

AEM standard

Ethylene-acrylic rubber, black

- Especially to seal service fluids in vehicle construction
- Resistant to acidic oils and gases, to cold water, to most chemicals and heat
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	87 ± 5	Shore A	DIN ISO 7619-1
Density	1,305	g/cm ³	DIN EN ISO 1183-1
100% Modulus	10	MPa	DIN 53504
Elongation at break	192	%	DIN 53504
Tensile strength		MPa	DIN 53504
Compression set 23°C/70h		%	DIN ISO 815-1
Compression set 70°C/70h		%	DIN ISO 815-1
Compression set 125°C/22h		%	DIN ISO 815-1
Rebound resilience	22	%	DIN ISO 4662:2017
Tear resistance	5,9	N/mm	DIN ISO 34-1 A
Abrasion resistance		mm ³	DIN ISO 4649 B
min. Service temperature	- 30	°C	
max. Service temperature	+150	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

Aflas[®] ED

Tetra-Fluor-Ethylene-Propylene rubber (TFE-P), black

- Suitable against explosive decompression
- Resistant to mineral oil, HFD-U and HETG, to acidic oils and gases, to cold water, hot water and steam
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	87 ±5	Shore A	DIN ISO 7619-1
Density	1,59	g/cm ³	DIN EN ISO 1183-1
100% Modulus	11,5	MPa	DIN 53504
Elongation at break	207	%	DIN 53504
Tensile strength	18,9	MPa	DIN 53504
Compression set 23°C/70h	57,7	%	DIN ISO 815-1
Compression set 100°C/22h	39,0	%	DIN ISO 815-1
Compression set 175°C/22h	40,0	%	DIN ISO 815-1
Rebound resilience	8,0	%	DIN ISO 4662:2017
Tear resistance	3,7	N/mm	DIN ISO 34-1 A
Abrasion resistance	144	mm ³	DIN ISO 4649 B
min. Service temperature	-10	°C	
max. Service temperature	+220	°C	

This compound is tuned to fit the requirements according to Norsok M-710. Norsok M-710 calls out the requirements for critical non metallic, polymeric sealing materials in applications such as subsea use, control systems and valves. It provides standards for rapid gas decompression (RGD) also known as explosive decompression (ED) testing and sour gas (H₂S) aging on elastomers and thermoplastics. These tests give insight to the performance and life expectancy of a seal in various EOG applications.

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

Aflas[®] ED mellow

Tetra-Fluor-Ethylene-Propylene rubber (TFE-P), black

- Aflas ED in softer setting, suitable against explosive decompression
- Resistant to mineral oil, HFD-U and HETG, to acidic oils and gases, to cold water hot water and steam
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	76 ±5	Shore A	DIN ISO 7619-1
Density	1,76	g/cm ³	DIN EN ISO 1183-1
100% Modulus	5,7	MPa	DIN 53504
Elongation at break	370	%	DIN 53504
Tensile strength	16,2	MPa	DIN 53504
Compression set 23°C/70h	56,0	%	DIN ISO 815-1
Compression set 100°C/22h	59,0	%	DIN ISO 815-1
Compression set 175°C/22h	n.v.	%	DIN ISO 815-1
Rebound resilience	5,0	%	DIN ISO 4662:2017
Tear strength	5,5	N/mm	DIN ISO 34-1 A
Abrasion resistance	125	mm ³	DIN ISO 4649 B
min. Service temperature	-10	°C	
max. Service temperature	+220	°C	

This compound is tuned to fit the requirements according NORSOK M-710. NORSOK M-710 calls out the requirements for critical non metallic, polymeric sealing materials in applications such as subsea use, control systems and valves. It provides standards for rapid gas decompression (RGD) also known as explosive decompression (ED) testing and sour gas (H₂S) aging on elastomers and thermoplastics. These tests give insight to the performance and life expectancy of a seal in various EOG applications.

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

CR standard

Chloroprene rubber, black

- CR for use in standard applications
- resistant to cooling liquids, ozone and UV-radiation, alcohols and salt water, medium resistant to oils
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	81 ±5	Shore A	DIN ISO 7619-1
Density	1,45	g/cm ³	DIN EN ISO 1183-1
100% Modulus	9,5	MPa	DIN 53504
Elongation at break	163	%	DIN 53504
Tensile strength	14,7	MPa	DIN 53504
Compression set 23°C/70h	10,2	%	DIN ISO 815-1
Compression set 70°C/22h	10,8	%	DIN ISO 815-1
Compression set 100°C/22h	17,0	%	DIN ISO 815-1
Rebound resilience	41	%	DIN ISO 4662:2017
Tear strength	17,0	N/mm	DIN ISO 34-1 A
Abrasion resistance	163	mm ³	DIN ISO 4649 B
min. Service temperature	-40	°C	
max. Service temperature	+100	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

EPDM detec

Ethylene-Propylene-Diene Rubber, blue, peroxide cured, metal detectable

- EPDM with foodstuff approval acc. FDA, recommended for approval acc. EU1935/2004, metal detectable
- Peroxide cured, resistant against brake fluids on Glycol-base DOT3, DOT4 and DOT5.1
- Resistant to HFC, cold water, hot water and steam, diluted acids and bases
- Applicable for Static seals, Rod and Piston Seals, Wiper seals and Rotary seals

