

SIP-1111 PolyExtend™ builds on the proven SIP-1111™ chemistry to deliver a high-performance, bio-based enhancer for polymer-modified asphalt, enabling producers to achieve premium grades with less polymer while maintaining exceptional workability and compaction. By activating the aged binder within RAP and improving the distribution and efficiency of SBS networks, PolyExtend™ enhances MSCR performance, boosts grade range by 6–12 °C at low dosages, and reduces odors during production. This rejuvenating action slows oxidation, improves ΔT_c , and provides reliable cold-end reinforcement without compromising high-temperature performance. As a result, PolyExtend™ offers asphalt producers a cost-effective, eco-forward solution that increases recycled content, accelerates polymer dissolution, and delivers consistent, high-quality binder performance across a wide range of mixes.

SIP 1111 CHARACTERISTICS

OXIRANE OXYGEN	2.6 %
IODINE VALUE	1.5%
ACID VALUE	0.5% max
COLOR (APHA)	150 max
MOISTURE	0.10 max
MOLECULAR WEIGHT (APPROX.)	1000
SPECIFIC GRAVITY	0.947
CAS NO.	8013-07-8

PRODUCT USES:

- Improves the efficiency of polymer modification, enabling reduced SBS/PPA usage
- Enhances MSCR performance and extends PG grade range at low dosages
- Activates aged RAP binder to increase recycled content in PMA mixes
- Accelerates polymer dissolution and improves plant workability
- Strengthens low-temperature performance and improves ΔT_c

ADDITIVES PERFORMANCE IN ASPHALT:

In a recent county project, PolyExtend was added at 1.5 % by binder weight to a PG58H-28 polymer-modified mix containing 25 % RAP. The addition of PolyExtend improved polymer network efficiency, allowing the contractor to reduce SBS content while still achieving a PG58H-34 grade target. Field crews reported excellent compaction, improved workability at the plant, and faster polymer dissolution during production. The final pavement exhibited stronger low-temperature performance, a more favorable ΔT_c , and stable MSCR behavior, all while delivering measurable cost savings through reduced polymer usage. PolyExtend provided a seamless, drop-in improvement to the existing PMA workflow and delivered a cleaner, more consistent binder across the entire project.

PACKAGING SIZE:

- 55-gallon Drums
- 275-gallon Tote
- Tanker (45,000 lbs.)
- Rail (185,000 lbs.)

STORAGE AND HANDLING:

Shelf Life: 2 years with proper storage and handling.

Materials for Construction: Compatible with carbon steel, 304/316 stainless steels, polyethylene, PVC, CPVC. Temperature limits for non-metallic materials should be considered.

Storage Conditions: Ambient temperatures are ideal. Avoid prolonged storage above 180°F.

Heating Methods: Use low-pressure steam (<15 PSIG) or electric blanket heating. Keep surface contact temperature with SIP 1111 below 250°F.

Temperature Tolerance: Short-term exposure to 250°F is acceptable, but long-term exposure leads to polymerization.

Pump Selection: Centrifugal, gear, or diaphragm pumps suitable.

