

Tecnoflon® PL 958

Low Temperature Peroxide Curable

Tecnoflon® PL 958 is a new generation low post cure peroxide curable fluoroelastomer. Tecnoflon® PL 958 exhibits both excellent low temperature flexibility ($TR_{10} = -24^{\circ}\text{C}$) and an outstanding resistance to a variety of chemicals. As all other Tecnoflon® peroxide curable grades, it exhibits excellent processability; moreover it needs very short post-curing cycles. Tecnoflon® PL 958 is a higher viscosity version of Tecnoflon® PL 458: please refer to Tecnoflon® PL 458 Technical data sheet for data on chemical resistance.

Some of the basic properties of Tecnoflon® PL 958 are:

- Excellent low temperature flexibility
- Low volume swell in methanol-based fuels
- Low post cure
- Superior mould flow
- Lack of mould fouling
- Excellent mould release

Tecnoflon® PL 958 can be used for compression, injection-compression and transfer molding of O-rings, gaskets and seals. Tecnoflon® PL 958 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® PL 958 can be extruded into hoses or profiles and can be calendered to make sheet stocks or belting. Finished goods may 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	1.83	g/cm ³	ASTM D792
Colour	Translucent		
Packaging / Form	Slabs		
Solubility	Ketones and esters		

Typical properties

Test Compound	Typical Value	Unit	Test Method
Tecnoflon® PL 958	100	phr	
Luperox® 101XL-45	3	phr	
Drimix® TAIC (75%)	4	phr	
ZnO	5	phr	
N-990 MT Carbon Black	30	phr	

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Property	Typical Value	Unit	Test Method
ODR 12 min at 177°C arc 3°			ASTM D2084
Minimum torque	18.3	lb·in	
Maximum torque	149	lb·in	
t _{s2}	0.8	min	
t' ₅₀	1.4	min	
t' ₉₀	1.8	min	
MDR 6 min at 177°C arc 0.5°			ASTM D6601
Minimum torque	1.9	lb·in	
Maximum torque	29.4	lb·in	
t _{s2}	0.4	min	
t' ₅₀	0.6	min	
t' ₉₀	0.8	min	
MDR 12 min at 160°C arc 0.5°			ASTM D6601
Minimum torque	2.0	lb·in	
Maximum torque	29.8	lb·in	
t _{s2}	0.7	min	
t' ₅₀	1.3	min	
t' ₉₀	2.4	min	
Press cure: 6 min at 170°C			
100 % Modulus	6.8	MPa	
Tensile strength	18.3	MPa	
Elongation at break	225	%	
Hardness	70	ShoreA	
Post cure: (1+4) h at 230°C			
100 % Modulus	7.5	MPa	ASTM D412C
Tensile strength	20.4	MPa	
Elongation at break	192	%	
Hardness	72	ShoreA	ASTM D2240
Compression set 25 % deformation, 70 h at 200°C			ASTM D395 method B
O-ring #214	18	%	
Temperature retraction			ASTM D1329
TR ₁₀	-24	°C	
TR ₃₀	-21	°C	
TR ₅₀	-19	°C	