Properties	Value	Unit	DIN Standard
Hardness	84 ± 5	Shore A	DIN ISO 7619-1
Density	1,250	g/cm ³	DIN EN ISO 1183-1
100% Modulus	3,9	MPa	DIN 53504
Elongation at break	186	%	DIN 53504
Tensile strength	5,9	MPa	DIN 53504
Compression set 23°C/70h	25,6	%	DIN ISO 815-1
Compression set 70°C/22h	31,5	%	DIN ISO 815-1
Compression set 125°C/22h	-	%	DIN ISO 815-1
Rebound resilience	40	%	DIN 53512
Tear resistance	3,5	N/mm	DIN ISO 34-1 A
Abrasion resistance	-	mm ³	DIN 53516
min. Service temperature	- 50	°C	
max. Service temperature	+135	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «EPDM detec» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

We explicitly point out that the user himself has to undertake tests, which will reassure the adequacy of the material mentioned above for the use in pharmaceutical and medical applications.

All above stated data results from random tests which were taken from the ongoing production. All data was established based on standard test-products according to ISO, DIN and ASTM standards and can basically not be carried over to the ready-made device.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

EPDM diet mellow

Ethylene-propylene-diene rubber, white, peroxide cured

- Food-compliant EPDM in softer setting, approval acc. FDA, recommended for approval acc. EU1935/2004
- EPDM peroxide cured, resistant to brake fluids on glycol-base
- Resistant to HFC, cold water, hot water and steam, diluted acids and bases
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	77 ± 5	Shore A	DIN ISO 7619-1
Density	1,170	g/cm ³	DIN EN ISO 1183-1
100% Modulus	2,5	MPa	DIN 53504
300% Modulus		MPa	DIN 53504
Elongation at break	380	%	DIN 53504
Tensile strength	6,1	MPa	DIN 53504
Compression set 23°C/70h	25,0	%	DIN ISO 815-1
Compression set 70°C/22h	20,3	%	DIN ISO 815-1
Compression set 125°C/22h		%	DIN ISO 815-1
Rebound resilience	53	%	DIN ISO 4662:2017
Tear resistance	3,6	N/mm	DIN ISO 34-1 A
Abrasion resistance		mm ³	DIN ISO 4649 B
min. Service temperature	- 50	°C	
max. Service temperature	+135	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «EPDM diet mellow» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

We explicitly point out that the user himself has to undertake tests, which will reassure the adequacy of the material mentioned above for the use in pharmaceutical and medical applications.

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

EPDM diet

Ethylene-Propylene-Diene Rubber, white, peroxide cured

- EPDM with foodstuff approval acc. FDA, recommended for approval acc. EU1935/2004
- Peroxide cured, resistant against brake fluids on Glycol-base DOT3, DOT4 and DOT5.1
- Resistant to HFC, cold water, hot water and steam, diluted acids and bases
- Applicable for Static seals, Rod and Piston Seals, Wiper seals and Rotary seals

Properties	Value	Unit	DIN Standard
Hardness	87 ± 5	Shore A	DIN ISO 7619-1
Density	1,162	g/cm ³	DIN EN ISO 1183-1
100% Modulus	4,7	MPa	DIN 53504
Elongation at break	246	%	DIN 53504
Tensile strength	8,4	MPa	DIN 53504
Compression set 23°C/70h	28,9	%	DIN ISO 815-1
Compression set 70°C/22h	31,6	%	DIN ISO 815-1
Compression set 100°C/22h	27,8	%	DIN ISO 815-1
Rebound resilience	46	%	DIN 53512
Tear resistance	3,6	N/mm	DIN ISO 34-1 A
Abrasion resistance	108	mm ³	DIN 53516
min. Service temperature	- 40	°C	
max. Service temperature	+135	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «EPDM diet» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

We explicitly point out that the user himself has to undertake tests, which will reassure the adequacy of the material mentioned above for the use in pharmaceutical and medical applications.

All above stated data results from random tests which were taken from the ongoing production. All data was established based on standard test-products according to ISO, DIN and ASTM standards and can basically not be carried over to the ready-made device.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

EPDM mellow

Ethylene-propylene-diene rubber, black, peroxide cured

- excellent resistant to brakefluids DOT3, DOT4 und DOT5.1
- Resistant to HFC, cold water, hot water and steam, diluted acids and bases
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	76 ±5	Shore A	DIN ISO 7619-1
Density	1,39	g/cm ³	DIN EN ISO 1183-1
100% Modulus	4,3	MPa	DIN 53504
300% Modulus		MPa	DIN 53504
Elongation at break	340	%	DIN 53504
Tensile strength	15,8	MPa	DIN 53504
Compression set 23°C/70h	14,6	%	DIN ISO 815-1
Compression set 70°C/22h	13,6	%	DIN ISO 815-1
Compression set 125°C/22h	21,6	%	DIN ISO 815-1
Rebound resilience	39	%	DIN ISO 4662:2017
Tear resistance	7,8	N/mm	DIN ISO 34-1 A
Abrasion resistance	154	mm ³	DIN ISO 4649 B
min. Service temperature	-53	°C	
max. Service temperature	+135	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

EPDM spring

Ethylene-propylene-diene rubber, black, sulphur cured

- EPDM for use in drinking water, recommended for approval acc. EU1935/2004
- Resistant to HFC, cold water, hot water and steam, diluted acids and bases
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	87 ±5	Shore A	DIN ISO 7619-1
Density	1,27	g/cm ³	DIN EN ISO 1183-1
100% Modulus	9,7	MPa	DIN 53504
Elongation at break	249	%	DIN 53504
Tensile strength	15,2	MPa	DIN 53504
Compression set 23°C/70h	12,1	%	DIN ISO 815-1
Compression set 100°C/22h	16,3	%	DIN ISO 815-1
Compression set 125°C/22h		%	DIN ISO 815-1
Rebound resilience	32	%	DIN ISO 4662:2017
Tear resistance	6,4	N/mm	DIN ISO 34-1 A
Abrasion resistance	230	mm ³	DIN ISO 4649 B
min. Service temperature	-50	°C	
max. Service temperature	+135	°C	

Confirmation according W270 D1 cold water

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that our compound named «EPDM spring» has been approved according DVGW requirements.

