



DEESAWALA FRP/GRP REKA RING & TOK RING

(WRAS, BSEN-681-1, AS 681, ISI & ISO 4633 Approved)

Reka® Joints

GRP EPDM Reka Rings- Deesawala Rubber Industries manufactures an exhaustive range of EPDM pipe seals for GRP pipes in diameters ranging from 80mm to 4000mm. Our seals are manufactured in various stock elastomeric compounds in compliance with worldwide regulations including WRAS and BSEN 681. The unique lip design of the Reka® profile reduces installation time and accommodates change in flow direction and to eliminate permeation. Applications include potable and raw water supply, sewage disposal, storm water drainage, industrial effluents and sea water processing.

Types of Reka Rings



Reka Type-I
E/lg: 18/20 mm,
Polymer: EPDM,
Hardness: 55 +/- 5 Shore A



Reka Type-II
E/lg: 22/30 mm,
Polymer: EPDM,
Hardness: 55 +/- 5 Shore A



Reka Type-VI
E/lg: 37.5/40.0 mm,
Polymer: EPDM,
Hardness: 55 +/- 5 Shore A



Reka Type-I
E/lg: 19/25 mm,
Polymer: EPDM,
Hardness: 70 +/- 5 Shore A



Reka Type-II
E/lg: 20/25 mm,
Polymer: EPDM,
Hardness: 70 +/- 5 Shore A



Reka Type-IV
E/lg: 21/30 mm,
Polymer: EPDM,
Hardness: 70 +/- 5 Shore A



Reka
E/lg: 26/35 mm,
Polymer: EPDM,
Hardness: 70 +/- 5 Shore A

Center Registers / Stoppers



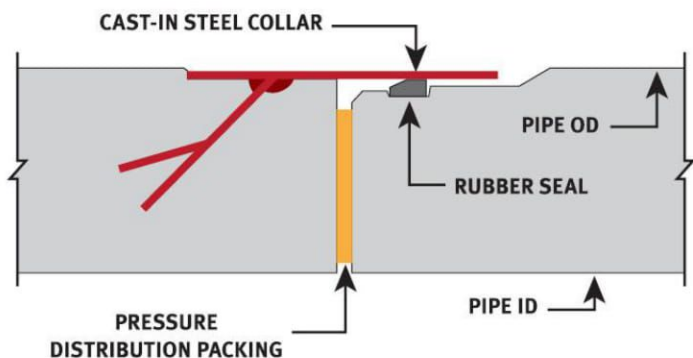
Deesawala Rubber manufactures several profiles for center registers which are used primarily during assembly and installation of GRP pipes to prevent any unforeseen mechanical damage. Profiles are available in 75mm or 150mm pieces as well as rolls of desired cut lengths.



Jacking Pipe Rings / Tok Ring



Deesawala produces a wide range of seals for concrete pipe systems covering several cross-sections and profiles including the basic 'O-ring', "TOK" and "G" rings for pipe sizes upto 3500mm. Our concrete pipe seals are capable of withstanding strenuous conditions of the pipe jacking process. These can be used in both, pressurized and non-pressurized applications. These types of gaskets are made from EPDM compounds mostly and required tolerances are as per BS EN 681 -1 standard. We are most widely acclaimed as an Angular Rib Gasket Manufacturer because of its high grade quality we offer. Seals for micro tunnel & jacking pipes are also made at Deesawala Rubber Industries.