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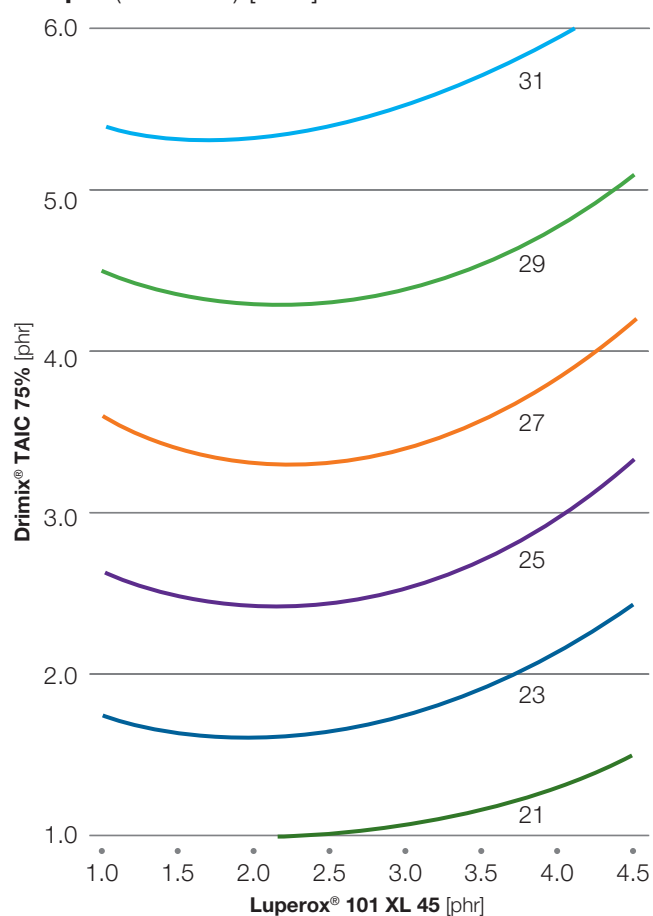
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Effect of curative levels

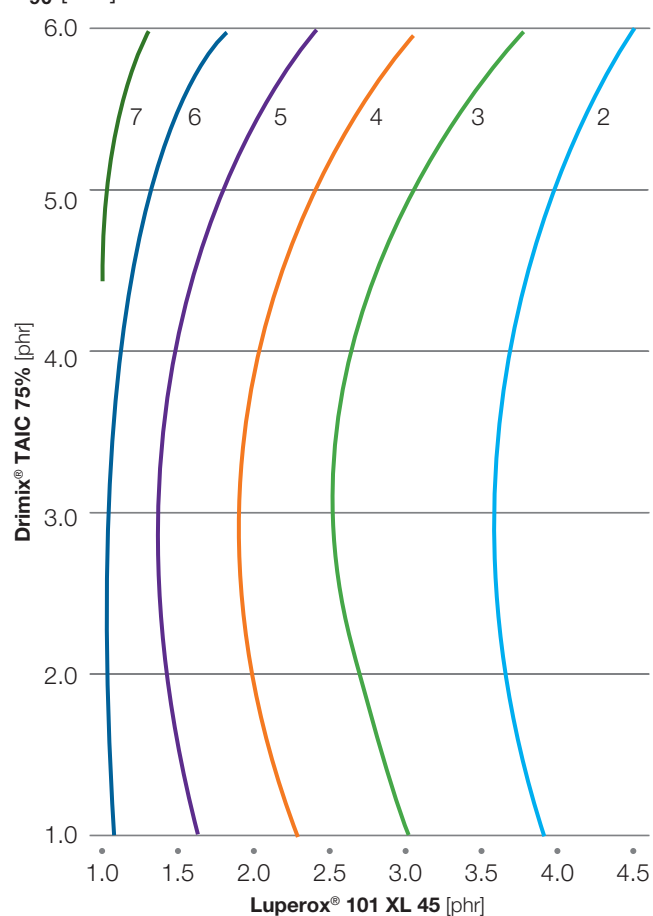
Rheological properties

Test Compound	Typical Value	Unit	Test Method
Tecnoflon® PL 958	100	phr	
Luperox® 101XL-45	See picture	phr	
Drimix® TAIC (75 %)	See picture	phr	
ZnO	5	phr	
N-990 MT Carbon Black	30	phr	

Torque (MH – ML) [lb·in]