Approval according WRAS BS6920-1:2000 Water up to 23°C

Tested and approved

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

We explicitly point out that the user himself has to undertake tests, which will reassure the adequacy of the material mentioned above for the use in pharmaceutical and medical applications.

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

EPDM standard

Ethylene-propylene-diene rubber, black, peroxide cured

- Excellent resistant to brakefluids DOT3, DOT4 und DOT5.1
- Resistant to HFC, cold water, hot water and steam, diluted acids and bases
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	87 ±5	Shore A	DIN ISO 7619-1
Density	1,16	g/cm ³	DIN EN ISO 1183-1
100% Modulus	10,0	MPa	DIN 53504
Elongation at break	263	%	DIN 53504
Tensile strength	11,7	MPa	DIN 53504
Compression set 23°C/70h	28	%	DIN ISO 815-1
Compression set 70°C/22h	24	%	DIN ISO 815-1
Compression set 125°C/22h	10	%	DIN ISO 815-1
Rebound resilience	43	%	DIN ISO 4662:2017
Tear resistance	9,1	N/mm	DIN ISO 34-1 A
Abrasion resistance	167	mm ³	DIN ISO 4649 B
min. Service temperature	-45	°C	
max. Service temperature	+135	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

FVMQ standard

Fluor-Methyl-Vinyl-Silicone-rubber, tomato red, similar RAL 3013

- FVMQ for standard applications
- resistant to mineral oils, HDF-U, as well as cold water
- Applicable for static seals and limited as rod- and piston seals, wiper and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	90 ± 5	Shore A	DIN ISO 7619-1
Density	1,580	g/cm ³	DIN EN ISO 1183-1
100% Modulus	5,3	MPa	DIN 53504
Elongation at break	160	%	DIN 53504
Tensile strength	6,6	MPa	DIN 53504
Compression set	23°C/70h	%	DIN ISO 815-1
Compression set	70°C/22h	%	DIN ISO 815-1
Compression set	175°C/22h	18,1	DIN ISO 815-1
Rebound resilience	32	%	DIN ISO 4662:2017
Tear resistance	25,4	N/mm	DIN ISO 34-1 A
Abrasion resistance		mm ³	DIN ISO 4649 B
min. Service temperature	- 55	°C	
max. Service temperature	+230	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

FPM BS3

Fluorinated rubber, Copolymer, black

- Inexpensive FPM providing high quality
- Resistant to mineral oil, HFD-U and HETG, to cold water
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	80 ±5	Shore A	DIN ISO 7619-1
Density	1,96	g/cm ³	DIN EN ISO 1183-1
100% Modulus	5,6	MPa	DIN 53504
Elongation at break	123	%	DIN 53504
Tensile strength	11,9	MPa	DIN 53504
Compression set 23°C/70h	4,6	%	DIN ISO 815-1
Compression set 100°C/22h	23,0	%	DIN ISO 815-1
Compression set 175°C/22h	38,6	%	DIN ISO 815-1
Rebound resilience		%	DIN ISO 4662:2017
Tear resistance	4,2	N/mm	DIN ISO 34-1 A
Abrasion resistance	211	mm ³	DIN ISO 4649 B
min. Service temperature	-20	°C	
max. Service temperature	+220	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

FPM detec

Fluorinated rubber, Coploymer, blue, metal detectable

- FPM with foodstuff approval according FDA, recommended for approval acc. EU1935/2004 and EU 10/2011, metal detectable
- Resistant to mineral oil, HFD-U and HETG, to cold water
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	87 ±5	Shore A	DIN ISO 7619-1
Density	2,310	g/cm ³	DIN EN ISO 1183-1
100% Modulus	-	MPa	DIN 53504
Elongation at break	82	%	DIN 53504
Tensile strength	10,6	MPa	DIN 53504
Compression set 23°C/70h	-	%	DIN ISO 815-1
Compression set 100°C/22h	-	%	DIN ISO 815-1
Compression set 175°C/22h	17,0	%	DIN ISO 815-1
Rebound resilience	8	%	DIN ISO 4662:2017
Tear resistance	4,2	N/mm	DIN ISO 34-1 A
Abrasion resistance	319	mm ³	DIN ISO 4649 B
min. Service temperature	-25	°C	
max. Service temperature	+220	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «FPM detec» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

