

Tecnoflon® TN 50A

Raw Terpolymer

Tecnoflon® TN 50A is a medium-low viscosity fluoroelastomer terpolymer. It does not contain curatives, therefore the proper levels of Tecnoflon® FOR M1 and Tecnoflon® FOR M2 must be added to achieve required properties. Thanks to its 68 % of fluorine content, a good compromise between chemical resistance and compression set value is obtained. The careful distribution of molecular weights and medium-low viscosity maximize its performance in applications such as injection molding or extrusion where rheological properties are critical.

Some of the basic properties of Tecnoflon® TN 50A are:

- Very good mold flow
- Superior mold release
- Good compression set
- Good extrusion behavior

Tecnoflon® TN 50A can be used for compression, injection and transfer molding of shaft seals, valve stem seals, O-rings, gaskets and seals. Tecnoflon® TN 50A can be combined with the cure system and other typical fluoroelastomer compounding ingredients. Mixing can be accomplished with two roll mills or internal mixers.

Tecnoflon® TN 50A can be extruded into hoses or profiles and can be calendered to make sheet stocks or belting. Finished goods can be produced by a variety of rubber processing methods.

Handling and safety

Normal care and precautions should be taken to avoid skin contact, eye contact and breathing of fumes. Smoking is prohibited in working areas. Wash hands before eating or smoking. For complete health and safety information, please refer to the material safety data sheet.

Basic characteristics of the raw polymer are as follows

Property	Typical Value	Unit	Test Method
ML (1+10') at 121 °C	23	MU	ASTM D1646
Fluorine content	68	%	Solvay Internal Method – NMR
Specific gravity	1.86	g/cm ³	ASTM D792
Colour	Translucent		
Packaging/Form	Slabs		
Solubility	Ketones and esters		

Typical properties

Test Compound	Typical Value	Unit	Test Method
Tecnoflon® TN 50A	100	phr	
Tecnoflon® FOR M1	3	phr	
Tecnoflon® FOR M2	2	phr	
MgO–DE	3	phr	
Ca(OH) ₂	6	phr	
N-990 MT Carbon Black	30	phr	

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Property	Typical Value	Unit	Test Method
Mooney viscosity ML (1+10') at 121 °C	55	MU	ASTM D1646
Mooney Scorch MS 135 °C			ASTM D1646
MV	22	MU	
t ₁₅	16	min	
ODR 12 min at 177 °C arc 3°			ASTM D2084
Minimum torque	8	lb·in	
Maximum torque	55	lb·in	
t _{s2}	1.8	min	
t' ₉₀	2.9	min	
MDR 6 min at 177 °C arc 0.5°			ASTM D6601
Minimum torque	0.68	lb·in	
Maximum torque	11.8	lb·in	
t _{s2}	1.1	min	
t' ₅₀	1.2	min	
t' ₉₀	1.8	min	
Press cure: 10 min at 170 °C, post cure: (8+16) h at 250 °C			
100% Modulus	3.7	MPa	ASTM D412C
Tensile strength	13.5	MPa	
Elongation at break	297	%	
Hardness	72	ShoreA	ASTM D2240
Compression set			ASTM D395 method B
25% deformation, 70 h at 200 °C			
O-ring #214	29	%	
Temperature retraction			ASTM D1329
TR ₁₀	-14	°C	
TR ₃₀	-9	°C	
TR ₅₀	-5	°C	

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