

SBR 1009 and 4503 elastomers for adhesives and mastics

Value and performance for construction applications

Construction and other adhesive and sealant manufacturers can count on SBR 1009 and SBR 4503 styrene butadiene rubber to markedly raise the performance of their products while minimizing costs. These crosslinked polymers are excellent for use in construction adhesives and mastics-improving adhesion to various substrates. They offer well controlled expansion and sag resistance when used with other low molecular weight polymers.

SBR 1009 produces a smooth, non-stringy adhesive that breaks clean when gunned or troweled in place. Its cohesive strength can be improved by blending it with another elastomer, SBR 1013. SBR 4503 is crosslinked to the same degree as SBR 1009 polymer, but it contains higher bound styrene (30%). It is emulsified with rosin acid and offers excellent cohesive strength and green tack. Because of their excellent value and performance characteristics, they are used in many popular products currently on the market.

APPLICATIONS

- Interior caulk
- Sprayable adhesives
- Construction mastics and adhesives
- Wall tile adhesives
- Laminating and panel adhesives
- Pressure sensitive adhesives

A GOOD MARRIAGE OF ELASTOMERS

When formulated together, SBR 4503 and SBR 1009 offer a good balance of tackiness, hardness, viscosity, smoothness and solvent solubility. Additionally, both polymers improve performance of formulations with SBS copolymer to achieve low-temperature flexibility, adhesion to more substrates and better filler extension. This further demonstrates the versatility and excellent performance of both elastomers.



BENEFITS

- Enhances adhesion to a variety of substrates (drywall, subfloor, wood trim, ceiling tiles, carpet tiles, plywood, polystyrene foam, fiberboard, etc.)
- Produces a smooth, extruded bead that is easy to break off
- Fast setting
- Low cost, highly extendable
- SBR 4503 together with SBR 1009 gives good balance of tackiness, hardness, viscosity, smoothness and solvent solubility
- Proven performance



SBR 1009 and 4503 elastomers

Crosslinked styrene butadiene rubber

TYPICAL PROPERTIES

SBR 1009

Emulsifier:	Fatty acid
Stabilizer:	Non-staining
Coagulants:	Acid
% of bound styrene:	23.5
% of shrinkage:	35 Max

SBR 4503

Emulsifier:	Rosin acid
Stabilizer:	Non-staining
Coagulants:	Acid
% of bound styrene:	30.0
% of shrinkage:	35 Max

SBR 1009 formulation

Floor and wall tile mastic	
Ingredients, PHR	
SBR 1009	75
SBR 1013	25
Calcium Carbonate	40
Dixie Clay	120
Coumarone Indene	45
Piccolyte A 135	50
Antioxidant 2246	2
Hexane	200
Total	557

SBR 4503 formulations

Floor and wall tile mastic	
Ingredients, PHR	
SBR 4503	100
CaCO ₃	40
Dixie Clay	120
Coumarone Indene	45
Piccolyte A 135	50
Antioxidant 2246	2
Hexane	200
Total	557

Construction mastic	
Ingredients, PHR	
SBR 4503	50
SBR 1102	50
Kaolin Clay	130
Calcium Carbonate	130
Pentalyn H	123
Antioxidant 2246	2
Heptanes	157
Toluene	104
Total	746

Viscosity of SBR 4503 in various solvents (cP) at room temperature

	Toluene	Xylene	CycHex	Benzine ³	IBIB ²	TBAc ¹
5%	3520	2225	206	196	626	10
7.5%	18260	18060	3725	1248	1162	68
10%	44250	42440	19750	3135	6180	638
12.5%	146300	112600	53600	8960	25500	3200
15%	too high	too high	too high	107400	374600	17200

Viscosity of SBR 1009 in various solvents (cP) at room temperature

	Toluene	Xylene	CycHex	Benzine ³	IBIB ²	Hexane	Heptane	TBAc ¹
5%	988	956	247	18	488	6	8	12
7.5%	7070	5880	2125	220	3100	8	10	20
10%	71000	62400	21200	1230	33600	18	24	46
12.5%	114200	151200	61600	14100	62200	52	175	300
15%	170000	186800	111200	40800	too high	320	306	3500

¹ TBAc = Tertiary Butyl Acetate

² IBIB = Isobutyl Isobutyrate

³ Benzine = Petroleum Distillate

FOR MORE INFORMATION

Contact your Lion Elastomers Account Representative or Technical Service, or visit www.lionelastomers.com.



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