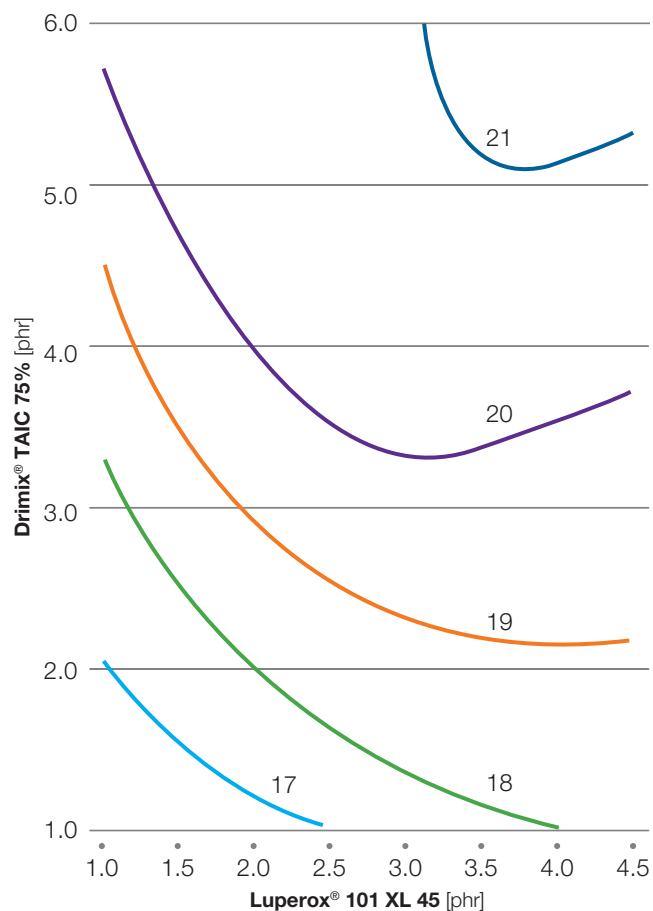


t'₉₀ [min]

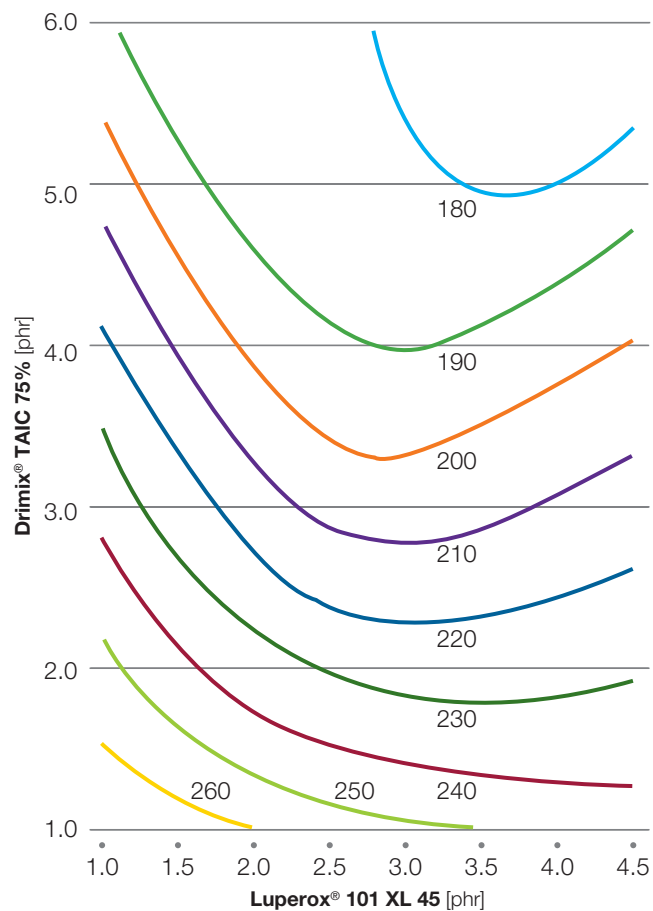


Mechanical and sealing properties after post cure (1+4) h at 230 °C

Tensile Strength [MPa]