Certifications

Raw material approval



Title Reka gaskets type II and III from Deesawala Rubber Industries, delivered in November 2018	Report number RMQ 2018-456																																												
Author Jan Roger Standal	Date 26.11.2018																																												
1. Conclusion	Reka gaskets were evaluated in accordance with dimension specifications in PAS04 and physical property specification in EN681-1/ISO4633 <ul style="list-style-type: none"> • Shore A acceptable. • DIG acceptable for DN100 but one of DN600 gaskets were slightly bigger than max tolerance. • Profile dimensions acceptable. • Profile angle acceptable for DN100 and DN600. • Profile cross-sectional area acceptable. DN600 slightly higher than max • Compression set at 23 °C / 72 hrs; 70°C/24 hrs and -10°C/72hrs are acceptable • Tensile properties acceptable. • Stress relaxation acceptable • Dispersion acceptable. • Joint acceptable. All received samples was moulded • Change of mechanical properties after ageing acceptable Physical properties on received samples are acceptable.																																												
2. Identification	Reka gasket type II and III																																												
3. Purpose	Raw material qualification																																												
	Below samples were received from Deesawala <ul style="list-style-type: none"> • 2 x DN100 moulded • 2 x DN600 moulded <p>1 Hardness and DIG Average result for the hardness and DIG measurements are given in the tables below.</p> <table border="1" data-bbox="550 1339 1158 1509"> <thead> <tr> <th colspan="3">Hardness</th> </tr> <tr> <th>DN 100</th> <th>Observed value Shore A</th> <th>Specification Shore A</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>50.6</td> <td rowspan="2">55 ± 5</td> </tr> <tr> <td>2</td> <td>53.4</td> </tr> <tr> <th colspan="3">DIG</th> </tr> <tr> <th></th> <th>Observed value (mm)</th> <th>Specification (mm)</th> </tr> <tr> <td>1</td> <td>110.0</td> <td rowspan="2">110 ± 0.7</td> </tr> <tr> <td>2</td> <td>110.2</td> </tr> </tbody> </table> <table border="1" data-bbox="550 1541 1158 1720"> <thead> <tr> <th colspan="3">Hardness</th> </tr> <tr> <th>DN 600</th> <th>Observed value Shore A</th> <th>Specification Shore A</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>52</td> <td rowspan="2">55 ± 5</td> </tr> <tr> <td>2</td> <td>55.3</td> </tr> <tr> <th colspan="3">DIG</th> </tr> <tr> <th></th> <th>Observed value (mm)</th> <th>Specification (mm)</th> </tr> <tr> <td>1</td> <td>634.3</td> <td rowspan="2">631 ± 3.2</td> </tr> <tr> <td>2</td> <td>635.8</td> </tr> </tbody> </table> The DN600 gaskets were at and slightly above the upper border.	Hardness			DN 100	Observed value Shore A	Specification Shore A	1	50.6	55 ± 5	2	53.4	DIG				Observed value (mm)	Specification (mm)	1	110.0	110 ± 0.7	2	110.2	Hardness			DN 600	Observed value Shore A	Specification Shore A	1	52	55 ± 5	2	55.3	DIG				Observed value (mm)	Specification (mm)	1	634.3	631 ± 3.2	2	635.8
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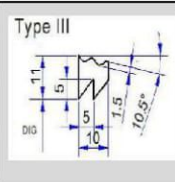
2 Tilt/Twist

Gaskets were left on laboratory bench for more than 24hrs prior to testing. All sample showed acceptable twist and tilt

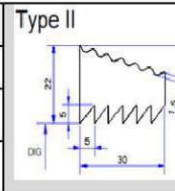
3 Profile measurements

Profile measurements have been performed on received gaskets and the result are displayed in the tables below.

DN100

	width	height	lip distance	lip depth	
Specification(mm)	11± 0.5	10 ± 0.5	5 ± 0.5	5 ± 0.5	
Measured with calliper (mm)	11.3 - 11.3	10.0 - 10.1			
Measured with Draftsight (mm)	11.8	9.9	5.4	4.9	

DN600

	width	height	lip distance	lip depth	
Specification(mm)	30 ± 0.5	22 ± 0.5	5 ± 0.5	5 ± 0.5	
Measured with calliper (mm)	30.2- 30.3	22.3 - 22.4			
Measured with Draftsight (mm)	30.1	23	5.0	4.4	

4 Cross-sectional area and angle

Cross sectional area and angle was measured with Draftsight 2018. Results are displayed in the tables below.

Profile angle		
DN	Observed value (°)	Specification (°)
DN100	11	10.5 ± 0.5
DN600	14	14.5 ± 0.5

See page 5 for further information regarding the angle measurements

Cross sectional area		
DN	Observed value (mm ²)	Specification (mm ²)
DN100	73	67 - 75
DN600	476	420 - 474

The DN600 gasket was slightly above the upper border.

