

[index](#)[previous view](#)**F1-63**

data sheet

**PTFE****F1**

## **DIFLON K** (VIRGIN PTFE CONTAINING AN ISOSTATIC ORGANIC POLYMERIC FILLER)

**COLOR** MATERIAL

PTFE Special Compound preferred for parts and components requiring very good mechanical properties.

This material offers an excellent combination of properties Typical of the PTFE fluoropolymer resins:

- **Service Temperature:** offers excellent resistance to continuous service temperatures – working conditions from -100° C (-148°F) up to 260°C (500°F) and, for limited periods, even to higher temperatures; product's low temperature resistance allows satisfactory performance down to -200°C (-328°F).
- **Chemical resistance:** offers high inertness towards nearly all known chemicals. Only attacked elemental alkali metals, chlorine trifluoride and elemental fluorine at high temperature and pressures might affect properties.
- **Solvents resistance:** offers insoluble properties in all solvents up to temperatures as high as 300° C (572° F). Certain highly fluorinated oils only swell and dissolve PTFE at temperatures close to the crystalline melting point.

### **Properties**

- Improved thermal dimensional stability
- Good wear resistance
- Improved creep resistance
- Excellent electrical insulating properties
- Improved compression strength
- Low friction behaviour
- Exceptional temperature resistance
- Excellent chemical stability
- Improved surface hardness
- Suitable for food contact

### **Main applications**

PTFE Special Compound offers excellent properties in the chemical processing, in automotive industries, in sealing application and in mechanical applications in general for bushing, sliding supports, flanged and thrust bearings, piston rings and for slide ways for machine tools. High wear and abrasion resistance and good wear compression properties are suitable for the majority of dry bearing applications against soft countersurfaces.

Special Compound has one of the lowest coefficient of friction of most reinforced PTFE materials. This makes it particularly suited for start-stop applications where stick-slip must be eliminated. The tribological properties of this material also make it suitable for both bearings and wear component applications.

Special Compound has a higher temperature resistance of PTFE and is excellent for use with soft, dynamic mating surfaces. It has excellent physical properties and is chemically compatible with most chemicals.

F1

PTFE

F1-63

data sheet

previous view



index

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**Statement on suitability for contact with foodstuff**

FDA Approved US Regulation

- Code of Federal regulation 21 CFR Ch.1; section 177.1550 Perfluorocarbon Resins of the Food and Drug Administration/US.

It is suitable to be used in contact with food, according to FDA 177.1550.

EU Regulation

- EU 1935/2004 - 10/2011 on plastic materials and articles to come in contact with food. It is suitable to be used in contact with aqueous, acid, alcoholic and oil or fatty (having Correction Factor X/3 or above) foodstuffs for which stimulants A, B, and D2 are used, according to Reg.10/2011

Property		Method	Units	Specification
Physical	Color	-	-	Blue - grey
	Specific gravity	ASTM D792	g/cm <sup>3</sup>	2,250 – 2,300
	Water absorption	ASTM D570	%	0,05
	Flamability	UL 94		V-0
Mechanical	Tensile strength	ASTM D4745	MPa	≥ 20
	Elongation	ASTM D4745	%	≥ 220
	Hardness	ASTM D2240	Shore D	≥ 58
	Ball Hardness	ASTM D785	MPa	≥ 25
	Deformation under load (140 Kg/cm <sup>2</sup> for 24 hrs. At 23° C)	ASTM D621	%	11 – 13
	Permanent deformation (after 24 hrs. Relaxation at 23° C)	ASTM D621	%	5,5 – 7,5
	Coefficient of static friction	ASTM D1894		0,12 – 0,25
	Coefficient of dynamic friction	ASTM D1894		0,10 – 0,12
	Wear coefficient	-	cm <sup>3</sup> min 10 <sup>-8</sup> Kg m h	15 - 25
Thermal	Thermal conductivity	ASTM C177	W/ m*K	0,34
	Coefficient of linear thermal expansion From 25 to 100 °C	ASTM D696	10 <sup>-5</sup> / °C	9 - 13
Electrical	Volume resistivity	ASTM D257	Ohm*cm	10 <sup>15</sup>
	Surface resistivity	ASTM D257	Ohm	10 <sup>14</sup>