



Designation: ~~D517–98 (Reapproved 2008)~~ D517 – 98 (Reapproved 2015)

Standard Specification for Asphalt Plank¹

This standard is issued under the fixed designation D517; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

- 1.1 This specification covers asphalt plank used for bridge decks as well as for industrial floors.
- 1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.
- 1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Classification

- 2.1 *Type I, a*—Plain, butt-edge asphalt plank for use as an industrial flooring.
- 2.2 *Type I, b*—Plain, butt-edge asphalt plank for use on a railroad bridge as a waterproofing system protection layer.
- 2.3 *Type II*—Ship-lap edge asphalt plank for use on a railroad bridge as a waterproofing system protection layer.

3. Ordering Information

- 3.1 The user should state the type and dimensions in the purchase order. If no type is specified, Type I shall be furnished.

4. Materials and Manufacture

- 4.1 Asphalt plank shall be formed from a mixture of asphalt, fibers, modifiers, or a combination thereof, and mineral filler in such a manner as to produce a uniformly dense mass.
- 4.2 In the case of Type II asphalt plank, the edges of the planks shall be of a lap joint configuration.

5. Requirements

- 5.1 *Asphalt*—The asphalt cement shall have such characteristics that when combined with the other ingredients, a plank meeting the requirements of this specification will result.
- 5.2 *Fiber*—The fibrous material shall consist of finely divided threads or any natural or synthetic fiber (except asbestos) from free lumps, and when used, shall be in a flocculent condition. The fabric and fibrous material shall be free from all foreign materials.
- 5.3 *Mineral Filler*—The mineral filler shall consist of finely crushed slate, limestone, silica, or other aggregate that has proven suitable for use with asphalt cement in constructing pavement wearing surfaces.
- 5.4 *Absorption*—The absorption of asphalt plank shall not exceed 1.0 % by weight when tested in accordance with 9.2.
- 5.5 *Brittleness*—At least 80 % of the specimens tested of each thickness of plank shall not show any detrimental cracking when tested in accordance with the method described in 9.3.
- 5.6 *Hardness*—The hardness of the plank, when tested in accordance with the method prescribed in 9.5, shall meet the following requirements:

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	Temperature, °C (°F)	Load, kg (lb.)	Penetration, mm (mils)
Type I, a	25 (77)	66 (30)	<0.889 (<35)
Type I, b	25 (77)	66 (30)	<1.651 (<65)
Type II—	25 (77)	66 (30)	<1.651 (<65)
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Type II	25 (77)	66 (30)	<1.651 (<65)

6. Dimensions, Mass, and Permissible Variations

6.1 Asphalt plank shall have the dimensions specified or shown on the plans and determined in accordance with 9.4. Tolerances of ± 1.6 mm ($\frac{1}{16}$ in.) in thickness, ± 3.2 mm ($\frac{1}{8}$ in.) in width and ± 6.4 mm ($\frac{1}{4}$ in.) in length will be permitted. Plank sizes shall be 12 in. in width by either 24 in. or 48 in. in length. Thickness shall be $\frac{1}{2}$ in., $\frac{3}{4}$ in., 1 in., or 1.5 in.

6.2 The asphalt plank shall conform to the following mass requirements.

Specimen Thickness, mm (in.)	Min. Mass, kg/m ² (lbs/ft ²)
12.7 (0.5)	0.2 (5)
19 (0.75)	0.3 (7.5)
25.4 (1.0)	0.4 (10)
37.5 (1.5)	0.6 (15)
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<u>25.4 (1.0)</u>	<u>0.4 (10)</u>
<u>37.5 (1.5)</u>	<u>0.6 (15)</u>

7. Workmanship, Finish, and Appearance

7.1 The asphalt plank shall be free from defects affecting its serviceability and appearance; it shall have straight edges and square corners.

8. Sampling

8.1 For the purpose of testing, three planks shall be selected at random by the purchaser or his representative for each 1000 planks or fraction thereof for each thickness included in the shipment.

9. Test Methods

9.1 *Scope*—The four test methods listed in this section are intended to measure those attributes necessary to measure the ability of asphalt plank to provide a reasonably long and satisfactory service. They are listed as follows:

— Test Method	Section
Absorption	9.2
Brittleness	9.3
Dimensions	9.4
Hardness	9.5
<u>Test Method</u>	<u>Section</u>
<u>Absorption</u>	<u>9.2</u>
<u>Brittleness</u>	<u>9.3</u>
<u>Dimensions</u>	<u>9.4</u>
<u>Hardness</u>	<u>9.5</u>

9.2 *Absorption:*