FPM diet

Fluorinated rubber, Copolymer, brown, bisphenolic cured

- FPM with foodstuff approval according FDA, recommended for approval acc. EU1935/2004 and EU 10/2011
- Resistant to mineral oil, HFD-U and HETG, to cold water
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	85 ±5	Shore A	DIN ISO 7619-1
Density	2,512	g/cm ³	DIN EN ISO 1183-1
100% Modulus	6,5	MPa	DIN 53504
Elongation at break	207	%	DIN 53504
Tensile strength	10,3	MPa	DIN 53504
Compression set 23°C/70h	9,8	%	DIN ISO 815-1
Compression set 100°C/22h	17,4	%	DIN ISO 815-1
Compression set 175°C/22h	17,7	%	DIN ISO 815-1
Rebound resilience	8	%	DIN ISO 4662:2017
Tear resistance	6,3	N/mm	DIN ISO 34-1 A
Abrasion resistance	205	mm ³	DIN ISO 4649 B
min. Service temperature	-25	°C	
max. Service temperature	+220	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «FPM diet» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

FPM diet

Fluorinated rubber, Tetrapolymer, white

- FPM with foodstuff approval according FDA, approval according 3A-Sanitary Class I, recommended for approval according EU1935/2004
- Resistant to mineral oil, HFD-U and HETG, to cold and hot water as well as steam
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	84 ± 5	Shore A	DIN ISO 7619-1
Density	2,59	g/cm ³	DIN EN ISO 1183-1
100% Modulus	3,9	MPa	DIN 53504
300% Modulus	5,0	MPa	DIN 53504
Elongation at break	452	%	DIN 53504
Tensile strength	10,5	MPa	DIN 53504
Compression set 23°C/70h	36,8	%	DIN ISO 815-1
Compression set 150°C/22h	48,5	%	DIN ISO 815-1
Compression set 175°C/22h	61,8	%	DIN ISO 815-1
Rebound resilience	7	%	DIN ISO 4662:2017
Tear resistance	11,7	N/mm	DIN ISO 34-1 A
Abrasion resistance	200	mm ³	DIN ISO 4649 B
min. Service temperature	-25	°C	
max. Service temperature	+210	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «FPM diet white» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Approval according 3A-Sanitary 18-03 Class I (21.08.1999)

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that the changes of all of the tested parameters are within the required maximum limits according Class I.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

FPM ED

Fluorinated rubber, Terpolymer, black

- Suitable against explosive decompression
- Resistant to mineral oil, HFD-U and HETG, to acidic oils and gases, to cold water
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	88 ±5	Shore A	DIN ISO 7619-1
Density	1,835	g/cm ³	DIN EN ISO 1183-1
100% Modulus	6,6	MPa	DIN 53504
Elongation at break	279	%	DIN 53504
Tensile strength	13,0	MPa	DIN 53504
Compression set 23°C/70h	22,3	%	DIN ISO 815-1
Compression set 150°C/22h	40,3	%	DIN ISO 815-1
Compression set 175°C/22h	42,2	%	DIN ISO 815-1
Rebound resilience	11	%	DIN ISO 4662:2017
Tear resistance	6,6	N/mm	DIN ISO 34-1 A
Abrasion resistance	133	mm ³	DIN ISO 4649 B
min. Service temperature	-25	°C	
max. Service temperature	+215	°C	

This compound is tuned to fit the requirements according to NORSOK M-710. NORSOK M-710 calls out the requirements for critical non metallic, polymeric sealing materials in applications such as subsea use, control systems and valves. It provides standards for rapid gas decompression (RGD) also known as explosive decompression (ED) testing and sour gas (H₂S) aging on elastomers and thermoplastics. These tests give insight to the performance and life expectancy of a seal in various EOG applications.

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

FPM mellow

Fluorinated rubber, Terpolymer, black

- FPM in softer setting
- Resistant to mineral oil, HFD-U and HETG, to acidic oils and gases, to cold water
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	74 ±5	Shore A	DIN ISO 7619-1
Density	2,130	g/cm ³	DIN EN ISO 1183-1
100% Modulus	3,9	MPa	DIN 53504
Elongation at break	252	%	DIN 53504
Tensile strength	10,3	MPa	DIN 53504
Compression set 23°C/70h	8,6	%	DIN ISO 815-1
Compression set 150°C/22h	15,2	%	DIN ISO 815-1
Compression set 175°C/22h	16,2	%	DIN ISO 815-1
Rebound resilience	8	%	DIN ISO 4662:2017
Tear resistance	5,1	N/mm	DIN ISO 34-1 A
Abrasion resistance	209	mm ³	DIN ISO 4649 B
min. Service temperature	-25	°C	
max. Service temperature	+220	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

HNBR detec

Hydrogenated acrylnitrile-butadiene-rubber

Standard colour: blue, RAL 5023

- HNBR with foodstuff approval acc. FDA, metal detectable, recommended for approval acc. EU1935/2004
- Resistant to mineral oil, HFC and cold water
- Applicable for Rod and Piston seals, Wiper Seals, Rotary Seals and Static Seals

Properties	Value	Unit	DIN Standard
Hardness	78 ± 5	Shore A	DIN ISO 7619-1
Density	1,36	g/cm ³	DIN EN ISO 1183-1
100% Modulus	4,2	MPa	DIN 53504
Elongation at break	270	%	DIN 53504
Tensile strength	8,1	MPa	DIN 53504
Compression set 23°C/70h	24	%	DIN ISO 815-1
Compression set 70°C/22h	30	%	DIN ISO 815-1
Compression set 150°C/22h	29	%	DIN ISO 815-1
Rebound resilience	35	%	DIN ISO 4662:2017
Tear resistance	5,0	N/mm	DIN ISO 34-1 A
Abrasion resistance	372	mm ³	DIN ISO 4649 B
min. Service temperature	- 35	°C	
max. Service temperature	150	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «HNBR detec» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

We explicitly point out that the user himself has to undertake tests, which will reassure the adequacy of the material mentioned above for the use in pharmaceutical and medical applications.