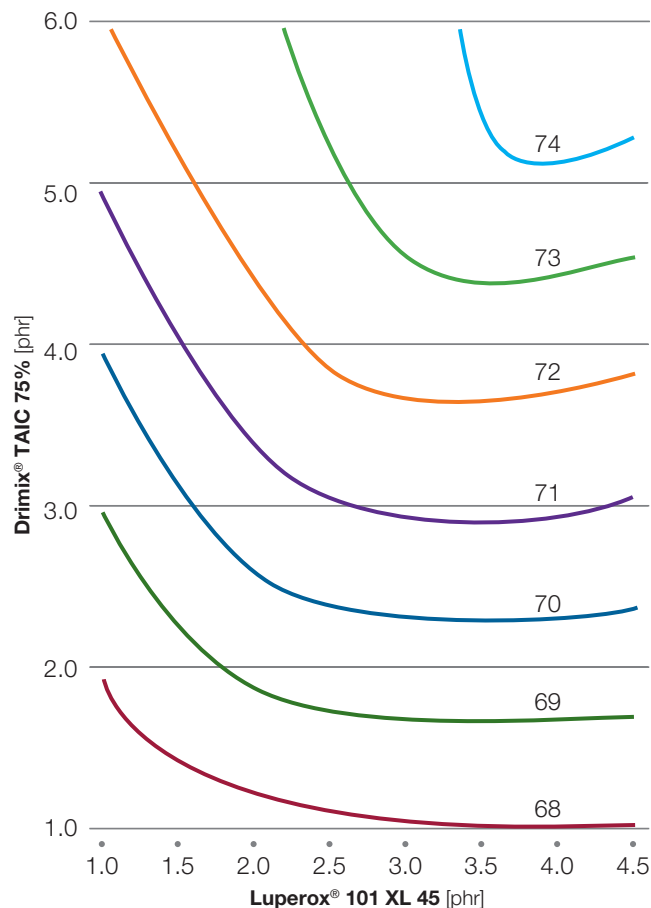


Elongation at break [%]

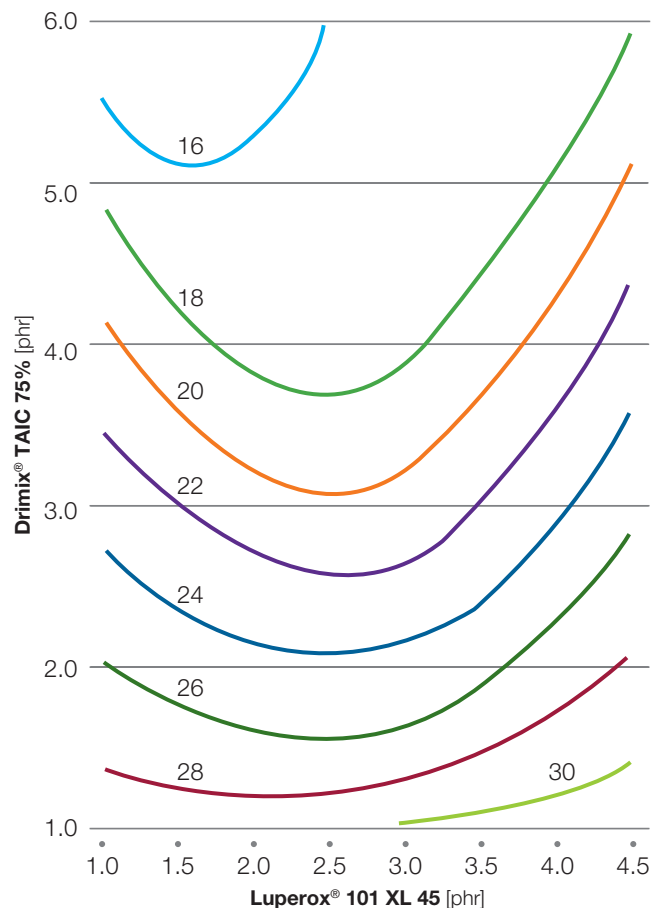


Mechanical and sealing properties after post cure (1+4) h at 230 °C

Hardness [ShoreA]



Compression set (70 h at 200°C) #214 O-Ring [%]



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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