

Tecnoflon® FOR 7353 (FDA Compliant)

Cure Incorporated Copolymer

Tecnoflon® FOR 7353 is a medium-low viscosity cure incorporated fluoroelastomer copolymer. Tecnoflon® FOR 7353 is well suited for applications where excellent compression set and superior mold release are required.

Some of the properties of Tecnoflon® FOR 7353 are:

- Excellent scorch safety
- Good mold flow
- Excellent mold release
- Lack of mold fouling
- FDA compliant

Tecnoflon® FOR 7353 can be used for compression and transfer moulding of O-rings, gaskets and seals. Tecnoflon® FOR 7353 can be mixed using typical fluoroelastomers compounding ingredients and mixing can be accomplished with two roll mills or internal mixers.

Tecnoflon® FOR 7353 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. Some FDA compliant compounds are reported in the tables on page 2 and 3.

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	38	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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Standard black compound (non-FDA formulation)

Test Compound	Typical Value	Unit	Test Method
Tecnoflon® FOR 7353	100	phr	
MgO–DE	3	phr	
Ca(OH) ₂	6	phr	
N-990 MT Carbon Black	30	phr	

Property	Typical Value	Unit	Test Method
Mooney viscosity ML (1+10') at 121 °C	65	MU	ASTM D1646
MDR 6 min at 177 °C arc 0.5°			ASTM D6601
Minimum torque	1.4	lb·in	
Maximum torque	24.0	lb·in	
t _{s2}	1.3	min	
t' ₅₀	1.7	min	
t' ₉₀	2.5	min	
Press cure: 10 min at 170 °C, post cure: (8+16) h at 250 °C			
100 % Modulus	7.6	MPa	ASTM D412C
Tensile strength	18.0	MPa	
Elongation at break	180	%	
Hardness	78	ShoreA	ASTM D2240
Compression set 25 % deformation, 70 h at 200 °C			ASTM D395 method B
O-ring #214	16	%	ASTM D395

Typical physical properties of some suggested FDA compliant compounds

Test Compound	Black SRF Based	Blanc Fixe Based	PTFE Based	CaCO ₃ Based	Unit	Test Method
Tecnoflon® FOR 7353	100	100	100	100	phr	
MgO–DE	3	3	3	3	phr	
Ca(OH) ₂	6	6	6	6	phr	
Carnauba wax	1	1	1	1	phr	
BaSO ₄	30	65	–	–	phr	
SRF N772 Carbon Black	10	–	–	–	phr	
Algoflon® L 101X (PTFE)	–	–	30	–	phr	
CaCO ₃ SOLCAL N2	–	–	–	30	phr	
TiO ₂	–	5	5	5	phr	

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Property	Black SRF Based	Blanc Fixe Based	PTFE Based	CaCO ₃ Based	Unit	Test Method
Mooney viscosity ML (1+10') at 121 °C	64	68	63	70	MU	ASTM D1646
Mooney Scorch MS 135 °C						ASTM D1646
MV	26	29	24	27	lb·in	
t ₁₅	42.3	30.4	82	33	min	
MDR 6 min at 177 °C arc 0.5 °						ASTM D6601
Minimum torque	1.2	1.2	3.4	1.2	lb·in	
Maximum torque	19.5	19.7	17.5	19.2	lb·in	
t _{s2}	1.5	1.2	2.5	1.1	min	
t' ₅₀	1.8	1.4	3.1	1.3	min	
t' ₉₀	2.6	2.3	4.3	1.8	min	
Press cure: 10 min at 170 °C, post cure: (8+16) h at 250 °C						
100 % Modulus	6.1	6.2	3.0	6.9	MPa	ASTM D412C
Tensile strength	15.0	13.3	9.2	15.4	MPa	
Elongation at break	200	209	262	169	%	
Hardness	70	72	72	69	ShoreA	ASTM D2240

After heat aging 70h at 275 °C

Property	Black SRF Based	Blanc Fixe Based	PTFE Based	CaCO ₃ Based	Unit	Test Method
Press cure: 10 min at 170 °C, post cure: (8+16) h at 250 °C						
100 % Modulus	5	6.6	3.6	–	MPa	ASTM D412C
Δ 100 % Modulus	–18	6	20	–	%	
Tensile strength	11.3	11.1	6.3	12.7	MPa	
Δ Tensile strength	–25	–17	–31	–17	%	
Elongation at break	206	171	225	94	%	
Δ Elongation at break	3	–18	–14	–44	%	
Hardness	71	76	71	80	ShoreA	ASTM D2240
Δ Hardness	1	4	–1	11	ShoreA	
Δ Weight	–5.5	–5.4	–6.2	–13.8	%	
Compression set						ASTM D395 method B
25 % deformation, 70 h at 200 °C						
O-ring #214	20	23	29	26	%	
6 mm disks	14	15	25	16	%	

Food contact notification statement



Bollate 07/04/2009

To whom it may concern

STATEMENT ON SUITABILITY FOR CONTACT WITH FOODSTUFF

To the best of our knowledge on raw materials and production process used, we state that Solvay Specialty Polymers fluoroelastomer:

TECNOFLON® FOR 7353

Supplied in the original sealed packaging can be utilized for articles intended to come in contact with foodstuff according to the requirements of

US Food and Drug Administration (FDA)

- 21 CFR 177.2600 Rubber articles intended for repeated use, regarding the fluoroelastomer.
- Threshold of Regulation Exemptions, File 97-011, regarding the use of the curing system at levels up to 1.9 % by weight and the use of the curing agent at levels up to 2 % by weight.

The resultant cross-linked polymer can be destined for use in the manufacture of repeated use rubber articles that may contact food at temperatures up to 250°F (121°C).

It is the responsibility of the user to verify that all conditions and specifications outlined under the above mentioned regulations are met, and that the finished articles, manufactured according to good technology practice, are suitable for use in their intended food-contact applications.

For each country market, which the articles are introduced into, user must also verify that both the material and the articles must be in compliance with the applicable laws and regulations of the end markets.

Mario Visca
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