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

H-NBR diet

Hydrogenated acrylonitrile-butadiene-rubber

Standard colour: green, similar to RAL 6017

- HNBR with foodstuff approval according FDA, recommended for approval acc. EU1935/2004
- Resistant to mineral oil, HFC and cold water
- Applicable for Rod and Piston seals, Wiper Seals, Rotary Seals and Static Seals

Properties	Value	Unit	DIN Standard
Hardness	82 ±5	Shore A	DIN ISO 7619-1
Density	1,436	g/cm ³	DIN EN ISO 1183-1
100% Modulus	4,4	MPa	DIN 53504
300% Modulus	9,9	MPa	DIN 53504
Elongation at break	499	%	DIN 53504
Tensile strength	9,5	MPa	DIN 53504
Compression set 23°C/70h	13,0	%	DIN ISO 815-1
Compression set 70°C/22h	31,0	%	DIN ISO 815-1
Compression set 150°C/22h	40,7	%	DIN ISO 815-1
Rebound resilience	29	%	DIN ISO 4662:2017
Tear resistance	12,8	N/mm	DIN ISO 34-1 A
Abrasion resistance	110	mm ³	DIN ISO 4649 B
min. Service temperature	-30	°C	
max. Service temperature	+150	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «HNBR diet» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

We explicitly point out that the user himself has to undertake tests, which will reassure the adequacy of the material mentioned above for the use in pharmaceutical and medical applications.

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

H-NBR ED

Hydrogenated acrylnitrile-butadiene-rubber, black

- Suitable against explosive decompression
- Resistant to mineral oil, HFC fluids and cold water
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	88 ±5	Shore A	DIN ISO 7619-1
Density	1,297	g/cm ³	DIN EN ISO 1183-1
100% Modulus	8,0	MPa	DIN 53504
Elongation at break	221	%	DIN 53504
Tensile strength	21,2	MPa	DIN 53504
Compression set 23°C/70h	6,0	%	DIN ISO 815-1
Compression set 100°C/22h	18,6	%	DIN ISO 815-1
Compression set 150°C/22h	23,3	%	DIN ISO 815-1
Rebound resilience	36	%	DIN ISO 4662:2017
Tear resistance	5,3	N/mm	DIN ISO 34-1 A
Abrasion resistance	117	mm ³	DIN ISO 4649 B
min. Service temperature	-30	°C	
max. Service temperature	+150	°C	

This compound is tuned to fit the requirements according to NORSEAL M-710. NORSEAL M-710 calls out the requirements for critical non metallic, polymeric sealing materials in applications such as subsea use, control systems and valves. It provides standards for rapid gas decompression (RGD) also known as explosive decompression (ED) testing and sour gas (H₂S) aging on elastomers and thermoplastics. These tests give insight to the performance and life expectancy of a seal in various EOG applications.

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

H-NBR mellow

Hydrogenated acrylnitrile-butadiene-rubber, black

- HNBR in softer setting, for general applications
- Resistant to mineral oil, HFC and cold water
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	75 ±5	Shore A	DIN ISO 7619-1
Density	1,170	g/cm ³	DIN EN ISO 1183-1
100% Modulus	7,1	MPa	DIN 53504
Elongation at break	240	%	DIN 53504
Tensile strength	23,0	MPa	DIN 53504
Compression set 23°C/70h	2	%	DIN ISO 815-1
Compression set 100°C/22h	11,4	%	DIN ISO 815-1
Compression set 150°C/22h		%	DIN ISO 815-1
Rebound resilience	40	%	DIN ISO 4662:2017
Tear resistance	4,2	N/mm	DIN ISO 34-1 A
Abrasion resistance	83	mm ³	DIN ISO 4649 B
min. Service temperature	-35	°C	
max. Service temperature	+150	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

H-NBR solid

Hydrogenated acrylnitrile-butadiene-rubber, black

- HNBR in harder setting
- Resistant to mineral oil, HFC fluids, cold and sea water
- Applicable for static seals, rod and piston seals, wiper seals and rotary seals

Properties	Value	Unit	DIN Standard
Hardness	95 ±5	Shore A	DIN ISO 7619-1
Density	1,243	g/cm ³	DIN EN ISO 1183-1
100% Modulus	19,2	MPa	DIN 53504
Elongation at break	137	%	DIN 53504
Tensile strength	22,7	MPa	DIN 53504
Compression set 23°C/70h	15,0	%	DIN ISO 815-1
Compression set 100°C/22h	34,9	%	DIN ISO 815-1
Compression set 150°C/22h	36,9	%	DIN ISO 815-1
Rebound resilience	25	%	DIN ISO 4662:2017
Tear resistance	5,1	N/mm	DIN ISO 34-1 A
Abrasion resistance	117	mm ³	DIN ISO 4649 B
min. Service temperature	-20	°C	
max. Service temperature	+150	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

HNBR taiga ED

Hydrogenated acrylnitrile-butadiene-rubber, black

- Suitable against explosive decompression, for low temperature applications
- Resistant to mineral oil, HFC and cold water
- Applicable for Rod and Piston Seals, Wiper Seals, Rotary Seals and Static seals

