



## Compound 1050LF (colour: black)

### General Description

Kalrez® 1050LF is a carbon black filled compound having excellent all round chemical resistance.

It also has a good resistance to hot water/steam, excellent amine resistance and good compression set properties. It has a maximum operating temperature of 280°C.

It is a general purpose material, often used in the chemical process industries in the form of O-rings, gaskets and other custom parts.

Compound 1050LF is not recommended for applications where rapid temperature cycling properties are required.

The physical properties of compound 1050LF are as follows :

### Physical Properties<sup>1</sup>

Hardness <sup>2</sup>	Shore A ± 5	82
100 % Modulus <sup>3</sup>	MPa psi	12,4 1800
TS at break <sup>3</sup>	MPa psi	15,8 2700
Elongation at break <sup>3</sup>	%	125
Compression set <sup>4</sup> , 70 h at 204°C	%	35

<sup>1</sup> Not to be used for specifications

<sup>2</sup> ASTM D2240

<sup>3</sup> ASTM D412, 500 mm/min (20 in./min)

<sup>4</sup> ASTM D395 B, pellets

### Chemical Resistance

Material Compound	Kalrez 1050LF
<i>Chemical resistance to:</i>	
Aromatic /Aliphatic Oils	+++
Acids	++
Alkalis	+++
Alcohols	+++
Aldehydes	+++*
Amines	+++*
Ethers	+++
Esters	+++
Ketones	+++
Steam /Hot Water	++
Strong Oxidizers	0
Ethylene /Propylene Oxide	-

+++ = excellent

++ = very good

+ = good

0 = marginal

- = poor

-- = not recommended

\* = recommended compound for this chemical

## Miscellaneous Properties

Many miscellaneous properties are of interest for specific applications. Some of these are unaffected by compound choice while others vary with hardness or extensibility. As an example, coefficient of friction typically increases as hardness decreases.

In general, miscellaneous physical properties are similar to those of Viton® fluoroelastomer.

The following are some of the properties for Kalrez®:

### Physical Properties

Specific gravity, g/cm<sup>3</sup> 1,90 – 2,00

### Miscellaneous

Oxygen – Autogenous Ignition Temperature  
 Compound 1050 LF 313°C  
 Compound 1045 370°C

### Thermal Properties

Linear coefficient of thermal expansion (25 – 250°C)

$$L = L_0 (1 + a\Delta T)$$

$$a = 2,3 \times 10^{-4}/^{\circ}\text{C}$$

Specific heat

at 50°C = 0,945 J/g (0,226 cal/g)  
 at 100°C = 0,974 J/g (0,233 cal/g)  
 at 150°C = 1,053 J/g (0,252 cal/g)

### Permeation Rates of Gases

Gas	Nitrogen	Oxygen	Helium	Hydrogen	Argon	Krypton	Xenon
Temperature, °C	RT	RT	RT	93	93	93	93
Rate**	0,05	0,09	2,5	113	6,1	9,9	19,9

\*\*  $\times 10^{-9}$  cm<sup>3</sup> - cm  
 s - cm<sup>2</sup> - cm Hg  $\Delta P$

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