



# MATERIAL PORTFOLIO FOR THE FOOD AND BEVERAGE INDUSTRY

FREUDENBERG  
SEALING TECHNOLOGIES

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# APPROVALS, TESTS AND CONFORMITIES



## Food and beverage industry

CONFORMITIES / APPROVALS (ORGANISATION)	SCOPE	TESTING INSTITUTE	LEGAL BASIS	TEST ON	TEST CRITERIA
EG (Reg.) 1935/2004 (European Parliament)	Europe	accredited test laboratories	EG-Regulation 1935/2004	material	on the basis of national guidelines (e.g. BfR, Arrêté)
EG (Reg.) 2023/2006 (European Parliament)	Europe	accredited test laboratories	EG-Regulation 2023/2006	material	EU-Regulation 2023/2006
EU (Reg.) 10/2011 (European Parliament)	Europe	accredited test laboratories	EU-Regulation 10/2011	material	positive list, migration test
BNIC (Bureau National Interprofessionnel du Cognac)	France	accredited and BNIC-owned testing laboratories	EG-Regulation 1935/2004	material	migration test, sensory test
FDA (Food and Drug Administration)	USA	accredited test laboratories	- FDA 21 CFR 177.2600 (elastomers and perfluoroelastomers) - FDA 21 CFR 177.1500 (plastics)	material	positive list, extrusion tests
3-A® Sanitary Standards (3-A®)	USA	accredited test laboratories	- FDA 21 CFR 177.2600 (elastomers and perfluoroelastomers) - FDA 21 CFR 177.1500 (plastics)	material	positive list, resistance tests
ADI free – Animal derived ingredient free	Worldwide	each material supplier itself	EMEA/410/01 rev2	material	testing for ingredients of animal origin
NSF 51 (National Sanitation Foundation)	USA	NSF certified testing laboratories	- FDA 21 CFR 177.2600 (elastomers and perfluoroelastomers) - FDA 21 CFR 177.1500 (plastics)	material	positive list, toxicity testing
GB 4806 / GB 9685 (National Health and Family Planning Commission of the People's Republic of China)	China	accredited Chinese laboratories	GB 4806	material	migration tests / positive list
Ministerial Decree of 21.03.1973	Italy	accredited test laboratories	Ministerial Decree of 21.03.1973	product	migration tests / positive list



# MATERIAL PORTFOLIO

Freudenberg Sealing Technologies offers specially developed sealing solutions made of elastomer materials and technical plastics. These have all the necessary certifications and meet the conformity requirements relevant for applications in the food and beverage industry in the **USA, Europe and China**. Some materials

even meet global specifications, so they can be used worldwide. Thus, they offer a great advantage for our internationally operating customers. You can see which approvals are relevant for which countries in the overview on the right.

## Elastomer materials

MATERIAL					CONFORMITIES / APPROVALS								
MATERIAL NAME	COLOR	CROSS-LINKING	TEMPERATURE RANGE (AIR)	PRODUCTS	EG (REG.) 1935/2004	EG (REG.) 2023/2006	BNIC (COGNAC)	FDA	NSF 51	3-A <sup>®</sup> SANITARY STANDARDS	ADI FREE	GB 4806 / GB 9685	Ministerial Decree of 21.03.1973
68 EPDM 290	black	peroxide	-40 to +150 °C/ -40 to +302 °F	Diaphragms	●	●		●		●	●		
70 EPDM 291	black	peroxide	-40 to +150 °C/ -40 to +302 °F	- O-rings - Clamp seals - Hygienic Usit <sup>®</sup> rings - Diaphragms - CNC machined parts - Customized parts	●	●		●	●	●	●		(●)
70 EPDM 382	black	peroxide	-40 to +150 °C/ -40 to +302 °F	Customized parts	●	●		●			●	●	
70 EPDM 391	black	peroxide	-40 to +150 °C/ -40 to +302 °F	Profiles and cords	●	●		●			●		
70 EPDM 38596	white	peroxide	-40 to +150 °C/ -40 to +302 °F	O-rings	●	●		●					
75 EPDM 386	black	peroxide	-40 to +150 °C/ -40 to +302 °F	- O-rings - CNC machined parts	●	●		●		●	●	●	
75 EPDM 253356	black	peroxide	-30 to +140 °C/ -22 to +284 °F	- CNC machined parts - Customized parts	●	●		●			●		
85 EPDM 292	black	peroxide	-40 to +150 °C/ -40 to +302 °F	- O-rings - CNC machined parts - Customized parts	●	●		●	●	●	●		(●)
85 EPDM 302	black	peroxide	-40 to +150 °C/ -40 to +302 °F	Customized parts	●	●		●		●	●		
85 EPDM 387	black	peroxide	-40 to +150 °C/ -40 to +302 °F	- O-rings - CNC machined parts	●	●		●		●	●	●	
85 EPDM 389	black	peroxide	-40 to +150 °C/ -40 to +302 °F	Customized parts	●	●		●				●	