Properties	Value	Unit	DIN Standard
Hardness	82 ± 5	Shore A	DIN ISO 7619-1
Density	1,397	g/cm ³	DIN EN ISO 1183-1
100 % Modulus	3,1	MPa	DIN 53504
Elongation at break	277	%	DIN 53504
Tensile strength	8,9	MPa	DIN 53504
Compression set 23°C/70h	14,4	%	DIN ISO 815-1
Compression set 100°C/22h	13,0	%	DIN ISO 815-1
Compression set 150°C/22h	20,4	%	DIN ISO 815-1
Rebound resilience	39,0	%	DIN ISO 4662:2017
Tear resistance	4,1	N/mm	DIN ISO 34-1 A
Abrasion resistance		mm ³	DIN ISO 4649 B
min. Service temperature	-45	°C	
max. Service temperature	+150	°C	

This compound is tuned to fit the requirements according to NORSOK M-710. NORSOK M-710 calls out the requirements for critical non metallic, polymeric sealing materials in applications such as subsea use, control systems and valves. It provides standards for rapid gas decompression (RGD) also known as explosive decompression (ED) testing and sour gas (H₂S) aging on elastomers and thermoplastics. These tests give insight to the performance and life expectancy of a seal in various EOG applications.

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

MVQ detec

Methyl-vinyl-silikone rubber, blue, metal detectable

- MVQ wit foodstuff approval according FDA, recommended for approval according EU1935/2004, metal detectable
- Resistant to mineral oil, HFD-U and cold water
- Applicable for static seals and with limitations as rod, piston and wiper seals

Properties	Value	Unit	DIN Standard
Hardness	88 ±5	Shore A	DIN ISO 7619-1
Density	1,670	g/cm ³	DIN EN ISO 1183-1
100% Modulus	6,0	MPa	DIN 53504
Elongation at break	122	%	DIN 53504
Tensile strength	6,8	MPa	DIN 53504
Compression set 70°C/70h	-	%	DIN ISO 815-1
Compression set 70°C/22h	26,0	%	DIN ISO 815-1
Compression set 175°C/22h	-	%	DIN ISO 815-1
Rebound resilience	52	%	DIN ISO 4662:2017
Tear resistance	12,4	N/mm	DIN ISO 34-1 A
Abrasion resistance	847	mm ³	DIN ISO 4649 B
min. Service temperature	-60	°C	
max. Service temperature	+210	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «MVQ detec» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

MVQ diet blue

Methyl-vinyl-silikone rubber, blue, similar to RAL 5024

- MVQ with foodstuff approval according FDA, recommended for approval according EU1935/2004
- Resistant to mineral oil, HFD-U and cold water
- Applicable for static seals and with limitations as rod, piston and wiper seals

Properties	Value	Unit	DIN Standard
Hardness	84 ±5	Shore A	DIN ISO 7619-1
Density	1,503	g/cm ³	DIN EN ISO 1183-1
100% Modulus	5,3	MPa	DIN 53504
Elongation at break	192	%	DIN 53504
Tensile strength	6,4	MPa	DIN 53504
Compression set 70°C/70h	5,0	%	DIN ISO 815-1
Compression set 100°C/22h	33,7	%	DIN ISO 815-1
Compression set 175°C/22h		%	DIN ISO 815-1
Rebound resilience	51	%	DIN ISO 4662:2017
Tear resistance	10,2	N/mm	DIN ISO 34-1 A
Abrasion resistance	657	mm ³	DIN ISO 4649 B
min. Service temperature	-60	°C	
max. Service temperature	+210	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «MVQ diet blue» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

MVQ diet red

Methyl-vinyl-silikone rubber, coralred, similar to RAL 3016

- MVQ with foodstuff approval according FDA, recommended for approval according EU1935/2004
- Resistant to mineral oil, HFD-U and cold water
- Applicable for static seals and with limitations as rod, piston and wiper seals

Properties	Value	Unit	DIN Standard
Hardness	83 ±5	Shore A	DIN ISO 7619-1
Density	1,51	g/cm ³	DIN EN ISO 1183-1
100% Modulus	6,3	MPa	DIN 53504
Elongation at break	120	%	DIN 53504
Tensile strength	7,4	MPa	DIN 53504
Compression set 70°C/70h	7,9	%	DIN ISO 815-1
Compression set 100°C/22h	6,1	%	DIN ISO 815-1
Compression set 175°C/22h	18,5	%	DIN ISO 815-1
Rebound resilience	39	%	DIN ISO 4662:2017
Tear resistance	10,0	N/mm	DIN ISO 34-1 A
Abrasion resistance	358	mm ³	DIN ISO 4649 B
min. Service temperature	-60	°C	
max. Service temperature	+210	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «MVQ diet white» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

MVQ diet transparent

Methyl-vinyl-silikone rubber, opaque

- MVQ with foodstuff approval according FDA, recommended for approval according EU1935/2004
- Resistant to mineral oil, HFD-U and cold water
- Applicable for static seals and with limitations as rod, piston and wiper seals

