

Vamac® DP

Ethylene Acrylic Elastomer
DuPont Performance Elastomers

Message:

DuPont™ Vamac® DP is an ethylene acrylic dipolymer elastomer. Its general performance characteristics are similar to those of the Vamac® terpolymers, including:

- Good oil and chemical resistance;
- High-temperature resistance;
- Good compression set resistance; and
- Good low-temperature flexibility

Unlike Vamac® terpolymers, Vamac® DP dipolymer can be processed without using a post cure. Typical density for Vamac® DP is 1.04 g/cc.

General Information			
Features	Good Chemical Resistance		
	High Heat Resistance		
	Low Temperature Flexibility		
	Oil Resistant		
Appearance	Orange		
Forms	Bale		
Physical	Nominal Value	Unit	Test Method
Mooney Viscosity			ASTM D1646
135°C	> 12	MU	
ML 1+4, 100°C	22	MU	
Mooney Viscosity - ML (1+4) (100°C)	43.6	µm	
MDR ¹			ASTM D5289
MH : 177°C	2.61	J	
ML : 177°C	0.103	J	
Slope : 177°C	6.00	in-lbs/m.m	
T50 : 177°C	1.1	min	
T90 : 177°C	3.6	min	
Ts2 : 177°C	0.5	min	
Mooney Scorch			ASTM D1646
t10 : 135°C	11.3	min	
t3 : 135°C	8.2	min	
TR Test - 10	-24	°C	ASTM D1329
Volatiles	< 0.4	wt%	Internal Method
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness ² (Shore A)	64		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ³ (100% Strain)	7.20	MPa	ASTM D412
Tensile Strength ⁴ (Yield)	18.2	MPa	ASTM D412

Tensile Elongation ⁵ (Break)	210	%	ASTM D412
Compression Set			ASTM D395
150°C, 72 hr	22	%	
150°C, 168 hr	23	%	
150°C, 1008 hr	43	%	
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air			ASTM D573
150°C, 168 hr	1.0	%	
100% Strain, 150°C, 168 hr	8.0	%	
150°C, 1008 hr	-5.0	%	
100% Strain, 150°C, 1008 hr	20	%	
Change in Ultimate Elongation in Air			ASTM D573
150°C, 168 hr	-1.0	%	
150°C, 1008 hr	-4.0	%	
Change in Durometer Hardness in Air			ASTM D573
Shore A, 150°C, 168 hr	7.0		
Shore A, 150°C, 1008 hr	9.0		
Change in Tensile Strength			ASTM D471
150°C, 168 hr, in ASTM #1 Oil	-1.0	%	
100% Strain, 150°C, 168 hr, in ASTM #1 Oil	6.0	%	
150°C, 168 hr, in SF105 Oil	-16	%	
100% Strain, 150°C, 168 hr, in SF105 Oil	-14	%	
150°C, 1008 hr, in Dexron® III ATF	-10	%	
100% Strain, 150°C, 1008 hr, in Dexron® III ATF	12	%	
150°C, 1008 hr, in IRM 903 Oil	-41	%	
100% Strain, 150°C, 1008 hr, in IRM 903 Oil	-12	%	
150°C, 1008 hr, in SF105 Oil	-24	%	
100% Strain, 150°C, 1008 hr, in SF105 Oil	-11	%	
Change in Ultimate Elongation			ASTM D471
150°C, 168 hr, in ASTM #1 Oil	-10	%	
150°C, 168 hr, in SF105 Oil	-10	%	
150°C, 1008 hr, in Dexron® III ATF	-18	%	
150°C, 1008 hr, in IRM 903 Oil	-31	%	
150°C, 1008 hr, in SF105 Oil	-20	%	
Change in Durometer Hardness			ASTM D471
150°C, 168 hr, in ASTM #1 Oil	2.0		
Shore A, 150°C, 168 hr, in SF105 Oil	-8.0		
150°C, 1008 hr, in Dexron® III ATF	0.0		
Shore A, 150°C, 1008 hr, in IRM 903 Oil	-16		
Shore A, 150°C, 1008 hr, in SF105 Oil	-8.0		

Change in Volume			ASTM D471
150°C, 168 hr, in ASTM Oil #1	4.0	%	
150°C, 168 hr, in SF105 Oil	19	%	
150°C, 1008 hr, in Clorox, 10%	16	%	
150°C, 1008 hr, in IRM 903 Oil	44	%	
150°C, 1008 hr, in SF105 Oil	21	%	
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-29.0	°C	ASTM D3418
NOTE			
1.	20 mins/0.5 degree arc		
2.	Cured Properties (10 min. at 180°C)		
3.	Cured Properties (10 min. at 180°C)		
4.	Cured Properties (10 min. at 180°C)		
5.	Cured Properties (10 min. at 180°C)		

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