

Tecnoflon® FOR 50HS

Cure Incorporated Copolymer

Tecnoflon® FOR 50HS is a low viscosity cure incorporated copolymer, based on our breakthrough technology on bisphenol curable fluoroelastomers. Tecnoflon® FOR 50HS can be compounded to meet all the major fluoroelastomer specifications with only a 1 hour post cure and without using Calcium Hydroxide. Tecnoflon® FOR 50HS is well suited for all applications requiring superior flow, mould release, and excellent compression set.

Some of the unique properties of Tecnoflon® FOR 50HS are:

- Low post cure time of 1 hour
- Lower post cure temperatures
- Curable without Calcium Hydroxide
- Excellent mould release
- Lack of mould fouling
- Lower compound viscosity
- Good scorch safety
- Fast cure rate

Tecnoflon® FOR 50HS can be used for injection and transfer moulding of O-rings, gaskets and seals. Tecnoflon® FOR 50HS can be mixed using typical fluoroelastomers compounding ingredients and mixing can be accomplished with two roll mills or internal mixers.

Tecnoflon® FOR 50HS 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	66	%	Solvay Internal Method – NMR
Specific gravity	1.81	g/cm ³	ASTM D792
Colour	Off white		
Packaging/Form	Slabs		
Solubility	Ketones and esters		

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Typical properties

Curable without calcium hydroxide

Test Compound	Typical Value	Unit	Test Method
Tecnoflon® FOR 50HS	100	phr	
MgO-DE	7	phr	
N-990 MT Carbon Black	30	phr	

Property	Typical Value	Unit	Test Method
Mooney viscosity ML (1+10') at 121 °C	47	MU	ASTM D1646
Mooney Scorch MS 135 °C			ASTM D1646
MV	21	MU	
t ₁₅	78	min	
MDR 6 min at 177 °C arc 0.5°			ASTM D6601
Minimum torque	0.95	lb·in	
Maximum torque	16.0	lb·in	
t _{s2}	1.8	min	
t' ₅₀	2.3	min	
t' ₉₀	3.2	min	
MDR 18 min at 170 °C arc 0.5°			ASTM D6601
Minimum torque	1.05	lb·in	
Maximum torque	16.6	lb·in	
t _{s2}	3.1	min	
t' ₅₀	4.2	min	
t' ₉₀	6.2	min	
After press cure			
100% Modulus	4.5	MPa	ASTM D412C
Tensile strength	12.1	MPa	
Elongation at break	250	%	
Hardness	70	ShoreA	ASTM D2240
Post cure: 1 h at 250 °C			
100% Modulus	5.4	MPa	ASTM D412C
Tensile strength	17.9	MPa	
Elongation at break	227	%	
Hardness	70	ShoreA	ASTM D2240

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Property	Typical Value	Unit	Test Method
Post cure: 4 h at 250 °C			
100% Modulus	5.4	MPa	ASTM D412C
Tensile strength	18.2	MPa	
Elongation at break	219	%	
Hardness	70	ShoreA	ASTM D2240
Post cure: (8+16) h at 250 °C			
100% Modulus	5.5	MPa	ASTM D412C
Tensile strength	18.6	MPa	
Elongation at break	203	%	
Hardness	70	ShoreA	ASTM D2240
Compression set 25 % deformation, 70 h at 200 °C			ASTM D395 method B
After press cure	34	%	
Post cure 1 h at 250 °C	17	%	
Post cure 4 h at 250 °C	15	%	
Post cure (8+16) h at 250 °C	15	%	

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