5 Dispersion

Below is a microscope picture of the cross section of received gaskets in order to consider assessment of carbon black/silica dispersion according to ISO 11345-method A.

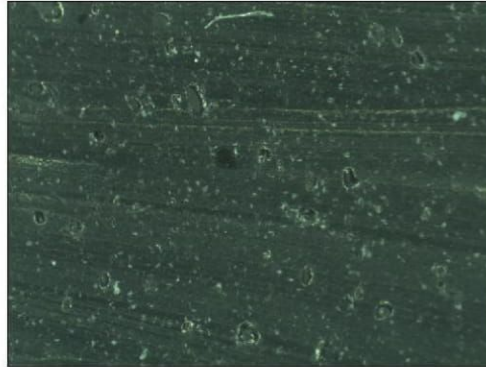


Figure 1 DN 100 x 30 magnification

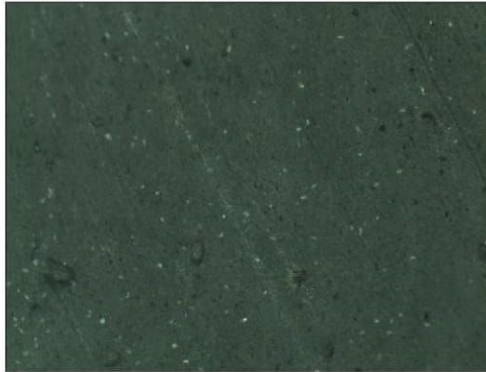


Figure 2 DN 600 x 30 magnification

6 Visual inspection of gasket joint

All gaskets were moulded with acceptable quality.

7 Compression set

Compression set has been measured according to ISO 815-1 (method A) and ISO 815-2 (method 2). ISO 4633 have compression set requirements at -10 °C, 23 °C and 70 °C and all tests were performed. Type B buttons (diameter 13 ± 0.5 mm and thickness 6.3 ± 0.3 mm) were cut from the DN600 gaskets using an Elastocon EP03 rotating knife. Thickness was measured to an accuracy of ± 0.01 with an Elastocon EV01 thickness gauge with controlled foot pressure. Low temperature compression set system EV09 & ET 09 from Elastocon was used for compression set at -10°C testing. Compressions set measurements were recorded at 25 % compression. Result is presented in the table below.

	-10 °C for 72 h	23 °C for 72 h	70 °C for 24 h
Observed compression set on DN 600 gasket	33.4%	9.6%	9.9%
Specification on ISO 4633/EN681-1	40 % max	12 % max	20 % max

8 Tensile test

Tensile test has been performed in accordance with ISO 37 at 23°C. Type II shaped test pieces were cut from gasket DN600, specimens were tested at test speed of 500 mm/min. Results are presented in the table below.

	tensile strength [MPa]	elongation at break [%]
DN 600	11.9	409.3
Specification in ISO4633/EN681-1	9 min	375 min

9 Stress relaxation

Stress relaxation test in compression has been performed according to ISO 3384-1 at 23 °C for 7 days by using EB02 .08 stress relaxation system from Elastocon. Test button with dimensions (diameter 13 ± 0.5 mm and thickness 6.3 ± 0.3 mm) were cut from the DN 600 gasket. Result is presented in the table below.

	Observed [%]
DN 600	11
Specification ISO 4633/EN681-1	15 max

10 Marking

Acceptable.

- DN100: Reka EN 681-1 DN100 Ty III WAWC/50 ISO 4633 EPDM 1 DEESA 18
- DN600: Reka EN 681-1 DN600 Ty II WA/WC/50 ISO 4633 EPDM 1 DEESA 18

11 Ageing

Ageing was conducted according to ISO188 at 70 °C for 7 days, test pieces were cut from the DN600 gaskets. Result is presented on below table.

	Change in hardness	Change in elongation at break [%]	Change in tensile strength [%]
DN600	+ 3	-13	-3
Specification according to ISO4633	-5 / + 8 max	- 30 / + 10 max	- 20 max

Angle measurement for DN100 and DN600.

