

Tecnoflon® P 457

Peroxide Curable Terpolymer

Tecnoflon® P 457 is a low viscosity, medium fluorine (67 %), peroxide curable fluoroelastomer. Tecnoflon® P 457 exhibits superior resistance to a wide variety of chemicals, coupled with excellent processability, optimum compression set and good flexibility at low temperatures. Tecnoflon® P 457 can be cross-linked using organic peroxides in conjunction with a coagent. Tecnoflon® P 457 is a lower viscosity version of Tecnoflon® P 757: please refer to Tecnoflon® P 757 Technical Data Sheet for data on chemical resistance.

Some of the basic properties of Tecnoflon® P 457 are:

- Low post cure
- Superior mold flow
- Lack of mold fouling
- Excellent mold release
- Good chemical resistance
- Good stress relaxation
- Good metal bonding
- Good low temperature performance

Tecnoflon® P 457 can be used for injection and transfer molding of shaft seals, valve seals, O-rings, gaskets or any item requiring superior chemical resistance. Tecnoflon® P 457 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® P 457 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	21	MU	ASTM D1646
Fluorine content	67	%	Solvay Internal Method – NMR
Specific gravity	1.83	g/cm ³	ASTM D792
Colour	Translucent		
Packaging / Form	Slabs		
Solubility	Ketones and esters		

Typical properties

Property	Typical Value	Unit	Test Method
Tecnoflon® P 457	100	phr	
Luperox® 101XL-45	3	phr	
Drimix® TAIC (75 %)	4	phr	
ZnO	5	phr	
N-990 MT Carbon Black	30	phr	

Tecnoflon® P 457

Peroxide Curable Terpolymer

Property	Typical Value	Unit	Test Method
Mooney viscosity ML (1+10') at 121 °C	26	MU	ASTM D1646
Mooney Scorch MS 135 °C			ASTM D1646
MV	14	MU	
t ₁₅	8.9	min	
ODR 12 min at 177 °C arc 3°			ASTM D2084
Minimum torque	5.5	lb·in	
Maximum torque	134	lb·in	
t _{s2}	1.0	min	
t' ₅₀	1.5	min	
t' ₉₀	1.9	min	
MDR 6 min at 177 °C arc 0.5°			ASTM D6601
Minimum torque	0.53	lb·in	
Maximum torque	26.4	lb·in	
t _{s2}	0.4	min	
t' ₅₀	0.6	min	
t' ₉₀	0.9	min	
MDR 12 min at 160 °C arc 0.5°			ASTM D6601
Minimum torque	0.54	lb·in	
Maximum torque	27.1	lb·in	
t _{s2}	0.9	min	
t' ₅₀	1.5	min	
t' ₉₀	2.9	min	
Press cure: 6 min at 170 °C			
100 % Modulus	3.7	MPa	ASTM D412C
Tensile strength	16.3	MPa	
Elongation at break	279	%	
Hardness	69	ShoreA	ASTM D2240
Post cure: 4 h at 230 °C			
100 % Modulus	5.9	MPa	ASTM D412C
Tensile strength	22.8	MPa	
Elongation at break	239	%	
Hardness	72	ShoreA	ASTM D2240

Tecnoflon® P 457

Peroxide Curable Terpolymer

Property	Typical Value	Unit	Test Method
Post cure: (8+16) h at 230 °C			
100% Modulus	6.4	MPa	ASTM D412C
Tensile strength	24.1	MPa	
Elongation at break	228	%	
Hardness	72	ShoreA	ASTM D2240
Compression set 25 % deformation, 70 h at 200 °C			ASTM D395 method B
O-ring #214	12	%	
Temperature retraction			ASTM D1329
TR ₁₀	-15	°C	

www.solvay.com

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

SpecialtyPolymers.Americas@solvay.com | Americas

SpecialtyPolymers.Asia@solvay.com | Asia Pacific

Material Safety Data Sheets (MSDS) are available by emailing us or contacting your sales representative. Always consult the appropriate MSDS before using any of our products. Neither Solvay Specialty Polymers nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this product, related information or its use. Some applications of which Solvay's products may be proposed to be used are regulated or restricted by applicable laws and regulations or by national or international standards and in some cases by Solvay's recommendation, including applications of food/feed, water treatment, medical, pharmaceuticals, and personal care. Only products designated as part of the Solviva® family of biomaterials may be considered as candidates for use in implantable medical devices. The user alone must finally determine suitability of any information or products for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. The information and the products are for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right. All trademarks and registered trademarks are property of the companies that comprise Solvay Group or their respective owners.

© 2014 Solvay Specialty Polymers. All rights reserved. R 02/19/2014 | Version 2.0 Design by ahlersheinel.com



SOLVAY

asking more from chemistry®