

## Materials for Water, Food & Beverage, and Medical Device Industries

### Water, Food & Beverage, and Medical Devices - Globally Compliant Materials

Qmonix® 558CH	FKM 515CG	NBR 536EG
NSF Standard 61	NSF Standard 61	NSF Standard 61
NSF Standard 51	NSF Standard 51	NSF Standard 51
FDA Title 21 CFR	FDA Title 21 CFR	FDA Title 21 CFR
EC 1935/2004	EC 1935/2004	EC 1935/2004
Sanitary 3A	Sanitary 3A	Sanitary 3A
USP Class VI	USP Class VI	USP Class VI

Minnesota Rubber and Plastics offers a complete portfolio of materials (FKM, Qmonix® EPDM, and NBR) to meet customers' specific application requirements. All of these materials meet the most demanding global regulations for drinking water, food and beverage contact and medical device applications. These materials are certified by independent third parties with documentation (available upon request). This assured regulatory compliance means that manufacturers can use the same part globally, simplifying supply chain and offering SKU reduction. These materials are all peroxide cured and have extremely low polyaromatic hydrocarbon (PAH) content for high purity applications.

- **Qmonix® 558CH** is a high purity, high performance EPDM product which can be used in the most demanding drinking water, food process and medical device applications. Qmonix® 558CH exhibits excellent performance in both hot and cold process applications, and has excellent chemical resistance. It is also resistant to both ozone and UV used in sanitization processes. Standard durometer as formulated is 70 shore A.
- **FKM 515CG** is a highly fluorinated, carbon backbone polymer recommended for the most demanding environments, especially medical devices, and certain beverage dispensing applications. It resists harsh chemical and ozone attack with a thermal stability to 500°F (262°C). FKM 515CG also offers low compression set and excellent aging characteristics. The material provides excellent service in concentrated syrups, alcohols, acids and sanitizing chemicals. Standard durometer as formulated is 70 shore A.
- **NBR 536EG** was developed to withstand environments that require low compression set, abrasion resistance and low temperature performance. It is inherently resistant to oils found in food products (such as milk and yogurt), and active pharmaceutical ingredients. NBR 536EG has been formulated with less than 10% carbon black to meet regulations stipulating this requirement. Standard durometer as formulated is 70 shore A.



### Food & Beverage Materials

- FDA (U.S.A.) – Food, Drug and Cosmetic Act, CFR 21, Chapter I, Sub ch. B, Part 177, Subpart C, Section 177.2600, Rubber articles intended for repeated use in contact with food. The materials listed below are our standard 50 – 90 Shore A compounds that comply with this regulation. Please contact us for material selection tailored to your application.

Shore A	For aqueous and fatty foods and beverages			For aqueous foods and beverages only		
	NBR	FKM	Silicone	NBR	Qmonix® EPDM	FKM
50	536DS	–	71105B	–	565CZ	–
60	536AB	514ZR	74116A	445A	560CF, 559PN, 558CM	–
70	536X, 536EG	–	74117	525K	559PE, 560YH, 559TM, 558CH	514YP, 515CG
80	–	–	76168	446A	559PM, 561NZ	514ZM
90	–	–	–	309BK	559GT, 558CK	–

- JFSL (Japan) - Japan Food Sanitation Law, notification No. 370 of 1959 “Specifications and Standards for Food and Food Additives etc.”, issued by the Ministry of Health, Labour and Welfare (MHLW)  
- 559PE, 70 Shore A EPDM, used at temperature not exceeding 100°C
- Minnesota Rubber and Plastics has also worked extensively with a wide variety of soft drinks and has data available on them.

**Drinking Water and Medical Device\* Materials**

Type	Compound	Shore A	Notes	NSF 61 (U.S.A.)	WRAS (Great Britain)	Elastomer Guideline (Germany)	W270 (Germany)	ACS (France)	USP Class VI
NBR	534DF	65	Self lube	•					
	536EG	70		•					•
	366SM	70		•					
	534HC	70	Self lube	•					
	210N	70	O-ring only	•	•	•	•	•	
FKM	515CG	70		•					•
HNBR	574J	85		•					
	574TA	85		•					
Qmonix® EPDM	565CZ	50		•					
	560CD	60		•				•	
	560CF	60		•					
	558CM	60		•	•	•	•	•	
	560CE	65		•				•	
	558BM	70	Self Lube	•					
	558CH	70		•	•	•	•	•	•
	212N	70	O-ring only	•	•	•	•	•	
	559N	70		•					
	559PE	70		•					
	559TM	70	Self lube	•					
	560RJ	70	Self lube	•					
	560YH	70		•					
	912T	70		•					•
	561NZ	80		•					
	561TX	80	Self lube	•					
559GT	90		•						
558CK	90		•	•	•	•	•		
559YU	90	Self lube	•						
Silicone	71105B	50	Black	•					
	76155	50	Blue	•					
	217AB	55	Blue	•					
	76156	60	Blue	•					
	76157	70	Blue	•					
	76187D	70	Orange	•					

Minnesota Rubber and Plastics will provide information to testing agencies for products listed “in application.”

\*Drug Delivery, Surgical, Diagnostics and Treatment Markets

**Drinking Water and Medical Device Applications – Quniton® Materials**

Quniton® 558CH	Quniton® 560CF	Quniton® 559PE
EPDM	EPDM	EPDM
NSF Standard 61	NSF Standard 61	NSF Standard 61
FDA Title 21 CFR	FDA Title 21 CFR	FDA Title 21 CFR
EC 1935/2004		
70 Shore A	60 Shore A	70 Shore A

Quniton® serves as a highly lubricious surface modification with capabilities uniquely designed to improve application performance. Formulated to have a low coefficient of friction, it resists bonding or sticking to a wide range of materials. Quniton® possesses non-reactive properties that ensure consistent surface to surface contact over time while retaining chemical and thermal stability. Components produced using Quniton® show reduced wear and abrasion—longer life. Parts maintain original form and sealing force throughout their life. Quniton® is applicable in ozonated streams used for sanitization and in applications using high dosage UV light which is critical in sterilization and applications in the medical device industry. In addition, Quniton helps to reduce secondary operations costs via the elimination of additional coatings and lubricants.

