



Lion Elastomers LLC

1615 Main Street • P.O. Box 667 • Port Neches, TX 77651
800 / 535-9960 • www.lionelastomers.com

SBR 1904 Elastomer

Product Data

SBR 1904 high styrene master batch elastomer is excellent for improving hardness and/or stiffness in shoe soles, floor tile, rolls, sporting goods, extrusions and hard rubber compounds. It is also used in tires to provide stiffeners in apex compounds, and is an essential component of certain sponge compounds. It also helps control the expansion/size of blown sheets.

Unique Features

- ▶ Cold polymerized styrene-butadiene elastomer
- ▶ High styrene master batch
- ▶ No added extender oil

Applications

- ▶ Shoe soles, floor tile and mechanical rubber goods
- ▶ Sporting goods, extrusions and rolls
- ▶ Sponge compounds and blown sheets

Typical Properties

| <u>Property</u> | <u>Test Method*</u> | <u>Typical</u> |
|-----------------------------------------|---------------------|----------------|
| High styrene resin, parts | — | 150 |
| SBR 1502, parts | — | 100 |
| Mooney viscosity, MML 1+4 (100°C) | — | 40 - 60 |
| Bound Styrene, Weight % | — | 59 - 61 |
| Organic acid, Weight % | — | 3.6 – 5.6 |
| Soap, Weight % | — | 0.50 Max. |
| Ash, Weight % | — | 1.50 Max. |
| Volatile matter, Weight % | ZS 1008K | 0.75 Max. |
| Emulsifier | — | Fatty acid |
| Coagulant | — | Acid |
| Stabilizer | — | Non-staining |
| Specific gravity, g/cc (pellets)..... | ASTM D-792 | 0.99 |
| Physical form**, lbs/box | — | 50.0 (22.7 kg) |

SBR 1904 is a high styrene master batch with 60 weight percent bound styrene. It is intended to improve hardness/stiffness in a variety of rubber goods such as shoe soles, floor tiles and other mechanical rubber goods.

* Company Test Methods

** This product is available in 50 lb boxes supplied in pellet form and shipped stretch wrapped on a wooden pallet.

Note: Antioxidant is added to this polymer to provide protection during manufacture and storage. The end user's process may require additional antioxidant protection.

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Rheometric Properties (MDR 2000 rheometer)

| <u>Property</u> | <u>Result</u> |
|---------------------------------|----------------------|
| M _L lbf-in | 0.0 - 1.6 |
| dN-m | 0.0 - 1.8 |
| M _H lbf-in | 2.8 - 6.8 |
| dN-m | 3.2 - 7.7 |
| t _s 1, minutes | 7.0 - 13.0 |
| t' 50, minutes | 7.7 - 14.7 |
| t' 90, minutes | 12.4 - 22.4 |

| <u>MRG Test Recipe (ASTM 3186)</u> | <u>Weight</u> | <u>Reference Material</u> |
|-------------------------------------------|----------------------|--------------------------------------|
| SBR 1904 HSMB elastomer | 100.0 | |
| SBR 1502 | 60.0 | |
| Zinc oxide | 3.0 | IRM 91A |
| Sulphur | 1.45 | NIST SRM 371 |
| Stearic acid | 1.0 | NIST SRM 372 |
| TMTD | 0.35 | |
| TBBS | 1.69 | NIST RM 8384 |

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