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TECHNICAL DATASHEET

AFLAS FLUOROELASTOMERS FFKM SERIES

Fluoroelastomer

# AFLAS™ FFKM SF-3000

AFLAS™ FFKM SF-3000 is a perfluoroelastomer having the chemical structure derived from tetrafluoroethylene and perfluoroalkylvinyl ether. This chemical structure offers **outstanding resistance to chemicals, oils, solvents**. **This grade is manufactured entirely without the use of any surfactants or fluorinated polymerization solvents.**

## ●Outline of AFLAS™ FFKM SF-3000

Elastomer classification: FFKM
Specific gravity ： 2.03 ～ 2.07 g/cm$^3$
Appearance : Translucent white
Storage modulus (G') ： 415 ～ 655 kPa

## ●Characteristics

- Outstanding chemical/oil/solvent resistance
- Outstanding thermal resistance
- Excellent compression set property
- Excellent mechanical strength of 20 MPa or higher

## ●Usage

SF-3000 has outstanding chemical, oil, solvent resistance and excellent compression set. SF-3000 is well suited for products like O-rings and seals to be used in extremely harsh and aggressive chemical environments.

## ●Standard Formulation

| | | Standard |
|---|---|---|
| SF-3000 | Polymer | 100 |
| MT-carbon (N990) | Filler | 15 |
| TAIC-WH60* | Vulcanization accelerator | 3 |
| Peroxide** | Vulcanizing agent | 1 |
| Calcium Stearate | Acid acceptor | 1 |

* TAIC-WH60 : Triallyl isocyanurate 60% diluted type with Silica.
** Peroxide : 2,5-dimethyl-2,5-di(t-buthylperoxy)hexane

## ●Handling and storage

SF-3000 will be changed for the worse by direct sunlight. When the polymer changed, the color will be turned into red and the curability will be inhibited. Please keep the polymer in the aluminum pack which is used when it is delivered. The compounding should be done within few hours

## ●Checkpoints on compounding

When feeding SF-3000 into the roll during roll mixing, roll temperature should be kept around 40 to 60 degrees C. If the temperature is too high or too low, it is impossible to hold onto the roll. Roll gap should be kept narrower to hold onto the roll well.

## ●Standard curing conditions

The standard curing conditions are shown below.

Press cure : 150~160℃ X 20 min
Post cure : 250℃ X 4 hr under air

Select a suitable compression temperature and time according to the size of the product and the required characteristics.


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## ●Standard physical properties

| | Standard formulation |
|---|---|
| Tensile strength* (MPa) | 25.7 |
| 100% modulus (MPa) | 7.2 |
| Tensile elongation (%) | 206 |
| Hardness (Shore A) | 74 |

*Tensile properties were measured with No. 4 dumbbells

## ●Curing characteristics　(RPA 150℃ × 20min (100cpm, amplitude 3 degrees))

| MH (dNm) | ML (dNm) | MH-ML | T10 (min) | T90 (min) |
|---|---|---|---|---|
| 109.4 | 12.5 | 96.9 | 1.0 | 4.1 |

## ●Compression set data　(25% Compression )

P-26 O-ring

| Temp. | 70hr |
|---|---|
| 250℃ | 43.9 |


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