(●) Expected to be available from November

## Material portfolio for the food and beverage industry

MATERIAL					CONFORMITIES / APPROVALS								
MATERIAL NAME	COLOR	CROSS-LINKING	TEMPERATURE RANGE (AIR)	PRODUCTS	EG (REG.) 1935/2004	EG (REG.) 2023/2006	BNIC (COGNAC)	FDA	NSF 51	3-A <sup>®</sup> SANITARY STANDARDS	ADI FREE	GB 4806 / GB 9685	Ministerial Decree of 21.03.1973
75 FKM 239961	black	peroxide	-25 to +200 °C/ -13 to +392 °F	O-rings	●	●		●		●	●		
75 Fluoroprene® XP 40	blau	peroxide	-15 to +200 °C/ +5 to +392 °F	- O-rings - Diaphragms	●	●	●	●	●	●	●		
75 Fluoroprene® XP 41	light blue	peroxide	-15 to +200 °C/ +5 to +392 °F	- O-rings - Clamp seals - CNC machined parts - Diaphragms	●	●	●	●	●	●	●		●
75 Fluoroprene® XP 45	light blue	peroxide	-15 to +200 °C/ +5 to +392 °F	Customized parts	●	●		●		●	●		
85 Fluoroprene® XP 43	light blue	peroxide	-15 to +200 °C/ +5 to +392 °F	Customized parts	●	●	●	●		●	●		
70 HNBR 254067	yellow	peroxide	-30 to +140 °C/ -22 to +284 °F	Customized parts	●	●		●			●		
75 HNBR 231142	black	peroxide	-35 to +140 °C/ -31 to +284 °F	O-rings	●	●		●		●	●		
85 HNBR 181071	black	peroxide	-25 to +140 °C/ -13 to +284 °F	O-rings	●	●		●			●		
85 HNBR 216553	green	peroxide	-25 to +140 °C/ -13 to +284 °F	Customized parts	●	●		●			●		
70 NBR 438	black	peroxide	-25 to +100 °C/ -13 to +212 °F	- CNC machined parts - Customized parts	●	●		●		●	●		
75 NBR 430	black	peroxide	-20 to +100 °C/ -4 to +212 °F	O-rings	●	●		●		●	●	●	
80 NBR 217383	black	peroxide	-25 to +100 °C/ -13 to +212 °F	Profiles and cords	●	●		●		●	●		
85 NBR 436	black	peroxide	-25 to +100 °C/ -13 to +212 °F	- CNC machined parts - Customized parts	●	●		●		●	●		
90 NBR 433	black	peroxide	-20 to +100 °C/ -4 to +212 °F	O-rings	●	●		●		●	●		
75 Simriz® 484	black	peroxide	-15 to +230 °C/ +5 to +446 °F	O-rings				●		●	●		
75 Simriz® 494	black	peroxide	-15 to +230 °C/ +5 to +446 °F	O-rings				●			●		
75 Simriz® 38581	white	peroxide	-15 to +230 °C/ +5 to +446 °F	O-rings				●					
60 VMQ 117117	trans- parent	peroxide	-50 to +200 °C/ -58 to +392 °F	- Diaphragms - Customized parts	●	●		●			●	●	
70 VMQ 117055	trans- parent	peroxide	-50 to +200 °C/ -58 to +392 °F	- O-rings - Clamp seals - Diaphragms - Customized parts	●	●		●		●	●	●	
76 VMQ 176643	red	peroxide	-40 to +200 °C/ -40 to +392 °F	Customized parts	●	●		●		●	●		
78 VMQ 166898	grey	peroxide	-40 to +200 °C/ -40 to +392 °F	O-rings	●	●		●			●		

