Client complying with the BSI Mark Requirements, and Terms and Conditions. BSI Group ANZ Pty Ltd, Suite 2, Level 7, 15 Talavera Road, Macquarie Park, NSW 2113
The validity of this certificate can be checked at website: www.bsi-global.com/clientdirectory and the JASANZ website: www.jas-anz.org/register. This certificate remains the property of BSI and must be returned upon its request. Template updated August 2014.



By Royal Charter

Schedule

This schedule supports the Product Certification Certificate for

DUCAST AUSTRALIA T/A Winston Scaffolding P/L

ABN 12 081 340 392

Head Office Address
2 Stacey Street
Bankstown NSW 2200
Australia

Holds Certificate Number BMP 722424

Standard: AS 3996:2019 Access covers and grates

Issue date: 09/12/2019

Model	BSI Review Date	Description
DA-1	09/12/2019	600mm clear opening rectangular cover with frame Class D-E
DA-2	09/12/2019	600mm clear opening square cover with frame, Class A-B
DA-3	09/12/2019	Sealed ductile iron circular cover with 600mm opening dimensions, one side hinged, Class D-E
DA-4	09/12/2019	Sealed ductile iron circular cover, 590mm opening dimensions with frame, Class D-E
DA-5	09/12/2019	Sealed ductile iron circular cover and frame with 600mm clear opening dimensions, Class A-B
DA-7	09/12/2019	750mm x 600mm clear opening rectangular cover with frame Class A-B
DA-8	09/12/2019	900mm x 600mm clear opening rectangular cover with frame Class A-B

BMP 722424
09/12/2019 Page 2 of 2



...making excellence a habit.

The use of this certificate and of the Benchmark Product Certification mark trademark is subject to the Client complying with the BSI Mark Requirements, and Terms and Conditions. BSI Group ANZ Pty Ltd, Suite 2, Level 7, 15 Talavera Road, Macquarie Park, NSW 2113
The validity of this certificate can be checked at website: www.bsi-global.com/clientdirectory and the JASANZ website: www.jas-anz.org/register. This certificate remains the property of BSI and must be returned upon its request. Template updated August 2014.

APPENDIX C - SUPPLIER CONTACTS

Ducast Australia

NSW

2 Stacey St
Bankstown NSW

Phone: 02 9793 8001

QLD

68 Bellrick St
Acacia Ridge QLD

Phone: 1300 772233

VIC

1 Faigh St
Mulgrave VIC

Phone: 1300 772233

Email: ducastsales@winstonsteel.com.au

Web: <http://ducast.com.au/index.html>

**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