

# Z70F

Hydrogenated nitrile rubber for the food & dairy industry



## Description

Z70F is a medium acrylonitrile (ACN = 34%), HNBR compound formulated using only those ingredients determined by the US Food and Drug Administration (FDA).

The high mechanical strength of Z70F provides excellent wear and abrasion resistant properties when used in dynamic applications.

Z70F offers excellent steam and chemical resistance to a broad range of media, making it ideal for use in various applications requiring FDA and 3A compliance. It is suitable for use in all food contact applications including dry, aqueous and fatty media.

Available in any sized O-ring (fully moulded up to 2.5m/8ft internal diameter) and custom designed profiles and components.

## Key Attributes

- ▶ Excellent chemical and steam resistance
- ▶ Higher maximum operating temperature than standard nitrile (NBR)
- ▶ High mechanical strength
- ▶ FDA compliant - extraction tested to CFR 21 § 177.2600 (e,f)
- ▶ 3A Sanitary Standard 18-03 Class 3 compliant
- ▶ Free from Animal Derived Ingredients

## Typical Applications

Recommended for use in food and dairy production and processing equipment, for both static and dynamic applications.

## Other materials for food/dairy applications

Fluoroelastomers (FKM)  
 Perlast® perfluoroelastomers (FFKM)  
 Silicone (VMQ)  
 EPDM and Nitrile (NBR)

## FDA Extraction test results

Media	Extraction test	Authorised limits mg/sq.inch	Z70F test results
Distilled water	First 7 hours	20	4.6, 3.4
	2 succeeding hrs	1	0.3, 0.6
n-Hexane	First 7 hours	175	10.1, 10.2
	2 succeeding hrs	4	0.8, 0.9
Acrylonitrile		3	0.1



## Typical Material Properties

Property	ASTM	ISO	Value
Material Type	HNBR	HNBR	Med ACN
Colour			Black
Hardness: (°IRHD)	D1415	ISO48	70
Tensile Strength (MPa)	D412	ISO37	16.0
Elongation at break (%)	D412	ISO37	250
Compression Set: 72 hrs @ 125°C (257°F)	D395	ISO815	25%
Heat Resistance: 70 hrs @ 150°C (302°F)	D573	ISO188	
Hardness change (°IRHD)	D1415	ISO48	+10
Tensile strength change (%)	D412	ISO37	-15
Elongation at break change (%)	D412	ISO37	-25
Minimum Operating Temperature			-40°C (-40°F)
Maximum Operating Temperature			+180°C (+356°F)
Low temperature resistance: Non-brittle for 3 mins @	D2137	ISO R812	-40°C (-40°F)

**SPECIAL NOTE:** This information is to the best of our knowledge accurate and reliable. However, Precision Polymer Engineering Ltd makes no warranty, expressed or implied, that parts manufactured from this material will perform satisfactorily in the customer's application. It is the customer's responsibility to evaluate parts prior to use, especially in applications where their failure may result in injury and/or damage. It should also be noted that all elastomeric parts have a finite life. Therefore a regular programme of inspection and replacement is strongly recommended. The material properties above should not be used for specification purposes.



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