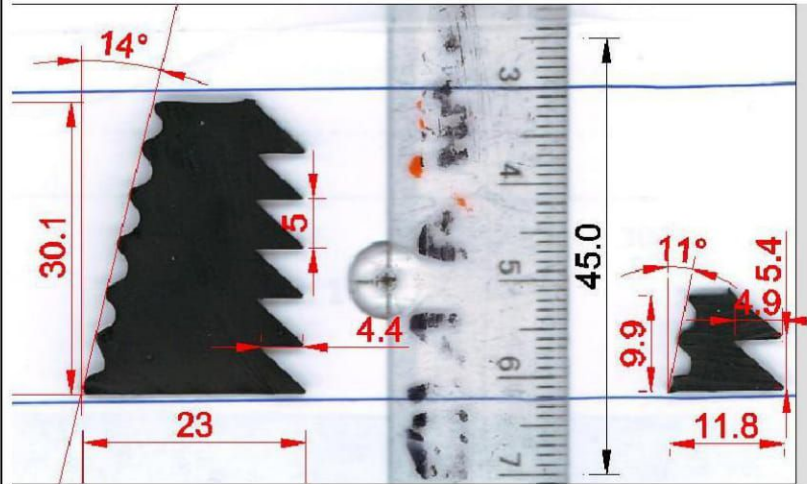


Figure 4

DEESAWALA FRP/GRP REKA RINGS & TOK RINGS



Approval Number: 1704522
Test Report: MA5857/I



18th April 2017

Deesawala Rubber Industries
5-5-65/S12A,
2nd Floor S.A. Trade Centre,
Ranigunj X Roads,
Secunderabad,
500003,
India

Water Regulations Advisory Scheme Ltd.
Unit 13,
Willow Road,
Pen y Fan Industrial Estate,
Crumlin,
Gwent,
NP11 4EG

WATER REGULATIONS ADVISORY SCHEME LTD. (WRAS) MATERIAL APPROVAL

The material referred to in this letter is suitable for contact with wholesome water for domestic purposes having met the requirements of BS6920-1:2000 and/or 2014 'Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water'.

The reference relates solely to its effect on the quality of the water with which it may come into contact and does not signify the approval of its mechanical or physical properties for any use.

RUBBERS - ETHYLENE PROPYLENE DIENE MONOMER (EPDM) - MATERIAL ONLY.

5365

'EWD 50, EWD 55, EWD 60, EWD 65, EWD 70 & EWD 80'. Black coloured, compression moulded EPDM materials. Shore hardness between 50 & 80. Tested in-radius size 0.70mm. For use with water up to 70° C.

APPROVAL NUMBER: 1704522

APPROVAL HOLDER: DEESAWALA RUBBER INDUSTRIES

The Scheme reserves the right to review approval.
Approval 1704522 is valid between April 2017 and April 2022

An entry, as above, will accordingly be included in the Water Fittings Directory on-line under the section headed, "Materials which have passed full tests of effect on water quality".

The Directory may be found at: www.wras.co.uk/directory

Yours faithfully

Jason Furnival
Approvals & Enquiries Manager
Water Regulations Advisory Scheme



Certificate

*This is to Certify that Elastomeric seals. Material requirements for pipe joint seals used in water and drainage applications.
Vulcanized rubber for Compliance of*

DEESAWALA RUBBER INDUSTRIES

Plot No. 10/1, Road No. D, IDA, Balanagar, Hyderabad - 500037, Telangana, India.

*has been assessed and found to be in accordance with the
requirements standard detailed below*

EN 681-1996

This Certificate is valid for the following scope

Manufacturer, Supplier & Distribution of Industrial Purpose Rubber & Plastic Products

Certificate No : EN-XX-XVIII-VII-4501

Issue Date : 06 July 2018

Valid Until : 05 July 2021

Nace Code : DH-25.10, DH-25.24

A.dpanghal

**Authorised Signatory
WRG Certification**

This certificate remains the property of American International Accreditation Organization-Bureau of Accredited Registrars, (USA)



Validity of the certificate is subject to successful completion of surveillance audits. Further clarification regarding the scope of this certificate and the applicability of standard may be obtained by consulting the WRG Certification Organization, India Aditya Corporate Hub, Raj Nagar, ghaziabad-201002 (U.P.) India, E-mail : wrgcert@gmail.com, website : www.wrgcert.com, www.aiao-bar.org



