

Medium-Curing Cutback Asphalt (MC)

MC-30 • MC-70 • MC-250 • MC-800 • MC-3000

In accordance with AASHTO M 82 / ASTM D2027 — Standard Specification for Cutback Asphalt (Medium-Curing Type)

1. Description

Cutback asphalts — also called liquid asphalts — result from diluting asphalt cement with petroleum distillates. They are hydrocarbon binders obtained by incorporating more or less volatile liquid fractions from crude distillation into asphalt cement. The diluents act as a vehicle and produce a lower-viscosity binder, applicable at temperatures considerably lower than hot asphalt. After application the solvent evaporates and the asphalt cement recovers its original properties.

According to curing rate, determined by the nature of the diluent used, cutback asphalts fall into three families: RC (rapid curing), cut back with naphtha or gasoline, fast-evaporating; MC (medium curing), cut back with kerosene, medium-evaporating; and SC (slow curing), cut back with low-volatility oils, slow-evaporating. The abbreviation is followed by a number indicating the kinematic viscosity grade at 60 °C: 30, 70, 250, 800 or 3000.

Medium-curing asphalts are cut back with kerosene. Their intermediate evaporation rate makes them suited to prime coats, where the binder must penetrate the granular base before curing, and to cold mixes that must remain workable for an extended period.

2. Applications

- Prime coats over granular bases and sub-bases (MC-30, MC-70).
- Tack and bond coats between layers (RC-70, RC-250).
- Single and double surface treatments (RC-250, RC-800, RC-3000).
- Cold dense-graded and open-graded mixes and stockpile mixes (MC-250, MC-800).
- Stabilisation of bases, soils and unbound surfacings (SC).
- Seal coats and crack sealing.

3. Specifications

Property	Method	MC-30	MC-70	MC-250	MC-800	MC-3000
Kinematic viscosity at 60 °C (mm ² /s)	T 201	30–60	70–140	250–500	800–1,600	3,000–6,000
Flash point, Tag open cup (°C), min.	T 79	38	38	66	66	66
Water content (%), max.	T 55	0.2	0.2	0.2	0.2	0.2
Distillation — percentage of total distillate to 360 °C						
Distillate to 225 °C, % of total distillate	T 78	0–25	0–20	0–10	—	—
Distillate to 260 °C, % of total distillate	T 78	40–70	20–60	15–55	0–35	0–15
Distillate to 316 °C, % of total distillate	T 78	75–93	65–90	60–87	45–80	15–75
Residue from distillation, % by volume, min.	T 78	50	55	67	75	80
Tests on the distillation residue						
Absolute viscosity at 60 °C (poises)	T 202	300–1,200	300–1,200	300–1,200	300–1,200	300–1,200
Ductility at 25 °C, 5 cm/min (cm), min.	T 51	100	100	100	100	100
Solubility in trichloroethylene (%), min.	T 44	99.0	99.0	99.0	99.0	99.0

Requirements of AASHTO M 82 / ASTM D2027. Flash point is determined in the Tag open cup (38 °C = 100 °F; 66 °C = 150 °F). Absolute viscosity of the residue is expressed in poises (300–1,200 P = 30–120 Pa·s); at the purchaser's option it may be replaced by penetration of the residue at 25 °C, 100 g, 5 s, of 120 to 250 (0.1 mm). If ductility at 25 °C is less than 100 cm, the material is accepted if its ductility at 15 °C exceeds 100 cm. The spot test is not part of ASTM D2027 and is optional in AASHTO M 82; it is performed only where the specification requires it. Equivalent ASTM methods: D2170 (kinematic viscosity), D1310 (Tag flash point), D95 (water), D402 (distillation), D2171 (absolute viscosity), D113, D2042.

4. Storage and transport

Liquid asphalt shall be stored in tanks suitable for the purpose, fitted with vent openings that prevent them from operating under pressure, and with the necessary measuring and safety devices located at easily accessible points. They must also have a suitable valve for taking samples.

Where storage tanks have no loading means of their own, the tankers used for transport must be equipped with pneumatic or

mechanical means appropriate for the rapid transfer of their contents. Where transfer pumps are used, rotary pumps are preferred to centrifugal pumps, and transfer from the tank truck to the tank must always be by direct piping. **FLAMMABILITY WARNING:** cutback asphalts are flammable liquids. Keep all ignition sources away, earth transfer equipment and do not carry out hot work on tanks that have contained the product. Consult the Safety Data Sheet before any operation.

5. Packaging and logistics

In bulk in tank trucks from 9 to 35 t · 200 kg steel drums · 1,000 L IBCs. All packages are labelled in accordance with GHS bearing the flammability pictogram. HS code: 2715.00.

6. Quality control

Every batch shipped is accompanied by a laboratory-issued quality certificate reporting the tests required by the applicable standard, with traceable batch identification. Additional testing or independent third-party inspection (SGS, Bureau Veritas, Intertek, Cotecna) at origin or destination can be arranged at the customer's request.

Consult the product Safety Data Sheet (SDS) before handling.

The information in this data sheet is offered in good faith, based on PRO-ROAD®'s technical knowledge of its products and on the requirements of the standards cited. It does not constitute a sales specification or a warranty of results. The customer is responsible for verifying the suitability of the product for its intended use, for its correct handling and for its application in accordance with project specifications. Values guaranteed per batch are certified in the corresponding quality certificate.

