

Section 9.30. Flooring

9.30.1. General

9.30.1.1. Required Finished Flooring

- 1) Finished flooring shall be provided in all *residential occupancies*.

9.30.1.2. Water Resistance

- 1) Where water permeable finished flooring in bathrooms, kitchens, public entrance halls and laundry areas is supported by a subfloor of a type that would be damaged by water, such flooring shall be installed over a membrane with a water permeance not exceeding 18 ng/(Pa·s·m²) when tested in accordance with ASTM E 96/E 96M, “Water Vapor Transmission of Materials.” (See Note A-9.30.1.2.(1).)

9.30.1.3. Sleepers

- 1) Wood sleepers supporting finished flooring over a concrete base supported on the ground shall be not less than 19 mm by 38 mm and shall be treated with a wood preservative.

9.30.1.4. Finish Quality

- 1) Finished flooring shall have a surface that is smooth, even and free from roughness or open defects.

9.30.2. Panel-Type Underlay

9.30.2.1. Required Underlay

- 1) A panel-type underlay shall be provided under resilient flooring, parquet flooring, ceramic tile, felted-synthetic-fibre floor coverings or carpeting laid over lumber subflooring. (See Sentence 9.30.3.2.(1).)
- 2) Panel-type underlay shall be provided under resilient flooring, parquet flooring, felted-synthetic-fibre floor coverings or carpeting on panel-type subflooring whose edges are unsupported. (See Article 9.23.15.3.)
- 3) Panel-type underlay shall be provided under ceramic tile applied with adhesive.

9.30.2.2. Materials and Thickness

- 1) Panel-type underlay shall be not less than 6 mm thick and shall conform to
 - a) ANSI A208.1, “Particleboard,”
 - b) CAN/CGSB-11.3-M, “Hardboard,”
 - c) ANSI/HPVA HP-1, “Hardwood and Decorative Plywood,”
 - d) CSA O121, “Douglas Fir Plywood,”
 - e) CSA O151, “Canadian Softwood Plywood,”
 - f) CSA O153, “Poplar Plywood,” or
 - g) CSA O437.0, “OSB and Waferboard.”
- 2) Panel-type underlay under ceramic tile applied with adhesive shall be not less than
 - a) 6 mm thick where the supports are spaced up to 300 mm o.c., and
 - b) 11 mm thick where the supports are spaced wider than 300 mm o.c.

9.30.2.3. Fastening

- 1) Panel-type underlay shall be fastened to the subfloor with staples, annular grooved flooring nails or spiral nails, spaced not more than 150 mm o.c. along the edges and 200 mm o.c. both ways at other locations.
- 2) Nails for panel-type underlay shall be not less than 19 mm long for 6 mm thick underlay and 22 mm long for 7.9 mm thick underlay.
- 3) Staples for panel-type underlay shall
 - a) have not less than a 1.2 mm shank diameter or thickness with a 4.7 mm crown, and

- b) be not less than
 - i) 22 mm long for 6 mm underlay, and
 - ii) 28 mm long for 7.9 mm and 9.5 mm underlay.

9.30.2.4. Joints Offset

- 1) Where panel-type underlay is required to be installed over plywood, OSB or waferboard, the joints in the underlay shall be offset not less than 200 mm from the joints in the underlying subfloor.

9.30.2.5. Surface Defects

- 1) Underlay beneath resilient or ceramic floors applied with an adhesive shall have all holes or open defects on the surface patched so that the defects will not be transmitted to the finished surface.

9.30.3. Wood Strip Flooring

9.30.3.1. Thickness

- 1) The thickness of wood strip flooring shall conform to Table 9.30.3.1.

Table 9.30.3.1.
Thickness of Wood Strip Flooring
 Forming Part of Sentence 9.30.3.1.(1)

Type of Flooring	Max. Joist Spacing, mm	Minimum Thickness of Flooring, mm	
		With Subfloor	No Subfloor
Matched hardwood	400	7.9	19.0
(interior use only)	600	7.9	33.3
Matched softwood	400	19.0	19.0
(interior or exterior use)	600	19.0	31.7
Square edge softwood	400	–	25.4
(exterior use only)	600	–	38.1

9.30.3.2. Strip Direction and End Joints

- 1) Wood strip flooring shall not be laid parallel to lumber subflooring unless a separate underlay is provided.
- 2) If wood strip flooring is applied without a subfloor, it shall be laid at right angles to the joists so that the end joints are staggered and occur over supports or are end matched.
- 3) If the flooring is end matched, it shall be laid so that no 2 adjoining strips break joints in the same space between supports and each strip bears on no fewer than 2 supports.

9.30.3.3. Nailing

- 1) When nails are used, wood strip flooring shall be toe nailed or face nailed with not less than one nail per strip at the spacings shown in Table 9.30.3.3., except that face nailed strips more than 25 mm in width shall have at least 2 nails per strip.

Table 9.30.3.3.
Nailing of Wood Strip Flooring
 Forming Part of Sentence 9.30.3.3.(1)

Finish Floor Thickness, mm	Minimum Length of Flooring Nails, mm	Maximum Spacing of Flooring Nails, mm
7.9	38 ⁽¹⁾	200
11.1	51	300
19.0	57	400
25.4	63	400
31.7	70	600
38.1	83	600

Notes to Table 9.30.3.3.:

(1) See Article 9.30.3.4.

2) Face nails shall be countersunk.

9.30.3.4. Staples

1) Staples are permitted to be used to fasten wood strip flooring not more than 7.9 mm in thickness provided the staples are not less than 29 mm long with a shank diameter of 1.19 mm and with 4.7 mm crowns.

9.30.4. Parquet Flooring

9.30.4.1. Adhesive

1) Adhesive used to attach parquet block flooring shall be suitable for bonding wood to the applicable subfloor material.

9.30.5. Resilient Flooring

9.30.5.1. Materials

1) Resilient flooring used on concrete slabs supported on ground shall consist of asphalt, rubber, vinyl-asbestos, unbacked vinyl or vinyl with an inorganic type backing.

2) Flooring described in Sentence (1) shall be attached to the base with a suitable waterproof and alkali-resistant adhesive.

9.30.6. Ceramic Tile

9.30.6.1. Substrate

1) Ceramic tile shall be set in a mortar bed or applied to a sound smooth base with a suitable adhesive.

2) Panel-type subfloor to which ceramic tile is to be applied with adhesive shall have its edges supported according to Article 9.23.15.3.