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| State: California | Materials: Re: Section 92 and Special Provisions |
| Date Last Reviewed: 11/17/25 | Web Address: https://dot.ca.gov/-/media/dot-media/programs/design/documents/2025_stdspecs.pdf |
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| Asphalt Binder | | |
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| Section 92-1 | Description | Asphalt binder suppliers must comply with the Department's Certification Program for Suppliers of Asphalt. 'Certificates of Compliance' shall accompany each shipment of asphalt to each job. Certificates shall include: name and location of supplier, grade of the asphalt, the date and time of shipment, shipment number, and certification statement. . |
| | PMA's | None. |
| | Exclusions | Do not modify PG modified asphalt binder using polyphosphoric acid. Crumb rubber must be derived from waste tires described in Pub Res Code § 42703 and must be free from contaminants including fabric, metal, minerals and other non-rubber substances. PG modified asphalt binder modified with crumb rubber must be homogenous and must not contain visible particles of crumb rubber. The supplier of PG modified asphalt binder with crumb rubber must: 1) Report the amount of crumb rubber by weight of asphalt binder 2) Certify a minimum of 10% of crumb rubber by weight of asphalt binder. |

| <i>California</i> | | Table 1: Requirements for Performance-Graded Asphalt Binders (Note 6) | | | | | | |
|--|-------------------------|--|-----------------------------------|-----------|----------|----------|----------|----------|
| Property | | Test Method: AASTHO (T), ASTM (D) or other | Requirements by Performance Grade | | | | | |
| | | | 58-22 (1) | 58-16 (2) | 64-10 | 64-16 | 64-28 | 70-10 |
| ORIGINAL | | | | | | | | |
| Flash Point, °C | | T48 | 230 min. | | | | | |
| Rotational Viscosity, Pa·s (3) | 135 °C | T316 | 3.0 max. | | | | | |
| Dynamic Shear, kPa (G*/sin δ, 10 rad./sec) | At Grade Temperature | T315 | 1.00-2.00 | | | | | |
| Solubility, % (5) | | T44 | 99 min. | | | | | |
| RTFO RESIDUE | | T240 | | | | | | |
| Mass Change, % | | T240 | 1.00 max. | | | | | |
| Dynamic Shear, kPa (G*/sin δ, 10 rad./sec.) | At Grade Temperature | T315 | 2.20 min. | | | | | |
| Ductility, cm | | T51 | 75 min. | | | | | |
| PAV RESIDUE | | R28 | 100 °C | | | | | 110 °C |
| Dynamic Shear, kPa (G* · sin δ, 10 rad./sec.) | At Test Temperature | T315 | 22°C (4) | 25°C (4) | 31°C (4) | 28°C (4) | 22°C (4) | 34°C (4) |
| | | | 5000 max. | | | | | |
| Creep Stiffness, MPa | At Test Temperature | T313 | -12°C | -6°C | 0°C | -6°C | -18°C | 0°C |
| | | | 300 max. | | | | | |
| M-Value | | | 0.300 min. | | | | | |
| NOTES | | <ol style="list-style-type: none"> For use as asphalt rubber base stock for high mountain and high desert area. The engineer will waive this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards. Used for mixtures containing more than 15% and up to 25% RAP, where a grade adjustment (step-down) from PG 64-10 to PG 58-16 is required. | | | | | | |

TABLE 1 NOTES CONTINUED ON PAGE 2

To ensure the most accurate and current information, the specific agency should be contacted.



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| TABLE 1 NOTES CONTINUED | <ol style="list-style-type: none"> 4. Test the sample at 3 °C higher if it fails at the specified test temperature. $G^*/\sin \delta$ shall remain 5000 kPa maximum. 5. The engineer will waive this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt". 6. Requirements in addition to M320 are shown in red. |
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| <i>California</i> | | Table 2: Requirements for Performance-Graded Modified Asphalt Binders (6) | | | |
|--|----------------------|--|-----------------------------------|-----------|---------------|
| Property | | Test Method: AASHTO (T), ASTM (D) or other | Requirements by Performance Grade | | |
| | | | 58-34 M | 64-28 M | 76-22 M |
| ORIGINAL | | | | | |
| Flash Point, °C | | T48 | 230 min. | | |
| Rotational Viscosity, Pa·s (1) | 135 °C | T316 | 3.0 max. | | |
| Dynamic Shear, kPa ($G^*/\sin \delta$, 10 rad./sec) | At Grade Temperature | T315 | 1.00 min. | | |
| Solubility, % | | T44 (3) | 97.5 min. | 97.5 min. | 97.5 min. (4) |
| RTFO RESIDUE | | | | | |
| Mass Change, % | | T240 | 1.00 max. | | |
| Dynamic Shear, kPa ($G^*/\sin \delta$, 10 rad./sec.) | At Grade Temperature | T315 | 2.20 min. (2) | | |
| Phase Angle, δ | | | 80 max. | | |
| Elastic Recovery, % (5) | 25 °C | T301 | 75 min. | 75 min. | 65 min. |
| PAV RESIDUE | | | | | |
| | | R28 | 100 °C | | 110 °C |
| Dynamic Shear, kPa ($G^* \cdot \sin \delta$, 10 rad./sec.) | At Test Temperature | T315 | 16 °C | 22 °C | 31 °C |
| | | | 5000 max. | | |
| Creep Stiffness, MPa | At Test Temperature | T313 | -24 °C | -18 °C | -12 °C |
| M-Value | | | 300 max. | | |
| | | | 0.300 min. | | |
| NOTES | | <ol style="list-style-type: none"> 1. The engineer will waive this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards. 2. Test temperature is the "temperature at which $G^*/\sin \delta$ equals 2.2 kPa". A graph of $\log G^*/\sin \delta$ plotted against temperature can be used to determine the test "temperature at which $G^*/\sin \delta$ is 2.2 kPa". A graph of δ versus temperature can also be used to determine δ at "temperature at which $G^*/\sin \delta$ is 2.2 kPa". The graph must have at least 2 points that envelope $G^*/\sin \delta$ of 2.2 kPa and the test temperature must not be more than 6 degree C apart. Direct measurement of δ at the "temperature at which $G^*/\sin \delta$ is 2.2 kPa" is also acceptable. 3. The Department allows ASTM D5546 or ASTM D7553 instead of AASHTO T44. Particles recovered from ASTM D5546 or ASTM D7553 or AASHTO T44 must be less than 250 μm. 4. Report only for spray application. 5. Test can be performed without force ductility clamp. 6. Requirements in addition to M320 are shown in red. | | | |

To ensure the most accurate and current information, the specific agency should be contacted.

