

**I. STRUCTURAL FRAMING**

- A. The deflection of structural framing that supports the underlayment under all distributed or concentrated live and dead loads shall not exceed L/480 of the span.
1. Stud spacing not to exceed 16" (400 mm) on center with lateral bracing and battens. Joist sizing/construction must meet local codes and APA standards.
  2. The actual weight of materials and construction assemblies, including concentrated dead loads of fixed service and other equipment, shall be utilized as prescribed by state and local building codes to estimate dead loads for the purpose of structural design.
  3. The minimum uniformly distributed live load and minimum concentrated live loads, wherever such loads shall occur, shall be provided for as prescribed by state and local building codes.
  4. Lateral and other bracing must be constructed as prescribed by code and/or engineer to achieve specified deflection values.

**II. SHEATHING**

- A. 5/8" (15 mm) - minimum thickness for plywood panels
1. Minimum acceptable plywood grades:
    - a. Use APA Exterior structural-use sub-floor panel grade designations A-A, A-B, A-C, B-B, B-C, C-C & C-C Plugged and all Structural I panel grades;  
Note: interior plywood with exterior glue exposure durability is not acceptable.
  2. Installation
    - a. Face grain across supports –
    - b. Panel continuous over two or more spans – stagger panels (offset sheets in 4 foot staggered increments)
    - c. End joints must occur over framing members (battens)
    - d. Allow 1/8" (3 mm) space between panel ends, 1/8" (6 mm) between panel edges
    - e. Fastening:
      - i. 6" o.c. (150 mm) along ends and battens
      - ii. 8" o.c. (200 mm) along intermediate supports
      - iii. Screwed in place with galvanized fasteners able to support the weight of the entire installation system including the stone.
      - iv. Glue sheathing to stud members (with construction adhesive) – (if wood framing)

**III. LIMITATIONS**

- a. Plywood is not a suitable substrate where exposed to excessive moisture or humidity (e.g.; steamrooms, showers, Roman tubs, pools, fountains, spas, etc) or for exterior installations.
- b. Fire retardant, chemically or preservative treated plywood, masonite, hardwood, strip wood, "yellow pitch pine" plywood, composite panels, luan, wafer board, particleboard, oriented strand board/OSB, or similar engineered or reconstructed wood panels are not



suitable substrates for the direct adhesive installation of tile, stone or brick.

- c. All grout/mortar joints must be filled with a suitable flexible sealant.

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