Tecnoflon® N 60HS

Raw Copolymer

Tecnoflon® N 60HS is a low viscosity fluoroelastomer copolymer. It does not contain curatives: therefore the proper levels of Tecnoflon® XA51 (proprietary Ausimont curing system) or Tecnoflon® FOR M1/Tecnoflon® FOR M2 must be added to achieve the required properties. This material is based on our breakthrough technology on bisphenol curable fluoroelastomers. Tecnoflon® N 60HS can be compounded to meet many of the major fluoroelastomer specifications with only a 1 hour post cure and without using calcium hydroxide. Tecnoflon® N 60HS is well suited for all applications requiring superior flow, mould release and excellent compression set.

Some of the unique properties of Tecnoflon® N 60HS are:

- Low post cure time of 1 hour
- Curable without calcium hydroxide
- Excellent mould release
- Lack of mould fouling
- Lower compound viscosity
- Good scorch safety

Tecnoflon® N 60HS can be used for injection and transfer moulding of O-rings, gaskets and seals. Tecnoflon® N 60HS can be mixed using typical fluoroelastomers compounding ingredients and mixing can be accomplished with two roll mills or internal mixers.

Tecnoflon® N 60HS 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	27	MU	ASTM D1646
Fluorine content	66	%	Solvay Internal Method – NMR
Specific gravity	1.81	g/cm^3	ASTM D792
Colour	Translucent		
Packaging / Form	Slabs		
Solubility	Ketones and esters		

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Typical properties

Curable without calcium hydroxide

Test Compound	Typical Value (with XA51)	Typical Value (with FOR M1/M2)	Unit	Test Method
Tecnoflon® N 60HS	100	100	phr	
Tecnoflon® XA51	2.5	–	phr	
Tecnoflon® FOR M1	–	4	phr	
Tecnoflon® FOR M2	–	1.5	phr	
MgO–DE	7	7	phr	
N-990 MT Carbon Black	30	30	phr	

Property	Typical Value (with XA51)	Typical Value (with FOR M1/M2)	Unit	Test Method
Mooney viscosity ML (1+10') at 121 °C	47	49	MU	ASTM D1646
Mooney Scorch MS 135 °C				ASTM D1646
MV	21	22	MU	
t_{15}	> 60	> 60	min	
MDR 12 min at 177 °C arc 0.5 °				ASTM D6601
Minimum torque	1.05	1.00	lb·in	
Maximum torque	16.5	15.4	lb·in	
t_{s2}	1.2	3.3	min	
t'_{50}	1.4	5.2	min	
t'_{90}	1.9	7.2	min	
MDR 12 min at 170 °C arc 0.5 °				ASTM D6601
Minimum torque	1.13	1.13	lb·in	
Maximum torque	16.6	14.6	lb·in	
t_{s2}	1.8	5.0	min	
t'_{50}	2.3	7.6	min	
t'_{90}	3.0	9.8	min	
Post cure: 1 h at 250 °C				
100 % Modulus	5.4	n. a.	MPa	ASTM D412C
Tensile strength	18.2	n. a.	MPa	
Elongation at break	221	n. a.	%	
Hardness	69	n. a.	ShoreA	ASTM D2240
Post cure: 4 h at 250 °C				
100 % Modulus	5.6	4.9	MPa	ASTM D412C
Tensile strength	18.6	15.9	MPa	
Elongation at break	229	221	%	
Hardness	69	68	ShoreA	ASTM D2240

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Property	Typical Value (with XA51)	Typical Value (with FOR M1/M2)	Unit	Test Method
Post cure: (8+16) h at 250 °C				
100 % Modulus	5.9	5.0	MPa	ASTM D412C
Tensile strength	17.2	16.1	MPa	
Elongation at break	207	218	%	
Hardness	69	69	ShoreA	ASTM D2240
Compression set 25 % deformation on O-Ring #214				ASTM D395 method B
Post cure 1 h at 250 °C	17	n. a.	%	
Post cure 4 h at 250 °C	15	14	%	
Post cure (8+16) h at 250 °C	14	13	%	

www.solvay.com

SpecialtyPolymers.EMEA@solvay.com | Europe, Middle East and Africa

SpecialtyPolymers.Americas@solvay.com | Americas

SpecialtyPolymers.Asia@solvay.com | Asia Pacific

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