## Polyurethane materials

MATERIAL				CONFORMITIES / APPROVALS								
MATERIAL NAME	COLOR	TEMPERATURE RANGE (AIR)	PRODUCTS	EU (REG.) 10/2011	EG (REG.) 1935/2004	EG (REG.) 2023 /2006	BNIC (COGNAC)	FDA	NSF 51	3-A <sup>®</sup> SANITARY STANDARDS	ADI FREE	GB 4806 / GB 9685
94 AU 21700	natural	-25 to +110 °C/ -13 to +230 °F	- Wiper - U-Cup rings - Customized parts	●	●	●		●		●	●	
94 AU 21730	blue	-25 to +110 °C/ -13 to +230 °F	- O-rings - Wipers - U-Cup rings - CNC machined parts - Customized parts	●	●	●		●		●	●	

## Technical plastics

MATERIAL				CONFORMITIES / APPROVALS								
MATERIAL NAME	COLOR	FILLER	TEMPERATURE RANGE (AIR)	PRODUCTS	EU (REG.) 10/2011	EG (REG.) 2023 /2006	BNIC (COGNAC)	FDA	NSF 51	3-A <sup>®</sup> SANITARY STANDARDS	ADI FREE	GB 4806 / GB 9685
PA 12 G 37599	natural	ekonol	-40 to +120 °C/ -40 to +248 °F	Support rings	●	●		●			●	●
PE E083	white	-	-200 to +80 °C/ -328 to +176 °F	CNC machined parts	●	●		●				●
PTFE E202	beige	ekonol	up to +200 °C/ +392 °F	Radial shaft seals	●	●		●			●	
PTFE G116	white	glass	-80 to +200 °C/ -112 to +392 °F	Radial shaft seals	●	●		●			●	
PTFE G223	white	glass	-80 to +200 °C/ -112 to +392 °F	- CNC machined parts - Radial shaft seals	●	●		●			●	●
PTFE G224	blue	special	-80 to +200 °C/ -112 to +392 °F	Radial shaft seals	●	●		●			●	●
PTFE V037	white	-	-80 to +200 °C/ -112 to +392 °F	CNC machined parts	●	●		●		●	●	●
PTFE Y002	beige	special	-80 to +200 °C/ -112 to +392 °F	- CNC machined parts - Radial shaft seals	●	●		●			●	●
PTFE Y005	beige	special	-80 to +200 °C/ -112 to +392 °F	CNC machined parts	●	●		●			●	●
Quantix <sup>®</sup> 77-8FG	natural	special	-30°C to 100 °C/ -22 to +212 °F	CNC machined parts	●	●		●				
Quantum <sup>®</sup> PTFE F18245	brown	special	-60 to +260 °C/ -76 to +500 °F	- Radial shaft seals - Customized parts	●	●		●			●	
Quantum <sup>®</sup> PTFE F53722	white-opaque	glass	-150 to +260 °C/ -238 to +500 °F	- Radial shaft seals - Customized parts	●	●		●			●	

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