

# Flats Flyer Bill of Materials

**LUMBER & PLYWOOD:** All plywood must be intended for marine or exterior use; interior grades are not acceptable. The marine grade panel features higher grade inner ply cores, while the exterior plywood grade cores may have voids not apparent to the eye, and may also use cores made from woods not as suitable for marine applications. In most cases, the glues used in both the marine and exterior panels are the same waterproof type, however, the decision to use exterior panels in lieu of marine panels must lie with the builder, considering the particular use of the panel in the boat and the expected service. The letters A, B and C designate the grade of the exterior veneers with A grade the best, etc. Douglas-fir plywood is acceptable for all plywood, although mahogany or other attractive veneers are preferable in many instances as described in these instructions.

All lumber should be top quality, free from defects, and of types proven in use in boats. Thicknesses are nominal except as noted "NET". *1" lumber being four quarters material, usually finished to about 3/4"*. Widths are net except 2" thick nominal members may be of nominal width also. Grouping lumber and purchasing "random-random" material to resaw to the required size will result in considerable savings. All lumber sizes should be checked to the work before purchasing wherever possible. Lumber typical to the locale and proven in use in boats of similar type can be used as long as the weight, strengths, and characteristics are similar. Suitable boatbuilding woods include white oak, mahogany (Mahog.- Philippine dark red, American, or African types commonly used in boats), Sitka spruce (SSP), Alaskan cedar, Port Orford cedar, Douglas-fir (DF), longleaf yellow pine, apitong, and teak. Total lengths allow overage for trimming, etc.

**HULL MATERIAL LISTING:** The following material listing is an estimate of the materials required to build the basic hull. The material listing is intended to serve as a general guide only and should not be used to purchase materials until the various options and alternatives have been checked to the plans, to the work, and to the materials which may be available in the area in which the hull will be built. The listing may vary due to the amount of waste and other variables that cannot be controlled.

ITEM	SIZE	LINEAL FEET
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<b>LUMBER:</b>		
Frames, deck beams	1" x 2" 1" x 3" 1" x 4" 1" x 6" 1" x 7" 1" x 9"	8' 26' 20' 14' 10' 14'
Transom cross brace	2" x 6"	8'
Keel	1" x 4"	24'
Bottom battens	1" x 3"	88'
Chine logs	1" x 1-3/4"	40'
Sheer clamps	5/8" NET x 1-1/4"	100'
Carlings, strongback verticals	1" x 3"	30'
Deck battens, strongbacks	1" x 2" 1" x 2-1/4"	100' 9'
Cockpit sole beams	1" x 2-1/2"	31'
<b>PLYWOOD:</b>		
<b>ITEM</b>	<b>SIZE</b>	<b>NO. PCS.</b>
Transom, transom knee, stem, breasthook, floor timbers, motor well	3/4" x 4' x 8'	3

Gussets	3/8" x 4' x 8'	1
Bottom planking (*)	1/4" x 4' x 8' 1/4" x 4' x 10'	4 4
Side planking (*)	3/8" x 4' x 10'	2
Decking	1/2" x 4' x 8'	4
Cockpit components	3/8" x 4' x 8'	1
Cockpit sole (*)	1/2" x 4' x 8'	3

(\*) Standard length 4' x 8' panels can be substituted for longer panels. See text for options.

#### **FASTENINGS:**

- Screws: Flathead wood type, bronze or hot dipped galvanized
- 1" #8 - 700
- 1-1/4" #8 - 700
- 1-1/2" #8 - 400
- 2" #10 - 150
- Nails: Ring type boat nails, bronze or Monel
- 1" #12 = 3 pounds
- 1-1/4" #12 - 6 pound
- Bolts: See Fastening Schedule & plans for requirements
- **Adhesives:** Epoxy adhesives are advised throughout the construction. These may be an epoxy adhesive or epoxy resin. Epoxy resins should be used with thickeners (silica or equal) per the instructions with the resin and/or thickening agent. Due to the noted options, the amount required is difficult to estimate. A gallon container of epoxy should be more than enough