

## **Certificate of Conformity**

Our reference:

Compound.: 70 EPDM 291

We confirm that delivered products comply with the agreements of the purchase order.

We certify that the materials used to manufacture the identified product are satisfactory and meet the agreed quality requirements.

The information about the non-toxicity and conformity with the releases can be found in the material data sheet.

Production processes are designed to meet the agreed specifications.

The product meets the agreed specifications for this part number.

Por medio de la presente certifico que los materiales utilizados para la elaboración del producto identificado, son satisfactorios y cumplen con los requerimientos de calidad acordados.

Se puede encontrar la información sobre la no toxicidad y la conformidad con las homologaciones en la ficha técnica del material.

Los procesos de producción han sido establecidos para cumplir con las especificaciones acordadas.

Se cumple con las especificaciones acordadas para este número de parte.

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Yours faithfully

i.A. Andreas Koch, Quality Management

This document has been produced electronically and is valid without signature.

## Material 70 EPDM 291

black

cross linking: peroxidic

75 +- 5 Shore A at the test slab

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### Physical properties

	required	actual	
<b>Density</b> DIN EN ISO 1183-1, 23 °C	1.09 ±0.02	1.08	g/cm <sup>3</sup>
<b>Hardness</b> DIN ISO 7619-1, Shore A, 23 °C	75 ±5	77	Shore
<b>Micro hardness</b> DIN ISO 48 Verfahren M	75 +5/-8	---	IRHD
<b>Rebound resilience</b> DIN 53512	> 35	46	%
<b>Modulus</b> 100 %, DIN 53504, S2, 23 °C	> 8	9.8	MPa
<b>Tensile strength</b> DIN 53504, S2, 23 °C	> 14	16.2	MPa
<b>Elongation at break</b> DIN 53504, S2, 23 °C	> 150	165	%
<b>Compression set</b> DIN ISO 815, B, 24 h, 100 °C, 25 %	< 15	10	%
<b>Compression set</b> DIN ISO 815, B, 24 h, 150 °C, 25 %	< 20	15	%
<b>Compression set</b> DIN ISO 815, B, 70 h, 150 °C, 25 %	< 30	24	%
<b>Tear strength</b> DIN 53515, 23 °C, Winkelprobe	> 6	11.5	KN/m
<b>Low Temperature</b> DIN 53765, DSC	---	-50	°C

Certificates	Country	Part	Remark	Expires	unlimited
(EG) Nr. 1935/2004	EU	Seals	food		<input checked="" type="checkbox"/>
(EG) Nr. 2023/2006	EU	Seals	GMP		<input checked="" type="checkbox"/>
3 A Sanitary	USA	Seals	Class II	12 / 2015	<input type="checkbox"/>
ACS	F	Seals		09 / 2018	<input type="checkbox"/>
ADI Free	EU	Seals			<input checked="" type="checkbox"/>
BfR	D	Seals	XXI. recommendation		<input checked="" type="checkbox"/>
DIN EN 681-1 / DVGW W534	D	O-Ring	WA / WB	04 / 2015	<input type="checkbox"/>

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FDA - Extract	USA	Seals	21 CFR 177.2600			<input checked="" type="checkbox"/>
Kiwa	NL	O-Ring	K 44812/01	05 / 2015		<input type="checkbox"/>
KTW	D	O-Ring	85 °C	12 / 2016		<input type="checkbox"/>
KTW Platten und Halbzeuge	D	Seals	85 °C	04 / 2016		<input type="checkbox"/>
NSF 51	USA	Seals		11 / 2019		<input type="checkbox"/>
NSF 61	USA	O-Ring		01 / 2018		<input type="checkbox"/>
ÖNORM B 5014-1	A	O-Ring	23 °C and 60 °C	06 / 2016		<input type="checkbox"/>
RoHS	EU	Seals	EU-directives 2011/65/EC and 2002/95/EC			<input checked="" type="checkbox"/>
USP 36 NF 31 Ch. 381 Type 1		Seals				<input checked="" type="checkbox"/>
USP Chapter 87 (In vitro)	USA	Seals				<input checked="" type="checkbox"/>
USP Class VI - 121 °C	USA	Seals				<input checked="" type="checkbox"/>
USP Class VI - 121 °C	USA	Seals	Parylene C-Beschichtung			<input checked="" type="checkbox"/>
USP Class VI - 121 °C	USA	Seals	RFN-Behandlung			<input checked="" type="checkbox"/>
W 270	D	Seals		12 / 2016		<input type="checkbox"/>
WRAS	GB	O-Ring	85 °C	07 / 2017		<input type="checkbox"/>

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**70 EPDM 291**

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**Tested after ASTM D 2000: M 3 DA 814 A26 B36 EA14 F19 G11**

		<b>required</b>	<b>actual</b>
	Hardness	Shore 80 ±5	77
	Tensile strength	MPa min. 14	16.2
	Elongation at break	% min. 150	165
<b>A26</b>	<b>Change after aging in Air 70h/150°C</b>		
	Hardness	Shore 10	2
	Tensile strength	% -20	-8
	Elongation at break	% -20	-7
<b>B36</b>	<b>Compression set (plied) 22h/150°C</b>	% 25	15
<b>EA14</b>	<b>Change after aging in Distilled water 70h/100°C</b>		
	Volume	% ±5	1.2
<b>F19</b>	<b>Low-temperature resistance after 3 min at -55 °C 3min./-55°C</b>	°C pass	pass
<b>G11</b>	<b>Tear Resistance Die B 23°C</b>	MPa 17	25

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### Physical properties on parts

#### O-Ring

	required	actual	
<b>Micro hardness</b> DIN ISO 48, Procedure M, Cross Section > 1,0 mm	70 +5/-8	71	IRHD
<b>Compression set</b> DIN ISO 815, 24 h, 150 °C, 25 %, Cross Section 1 - 1,8 mm	< 30	25	%
<b>Compression set</b> DIN ISO 815, 24 h, 150 °C, 25 %, Cross Section > 1,8 mm	< 25	20	%

#### Radial Shaft Seal

<b>Density</b> DIN EN ISO 1183-1, 23 °C	1.09 ±0.02	1.08	g/cm <sup>3</sup>
<b>Micro hardness</b> DIN ISO 48, Procedure M	---	---	IRHD

### Not mineral oil resistant!

Temperature-range: from -40° C to 150° C

Application in water and water vapour to max. 180° C short time 210°C

ozone resistance in 40° C: to 1000 pphm

#### Assay according to DIN IEC 60093:

contact resistance 4,0 \* 10<sup>4</sup> Ohm  
surface resistance 2,5 \* 10<sup>4</sup> Ohm

The given values are based on a limited number of tests on standard test pieces (2mm sheets) produced in the laboratory. The data from finished parts can deviate from above values depending on the manufactories process and the component geometry.

The data represents our present empirical values. It is incumbent on the person placing the order to examine whether it is suitable for its intended purpose, before using the product. All questions regarding the guarantee of this product are in line with our terms and conditions, inasmuch as statutory provisions do not plan for something else.

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