Certificate

This is to Certify that Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications - Part 1: Vulcanized rubber Compliance of

DEESAWALA RUBBER INDUSTRIES

Plot No. 10/1, Road No. D, IDA, Balanagar, Hyderabad - 500037, Telangana, India.

has been assessed and found to be in accordance with the requirements standard detailed below

AS 681-1

This Certificate is valid for the following scope

Manufacturer, Supplier & Distribution of Industrial Purpose Rubber & Plastic Products

Certificate No : AS-XX-XVIII-VII-4503

Issue Date : 06 July 2018

Valid Until : 05 July 2021

Nace Code : DH-25.10, DH-25.24

A.dpanghal

**Authorised Signatory
WRG Certification**

This certificate remains the property of American International Accreditation Organization-Bureau of Accredited Registrars, (USA)



लाइसेंस सं. सी एम / एल - का संलग्नक
Attachment to Licence No. CM/L-

3324243



लाइसेंस संख्या CM/L No.	लाइसेंस धारी का नाम और पता Name of the Licensee with address	वस्तु का नाम Name of the Product	आईएस : संख्या और साल IS No. & Year
3324243	M/s Deesawala Rubber Industries Plot No.10/1, IDA Balanagar Hyderabad – 500037 Hyderabad District	Rubber Sealing Rings for Gas Mains, Water Mains and Sewers	5382:1985

ENDORSEMENT NO. 12 DATED 27 May 2020

Consequent upon the revision of IS 5382:1985 as IS 5382:2018/ISO 4633:2015 Column (3) of the First Schedule of the licence revised as under with effect from **Thirtyfirst March Two Thousand and Twenty:**


IS 5382:2018/ISO 4633:2015

Rubber Seals Joint Rings for Water Supply, Drainage and Sewerage Pipelines – Specification for Materials

The scope of the licence has been revised as under:

Name of the product	Rubber Seals – Joint Rings for Water Supply, Drainage and Sewerage Pipelines – Specification for materials
Material Hardness Class	50 and 80
Nominal Sizes	DN 80 mm to DN 2400 mm
Type of application	WA, WC and WG

Other conditions of the licence remain the same.


Ameer-uz-Zaman
Scientist – F & Head
Bureau of Indian Standards
Hyderabad Branch

ISO 9001:2015

Certificate of Registration

This is to certify that compliance of Quality Management System of

DEESAWALA RUBBER INDUSTRIES

Office: 5-5-65/S-12A, S.A Trade Centre, Ranigunj 'X' Road,
Secunderabad-500 003, Telangana, India.

Factory: Plot No: 10/1, Road No.D, IDA Balanagar,
Hyderabad-500 037, Telangana, India.

Has been assessed and approved to the requirements of

ISO 9001 : 2015

For the scope of activities :

**Manufacture of Rubber Moulded Components,
Extruded Profiles and Gaskets**

Certificate No.	: RQ91/JA/RE/1902	Issue Date	: 21.08.2019
JAS-ANZ Accreditation No	: M4430310IC	Valid Date	: 20.08.2020



JAS-ANZ



www.jas-anz.org/register



Quality Seal

For and on behalf of Quest Certification (P) Ltd

Head of Certification

Certification is valid till (20.08.2022), subject to the successful completion of surveillance audit on 20.08.2020 and 20.08.2021
Upon successful completion of surveillance audit, a new certificate with extended validity will be issued.

The Validity of this Certificate can be verified from www.questcertification.com

The Registration does not assure the quality of yields under the firm's production / services

Quest Certification (P) Ltd

Plot No. 29, 1st Main Road, Sahari Nagar Ext. 3rd Cross Street, Munalakkam, Chennai - 600 175, Tamilnadu, India

Contact for Pricing: - Call:- +91-9885634132 & +91-9041421442

Email:- murtaza@deesawalarubber.com & vaibhav@deesawalarubber.com

Corporate Office: 5-5-65/S-12A, S.A. Trade Centre, Ranigunj 'X' Road, Secunderabad-3,
P.B. No. 2188, Ph. 66323288.

Manufacturing Unit: Plot No. 10/1, Road No.D, I.D.A., Balanagar, Hyderabad-500037