Properties	Value	Unit	DIN Standard
Hardness	79 ±5	Shore A	DIN ISO 7619-1
Density	1,19	g/cm ³	DIN EN ISO 1183-1
100% Modulus	2,7	MPa	DIN 53504
300% Modulus	5,0	MPa	DIN 53504
Elongation at break	320	%	DIN 53504
Tensile strength	8,9	MPa	DIN 53504
Compression set 70°C/70h	11,6	%	DIN ISO 815-1
Compression set 100°C/22h	10,8	%	DIN ISO 815-1
Compression set 175°C/22h	20,0	%	DIN ISO 815-1
Rebound resilience	38	%	DIN ISO 4662:2017
Tear resistance	18	N/mm	DIN ISO 34-1 A
Abrasion resistance	137	mm ³	DIN ISO 4649 B
min. Service temperature	-60	°C	
max. Service temperature	+210	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «MVQ diet transparent» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

MVQ diet white

Methyl-vinyl-silikone rubber, white

- MVQ with foodstuff approval according FDA, recommended for approval according EU1935/2004
- Resistant to mineral oil, HFD-U and cold water
- Applicable for static seals and with limitations as rod, piston and wiper seals

Properties	Value	Unit	DIN Standard
Hardness	84 ± 5	Shore A	DIN ISO 7619-1
Density	1,499	g/cm ³	DIN EN ISO 1183-1
100% Modulus	4,9	MPa	DIN 53504
Elongation at break	185	%	DIN 53504
Tensile strength	6,1	MPa	DIN 53504
Compression set 70°C/70h	12,2	%	DIN ISO 815-1
Compression set 100°C/22h	18,8	%	DIN ISO 815-1
Compression set 175°C/22h		%	DIN ISO 815-1
Rebound resilience	51	%	DIN ISO 4662:2017
Tear resistance	14,5	N/mm	DIN ISO 34-1 A
Abrasion resistance	728	mm ³	DIN ISO 4649 B
min. Service temperature	- 60	°C	
max. Service temperature	+210	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «MVQ diet white» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

NBR diet

Acrylnitrile-butadiene-rubber, white

- NBR with foodstuff approval according FDA, recommended for approval according EU1935/2004
- Resistant to mineral oil, HFC and cold water
- Applicable for Rod and Piston seals, Wiper Seals, Rotary Seals and Static Seals

Properties	Value	Unit	DIN Standard
Hardness	88 ±5	Shore A	DIN ISO 7619-1
Density	1,34	g/cm ³	DIN EN ISO 1183-1
100% Modulus	3,9	MPa	DIN 53504
300% Modulus	7,8	MPa	DIN 53504
Elongation at break	387	%	DIN 53504
Tensile strength	7,6	MPa	DIN 53504
Compression set 23°C/70h	29,4	%	DIN ISO 815-1
Compression set 70°C/22h	20,6	%	DIN ISO 815-1
Compression set 100°C/22h	23,2	%	DIN ISO 815-1
Rebound resilience	21	%	DIN ISO 4662:2017
Tear resistance	5,7	N/mm	DIN ISO 34-1 A
Abrasion resistance	320	mm ³	DIN ISO 4649 B
min. Service temperature	-30	°C	
max. Service temperature	+105	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «NBR diet» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: **21CFR 177.2600**.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

NBR detec

Acrylnitrile-butadiene-rubber, blue, metal detectable

- NBR with foodstuff approval according FDA, recommended for approval according EU1935/2004, metal detectable
- Resistant to mineral oil, HFC and cold water
- Applicable for Rod and Piston seals, Wiper Seals, Rotary Seals and Static Seals

Properties	Value	Unit	DIN Standard
Hardness	89 ±5	Shore A	DIN ISO 7619-1
Density	1,69	g/cm ³	DIN EN ISO 1183-1
100% Modulus	3,7	MPa	DIN 53504
300% Modulus	5,1	MPa	DIN 53504
Elongation at break	317	%	DIN 53504
Tensile strength	5,2	MPa	DIN 53504
Compression set 23°C/70h	30,4	%	DIN ISO 815-1
Compression set 70°C/22h	38,3	%	DIN ISO 815-1
Compression set 100°C/22h	49,5	%	DIN ISO 815-1
Rebound resilience	24	%	DIN ISO 4662:2017
Tear resistance	12,8	N/mm	DIN ISO 34-1 A
Abrasion resistance	290	mm ³	DIN ISO 4649 B
min. Service temperature	-30	°C	
max. Service temperature	+105	°C	

Confirmation according FDA

Hereby we, Trygonal, Kunststoffinnovationen GmbH, confirm, that all single components used for our compound named «NBR detec» are listed on Code of Federal Regulation of U.S. Food and Drug Administration (FDA), Rockville MD. They are mentioned under following subchapters: 21CFR 177.2600.

Confirmation according EU1935/2004

The confirmation according FDA mentioned above provides an approval according EU1935/2004. Due to unavoidable technical factors or due to the form of delivery of the elastomeric pre-materials traces of non-specified impurities could be included. A compulsory test should be applied to the final product.

Allowed for contact with foods. Not permitted for medical articles (implants)!

