

# VECTOR 7400

## Styrene-Butadiene-Styrene (SBS) Block Copolymer

- Oil extended SBS<sup>(1)</sup> block copolymer.
- Contains <1% diblock copolymer and ~33% mineral oil.
- Medium styrene, low viscosity, low modulus copolymer.
- Outstanding thermal stability and melt processability.
- Supplied as a porous pellet, dusted with talc.
- VECTOR styrenic block copolymers find use under certain regulations as articles or as ingredients in articles intended for food contact or medical applications. Please contact your Dexco Polymers agent for a detailed letter of certification or further information.

VECTOR 7400 styrene-butadiene-styrene block copolymer is produced via proprietary sequential anionic polymerization technology from Dexco Polymers LP, a Dow/ExxonMobil Venture. It is formulated with the antioxidant TNPP (tris(nonylphenyl) phosphite).

It is the softest SBS triblock and is highly elastic. It has moderate physical strength and good melt processability. It is designed for use as an impact modifier in styrenics and in elastomeric film compounds.

<b>Properties</b>			
<b>Polymer Properties</b>	<b>Test Method</b>	<b>Unit</b>	<b>Typical Values <sup>(2)</sup></b>
Styrene ( <i>polymer basis</i> )	Dexco Method	Wt. %	31
Diblock Content	Dexco Method	Wt. %	<1
Melt Flow Rate <sup>(3)</sup>	ASTM D 1238	dg/min	18
Mineral Oil Content	Dexco Method	Wt.%	33
Volatiles	Dexco Method	Wt. %	0.3
Ash	ASTM D 1416	Wt. %	0.6
<b>Physical Properties</b>			
Tensile Strength <sup>(4)</sup>	ASTM D 412	PSI (MPa)	2800 (19.3)
300% Modulus <sup>(4)</sup>	ASTM D 412	PSI (MPa)	450 (3.1)
Elongation at Break <sup>(4)</sup>	ASTM D 412	%	1300
Hardness <sup>(5)</sup>	ASTM D 2240	Shore A	47
Specific Gravity	ASTM D 792		0.90
<b>Elastic Properties</b>			
Peak Force @ 500% strain	Stress Relaxation <sup>(6)</sup>	PSI (MPa)	590 (4.1)
Set after 500% strain	Stress Relaxation <sup>(6)</sup>	%	12.8
Peak Force @ 200% strain (A)	Stress Relaxation <sup>(6)</sup>	PSI (MPa)	175 (1.2)
Relaxation @ 200% strain	Stress Relaxation <sup>(6)</sup>	%	13.4
Unload @ 50% strain (B)	Stress Relaxation <sup>(6)</sup>	PSI (MPa)	75 (0.5)
Ratio (A:B)	Stress Relaxation <sup>(6)</sup>		2.4

- (1) "SBS" denotes linear styrene-butadiene-styrene block polymer.
- (2) Typical values, intended only as guides, and should not be construed as specifications.
- (3) Condition 200°C/5 kg.
- (4) Tested on roll milled/compression molded plaques (0.035" thick). Tested in the transverse direction.
- (5) 1 sec. dwell.
- (6) Described in US 7,445,831 patent. Tested on roll milled/compression molded plaques (0.035" thick). Tested in the transverse direction at room temperature.

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