

TECHNICAL DATA SHEET

POLYMER MODIFIED BITUMEN (PMB)

SBS Elastomer Modified — EN 14023 Compliant
Document No: ATB-TDS-PMB-2026-001 | Rev: 01 | Date: 21.08.2026

1. PRODUCT IDENTIFICATION

Product Name	Polymer Modified Bitumen (PMB)
Generic Name	SBS Elastomer Modified Bitumen
Available Grades	PMB 25/55-65 PMB 45/80-65 PMB 45/80-55
Base Bitumen	Penetration Grade 50/70 or 70/100 (producer specification)
Polymer Type	Styrene-Butadiene-Styrene (SBS) Block Copolymer, linear and/or radial
Polymer Content	3 – 7 % by weight (grade dependent)
Applicable Standards	EN 14023:2010, TS EN 14023, KGM Modifiye Bitüm Teknik Şartnamesi
Origin	Türkiye
Supplier	ATABAŞ GLOBAL DIŞ TİCARET ANONİM ŞİRKETİ

2. PRODUCT DESCRIPTION

Polymer Modified Bitumen (PMB) is manufactured by blending selected penetration-grade bitumen with SBS (Styrene-Butadiene-Styrene) elastomeric copolymer using high-shear milling at elevated temperatures. The SBS polymer forms a cross-linked network within the bitumen matrix, significantly enhancing the binder's elastic recovery, softening point, cohesion, and resistance to permanent deformation (rutting) and thermal cracking.

The product is engineered to meet the most demanding road construction requirements in accordance with EN 14023 framework specification and the producer's quality standards. PMB provides superior performance compared to conventional penetration-grade bitumen under extreme thermal and traffic-loading conditions.

3. KEY PERFORMANCE FEATURES

- Extended high-temperature performance range with elevated softening point ($\geq 55 - 65$ °C).
- Superior elastic recovery ($\geq 60 - 70$ % at 25 °C) minimizing permanent deformation under traffic.
- Enhanced low-temperature flexibility reducing thermal cracking susceptibility.
- Improved cohesion and force ductility — better aggregate-binder adhesion.
- High resistance to ageing — retained penetration and limited softening point increase after RTFOT.
- Storage-stable formulation — homogeneous product with no phase separation.

4. TECHNICAL SPECIFICATIONS (EN 14023)

The following specification table presents the three principal PMB grades offered. All values conform to EN 14023:2010 and are aligned with KGM (General Directorate of Highways) technical specifications.

Property	Test Method	PMB 25/55-65	PMB 45/80-65	PMB 45/80-55
Penetration at 25 °C (0.1 mm)	EN 1426	25 – 55	45 – 80	45 – 80
Softening Point R&B (°C)	EN 1427	≥ 65	≥ 65	≥ 55
Force Ductility at 5 °C, 50 mm/min (J/cm ²)	EN 13589 / EN 13703	≥ 2	≥ 2	≥ 2 (at 10 °C)
Elastic Recovery at 25 °C (%)	EN 13398	≥ 70	≥ 70	≥ 60
Flash Point, COC (°C)	EN ISO 2592	≥ 250	≥ 250	≥ 235
Fraass Breaking Point (°C)	EN 12593	≤ -12	≤ -12	≤ -10
Storage Stability, 72h at 180 °C — Δ Softening Point (°C)	EN 13399	≤ 5	≤ 5	≤ 5
Dynamic Viscosity at 180 °C (mPa·s)	EN 13302	Report	Report	Report
Resistance to Hardening — RTFOT (EN 12607-1)				



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Retained Penetration (%)	EN 1426	≥ 50	≥ 50	≥ 55
Increase in Softening Point (°C)	EN 1427	≤ 8	≤ 8	≤ 10
Change of Mass (%)	EN 12607-1	≤ 0.5	≤ 0.5	≤ 0.8

Note: PMB nomenclature per EN 14023 — PMB X/Y-Z where X = lower penetration limit, Y = upper penetration limit (0.1 mm at 25 °C), Z = minimum softening point (°C).