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

NBR mellow

Acrylnitrile-butadiene-rubber, black

- NBR in softer setting, for general applications
- Resistant to mineral oil, HFC and cold water
- Applicable for Rod and Piston seals, Wiper Seals, Rotary Seals and Static Seals

Properties	Value	Unit	DIN Standard
Hardness	73 ±5	Shore A	DIN ISO 7619-1
Density	1,220	g/cm ³	DIN EN ISO 1183-1
100% Modulus	6,1	MPa	DIN 53504
Elongation at break	238	%	DIN 53504
Tensile strength	14,0	MPa	DIN 53504
Compression set 23°C/70h	3,3	%	DIN ISO 815-1
Compression set 70°C/22h	5,9	%	DIN ISO 815-1
Compression set 100°C/22h	9,9	%	DIN ISO 815-1
Rebound resilience	31	%	DIN ISO 4662:2017
Tear resistance	4,4	N/mm	DIN ISO 34-1 A
Abrasion resistance	136	mm ³	DIN ISO 4649 B
min. Service temperature	-35	°C	
max. Service temperature	+110	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

NBR solid

Acrylnitrile-butadiene-rubber, black

- NBR in harder setting, for general applications
- Resistant to mineral oil, HFC and cold water
- Applicable for Rod and Piston seals, Wiper Seals, Rotary Seals and Static Seals

Properties	Value	Unit	DIN Standard
Hardness	90 ±5	Shore A	DIN ISO 7619-1
Density	1,229	g/cm ³	DIN EN ISO 1183-1
50% Modulus	11,1	MPa	DIN 53504
Elongation at break	82	%	DIN 53504
Tensile strength	18,7	MPa	DIN 53504
Compression set 23°C/70h	9,5	%	DIN ISO 815-1
Compression set 70°C/22h	17,8	%	DIN ISO 815-1
Compression set 100°C/22h	18,5	%	DIN ISO 815-1
Rebound resilience	26	%	DIN ISO 4662:2017
Tear resistance	3,3	N/mm	DIN ISO 34-1 A
Abrasion resistance	165	mm ³	DIN ISO 4649 B
min. Service temperature	-30	°C	
max. Service temperature	+110	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

NBR standard

Acrylnitrile-butadiene-rubber, black

- For general applications
- Resistant to mineral oil, HFC and cold water
- Applicable for Rod and Piston seals, Wiper Seals, Rotary Seals and Static Seals

Properties	Value	Unit	DIN Standard
Hardness	85 ±5	Shore A	DIN ISO 7619-1
Density	1,317	g/cm ³	DIN EN ISO 1183-1
100% Modulus	8,8	MPa	DIN 53504
Elongation at break	226	%	DIN 53504
Tensile strength	15,2	MPa	DIN 53504
Compression set 23°C/70h	6,4	%	DIN ISO 815-1
Compression set 70°C/22h	6,2	%	DIN ISO 815-1
Compression set 100°C/22h	12,0	%	DIN ISO 815-1
Rebound resilience	25	%	DIN ISO 4662:2017
Tear resistance	5,4	N/mm	DIN ISO 34-1 A
Abrasion resistance	82	mm ³	DIN ISO 4649 B
min. Service temperature	-35	°C	
max. Service temperature	+110	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

NBR taiga

Acrylnitrile-butadiene-rubber, black

- NBR for low temperature applications
- Resistant to mineral oil, HFC and cold water
- Applicable for Rod and Piston seals, Wiper Seals, Rotary Seals and Static Seals

Properties	Value	Unit	DIN Standard
Hardness	82 ±5	Shore A	DIN ISO 7619-1
Density	1,293	g/cm ³	DIN EN ISO 1183-1
100% Modulus	12,2	MPa	DIN 53504
Elongation at break	147	%	DIN 53504
Tensile strength	16,3	MPa	DIN 53504
Compression set 23°C/70h	7,7	%	DIN ISO 815-1
Compression set 70°C/22h	9,9	%	DIN ISO 815-1
Compression set 100°C/22h	13,7	%	DIN ISO 815-1
Rebound resilience	45	%	DIN ISO 4662:2017
Tear resistance	4,5	N/mm	DIN ISO 34-1 A
Abrasion resistance	79	mm ³	DIN ISO 4649 B
min. Service temperature	-50	°C	
max. Service temperature	+105	°C	

All above stated data result from random tests which were taken from the ongoing production. All data were established based on standard test-specimen according to ISO, DIN and ASTM standards and can basically not be carried over to the construction element.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.

XNBR solid

CarboXylated Nitrile-Butadiene-Rubber, black

- XNBR in harder setting, improved elasticity and abrasion resistance in comp. to NBR solid
- Resistant to mineral oil, HFC and cold water
- Applicable for Rod and Piston Seals, Wiper Seals, Rotary Seals and Static Seals

Properties	Value	Unit	DIN Standard
Hardness	89 ± 5	Shore A	DIN ISO 7619-1
Density	1,26	g/cm ³	DIN EN ISO 1183-1
100% Modulus	16,1	MPa	DIN 53504
Elongation at break	21,4	MPa	DIN 53504
Tensile strength	144	%	DIN 53504
Compression set 23°C/70h	13,1	%	DIN ISO 815-1
Compression set 70°C/22h	9,9	%	DIN ISO 815-1
Compression set 100°C/22h	12,9	%	DIN ISO 815-1
Rebound resilience	19	%	DIN ISO 4662:2017
Tear resistance	3,9	N/mm	DIN ISO 34-1 A
Abrasion resistance		mm ³	DIN ISO 4649 B
min. Service temperature	-30	°C	
max. Service temperature	+110	°C	

All above stated data results from random tests which were taken from the ongoing production. All data was established based on standard test-products according to ISO, DIN and ASTM standards and can basically not be carried over to the completed seal.

Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilisation, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions.