

Tecnoflon® FOR 900HS

Cure Incorporated Copolymer

Tecnoflon® FOR 900HS is a medium-high viscosity cure incorporated copolymer, based on our breakthrough technology on bisphenol curable fluoroelastomers. Tecnoflon® FOR 900HS can be compounded to meet all the major fluoroelastomer specifications with only a 1 hour post cure and without using calcium hydroxide. Tecnoflon® FOR 900HS is well suited for all applications requiring superior flow, high temperature resistance, mould release and excellent compression set.

Some of the unique properties of Tecnoflon® FOR 900HS 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 900HS can be used for compression moulding of O-rings, gaskets, and seals. Tecnoflon® FOR 900HS can be mixed using typical fluoroelastomers compounding ingredients and mixing can be accomplished with two roll mills or internal mixers.

Tecnoflon® FOR 900HS can be extruded into hoses or profiles and can be calendared 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	53	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 with and without calcium hydroxide

Test compound	Typical Value (without Ca(OH) ₂)	Typical Value (with Ca(OH) ₂)	Unit	Test Method
Tecnoflon® FOR 900HS	100	100	phr	
MgO-DE	7	3	phr	
Ca(OH) ₂	-	6	phr	
N-990 MT Carbon Black	30	30	phr	

Property	Typical Value (without Ca(OH) ₂)	Typical Value (with Ca(OH) ₂)	Unit	Test Method
Mooney viscosity ML (1+10') at 121 °C	96	98	MU	ASTM D1646
Mooney Scorch MS 135 °C				ASTM D1646
MV	44	45	MU	
t ₁₅	26	17	min	
MDR 12 min at 177 °C arc 0.5 °				ASTM D6601
Minimum torque	2.3	2.2	lb·in	
Maximum torque	16.5	17.3	lb·in	
t _{s2}	1.6	1.0	min	
t' ₅₀	2.4	1.2	min	
t' ₉₀	3.8	1.5	min	
MDR 12 min at 190 °C arc 0.5 ° (*)				ASTM D6601
Minimum torque	2.0	-	lb·in	
Maximum torque	16.0	-	lb·in	
t _{s2}	0.8	-	min	
t' ₅₀	1.2	-	min	
t' ₉₀	1.7	-	min	
Press cure: 10 min at 170 °C				
100% Modulus	3.3	3.7	MPa	ASTM D412C
Tensile strength	11.9	11.1	MPa	
Elongation at break	382	334	%	
Hardness	69	70	ShoreA	ASTM D2240
Post cure: 1 h at 250 °C				
100% Modulus	3.9	4.3	MPa	ASTM D412C
Tensile strength	16.5	15.0	MPa	
Elongation at break	306	261	%	
Hardness	69	70	ShoreA	ASTM D2240

(*) MDR data for Ca(OH)₂ containing compound missing: too scorchy to give accurate results

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Property	Typical Value (without Ca(OH) ₂)	Typical Value (with Ca(OH) ₂)	Unit	Test Method
Post cure: (8+16) h at 250 °C				
100 % Modulus	4.0	4.6	MPa	ASTM D412C
Tensile strength	16.7	15.9	MPa	
Elongation at break	277	251	%	
Hardness	70	71	ShoreA	ASTM D2240
Heat aging, 70 h at 275 °C				
Δ Tensile Strength	-12	-8	%	ASTM D573
Δ Elongation at Break	13	5	%	
Δ Hardness	-3	-2	ShoreA	
Δ Weight	-0.7	-1.2	%	
Compression set				
25 % deformation, 70 h at 200 °C, press cure: 10 min at 170 °C				ASTM D395 method B
O-ring #214, post cure: 1 h at 250 °C	16	19	%	
O-ring #214, post cure: (8+ 16) h at 250 °C	15	16	%	

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