5. APPLICATIONS

PMB 25/55-65 (Hard Grade — Heavy Duty):

Motorways, expressways, and trunk roads with heavy and channelized traffic. Airport runways and taxiways. Stone Mastic Asphalt (SMA) and thin surface courses. Bridge deck waterproofing membranes. Areas subject to extreme rutting (intersections, bus lanes, container terminals).

PMB 45/80-65 (Medium Grade — High Performance):

Urban arterial roads and collector roads with medium-to-heavy traffic. Porous asphalt (PA) and noise-reducing surface courses. Hot Rolled Asphalt (HRA) and Dense Bituminous Macadam (DBM). Industrial zone pavements and port access roads.

PMB 45/80-55 (Standard Grade — General Purpose):

General highway surfacing and binder courses. Suburban and rural roads with moderate traffic. Thin overlay and maintenance overlays. Parking areas and light industrial pavements.

6. HANDLING, STORAGE AND APPLICATION

6.1 Storage Temperature:

Store at 150 – 180 °C in insulated and agitated/circulated tanks. Do not exceed 200 °C. Continuous storage above 180 °C for extended periods will cause degradation. Do not allow product temperature to fall below 140 °C as re-heating may affect polymer network.

6.2 Maximum Storage Duration:

Recommended maximum hot storage: 5 days with agitation. For prolonged storage, allow product to cool and solidify; reheat with controlled temperature rise.

6.3 Mixing and Application Temperatures:

Parameter	PMB 25/55-65	PMB 45/80-65 & 45/80-55
Binder Temperature at Mixing	170 – 185 °C	165 – 180 °C
Aggregate Temperature at Mixing	175 – 195 °C	170 – 190 °C
Laying Temperature (min.)	≥ 150 °C	≥ 145 °C
Compaction Temperature (min.)	≥ 130 °C	≥ 125 °C

6.4 General Precautions:

Ensure all equipment (tanks, pipelines, spreaders, pavers) is clean and free of water before introducing PMB. Never add water or moist materials to hot PMB — risk of violent foaming and boil-over. Use adequate ventilation and personal protective equipment as specified in the product Safety Data Sheet (ATB-SDS-PMB-2026-001).

7. PACKAGING AND DELIVERY

Bulk (Tanker Truck)	Standard delivery: 20 – 30 MT heated tanker, temperature maintained at 160 – 180 °C
Bulk (Vessel)	Heated cargo tanks, CIF/CFR/FOB as per contract Incoterms
Drummed (Optional)	Steel drums, 180 – 200 kg each, solid state
Big Bags (Optional)	1,000 – 1,200 kg polypropylene woven bags with PE liner, solid state

8. QUALITY ASSURANCE

All PMB products are manufactured under ISO 9001:2015 quality management systems. Each production batch is tested and accompanied by a Certificate of Analysis (CoA) confirming compliance with EN 14023 specifications. Independent third-party inspection (SGS, Bureau Veritas, Intertek, or equivalent) is available upon buyer's request at buyer's cost.



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9. REGULATORY COMPLIANCE

EN 14023:2010 — Bitumen and Bituminous Binders: Specification Framework for Polymer Modified Bitumens.
TS EN 14023 — Turkish National Adoption of EN 14023.
EN 1426 — Bitumen and Bituminous Binders: Determination of Needle Penetration.
EN 1427 — Bitumen and Bituminous Binders: Determination of Softening Point (Ring and Ball Method).
EN 12607-1 — Determination of Resistance to Hardening (RTFOT Method).
EN 13398 — Determination of Elastic Recovery of Modified Bitumen.
EN 13589 / EN 13703 — Force Ductility and Cohesion Energy.
EN 12593 — Determination of Fraass Breaking Point.
EN 13399 — Determination of Storage Stability of Modified Bitumen.
EN ISO 2592 — Determination of Flash and Fire Points (Cleveland Open Cup).
EN 13302 — Determination of Dynamic Viscosity by Rotating Spindle.
KGM (General Directorate of Highways) Modifiye Bitüm Teknik Şartnamesi.

10. SUPPLIER CONTACT INFORMATION

Company	ATABAŞ GLOBAL DIŞ TİCARET ANONİM ŞİRKETİ
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Related SDS	ATB-SDS-PMB-2026-001

SANCTIONS AND TRADE COMPLIANCE

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