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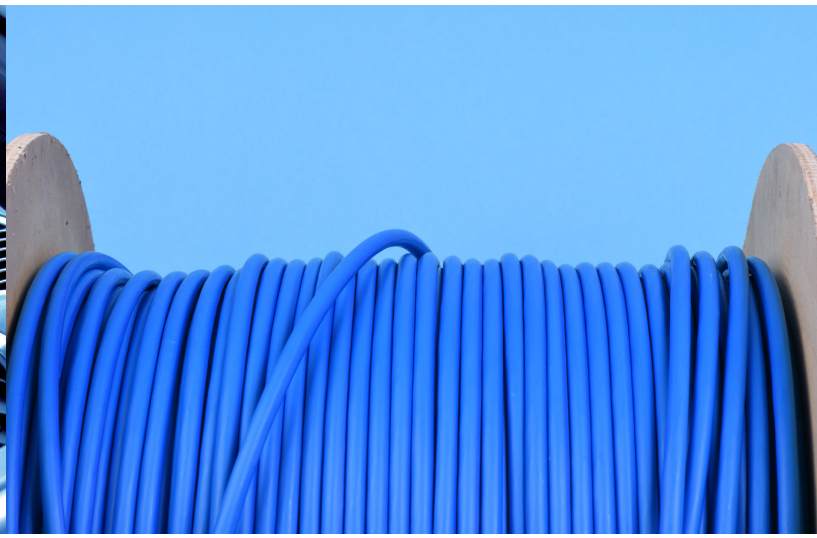


New solutions for flexible PVC products used under extreme conditions

Flexible PVC materials used in demanding applications such as automotive cables, wind turbine tray cables (WTTC) and car interior leather applications are required to meet extreme performance specifications at low temperatures. Branched trimellitates, for example, TOTM, typically exhibit poorer cold temperature performance than general purpose plasticizers, such as DIDP. For these applications, linear trimellitates are preferred.

Jayflex™ L9TM, a linear trimellitate, offers good cold flexibility performance and good gelation characteristics. It does not exhibit crystallization after the plasticizer goes through its glass transition. The linearity helps reduce plasticizer volatility, improve plasticizer efficiency, low temperature flexibility and processability.

- **Excellent resistance to high temperatures**
- **Excellent cold temperature flexibility, better than branched trimellitates**
- **Excellent extraction / migration resistance, low migration into PU foam**
- **Superior fogging performance**
- **Low viscosity improves processability compared to branched C9 trimellitate**

Applications

Flexible PVC materials used in demanding applications:

- Automotive cable Class C (3000 h 125°C)
- Wind turbine tray cables, plenum cables
- Interior automotive
- Refrigerator gaskets

Performance data

Jayflex™ L9TM offers a unique balance of performance relative to other branched-and linear trimellitates.

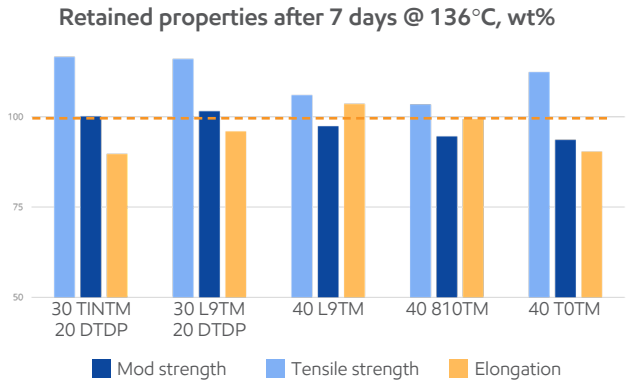
	Branched		Linear	
Plasticizer	**TOTM**	**Jayflex TINTM**	**Jayflex L9TM**	**L810TM**
Viscosity (mPa.s, 20°C) ASTM D445	295	422	161	139
Density (g/cm3, 20°C) ASTM D4052	0.989	0.978	0.973	0.973
Molecular weight (calculated)	547	589	589	589
Low temperature performance	+	=	++	++
Weight loss	=	++	+++	+++
Fogging	=	+	+++	++
Cold T° flexibility	=	+	++	++
Low extraction / migration	+	++	++	++
Efficiency factor	1.17	1.27	1.20	1.17
Dry blend time (function of plasticizer viscosity, solvency power)	=	−−	−	−

Jayflex L9TM exhibits very low fogging compared to DIDP.

Plasticizer	VDA 278 FOG in ppm	VDA 278 VOC in ppm	DIN 75201B gravimetric in mg	DIN 75201A retained gloss %
Jayflex DIDP	116	396	0.7	80
Jayflex L9TM	64	158	0.28	92

Jayflex L9TM performance in wire & cable

- Jayflex L9TM and L810TM have similar weight loss, better than branched trimellitate
  - Decreased volatility leads to better retained properties
- Improved Clash-Berg compared to TINTM, same as L810TM (low temp property)
- Performance attributes enable other extreme performance W&C applications
  - Automotive cable Class C application (3000 h 125°C)
  - Plenum and WTTC (low temp requirements)



Plasticizer (PHR)	L9TM (30) DTDP (20)	TINTM (30) DTDP (20)	L9TM (40)	L810TM (40)	TOTM (40)
Shore A	93	94	95	93	94
Shore D	38	41	46	45	45
Weight loss (7 days @ 136°C), wt%	4.4	4.5	0.8	0.7	3.1
Clash Berg (T_F, °C)	-32	-23	-20	-22	-9

Data from tests performed by or on behalf of ExxonMobil.

Visit us for more information:
exxonmobilchemical.com/en/products/plasticizers

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