

# Tempest-Fiberglass Bill of Materials

## (scroll down for plywood BOM)

The following listing is an estimate of the fiberglass materials required to build the basic hull only. 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 is only an estimate and may vary with the amount of waste encountered in the work, the sizes and types of material available, and other variables that cannot be controlled. Figures for materials listed include an overage factor or allow for fitting and trimming to size, but it is probable that additional materials may be required due to waster, defects, how the materials are utilized, etc. In all cases, check the plans and instructions for options.

### HULL LAMINATE MATERIAL- FIBERGLASS PLANKING METHOD:

- Fiberglass planking "CF-65", 12" wide: 500 square feet
- Fiberglass mat 1 oz per square foot: 4800 square feet or 300 lbs.
- Fiberglass woven roving 18 oz per square yard: 400 square yards or 450 lbs.
- Polyester non-thixotropic laminating resin with catalyst for fiberglass planking: 150 lbs. or approximately 17 gallons
- Polyester laminating resin with catalyst - 1500 lbs. or approximately 165 gallons

### HULL LAMINATE MATERIAL ESTIMATE - FOAM SANDWICH METHOD:

- 1/2" PVC foam - 300 square feet
- 5/8" PVC foam - 200 square feet
- Fiberglass mat 1 oz per square foot: 4800 square feet or 300 lbs.
- Fiberglass woven roving 18 oz per square yard: 400 square yards or 450 lbs.
- Polyester resin with catalyst:1500 lbs. or approximately 165 gallons

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# Tempest Plywood Bill of Materials

The following list of materials is intended to be a general guide only. Before ordering any materials, the text and plans should be checked for possible options. All lumber listed as 1" stock is to be standard "lumberyard four-quarter"

material which when finished may vary to somewhat less or slightly more than 3/4" in thickness, unless specified as NET. All widths are NET and all lengths allow for cutting to fit. Grouping lumber and purchasing random-random material to resaw to the required size will result in considerable savings. All lumber used should be first grade free from shakes and knots. Although oak (white oak), Sitka spruce, and mahogany (African, Honduras, or Phillipine-dark red varieties) are called out in the listing, lumber typical to the locale and of similar types and weights may be substituted. Long-leaf yellow pine is a good substitute for oak. All plywood (PW) is to be marine (MAR) or exterior (EXT) grade. The marine-type is preferable as the inner cores are solid and thus the panel has more structural integrity. Douglas-fir (DF) is satisfactory with the quality of the exposed faces of the veneer being designated by the letters "A" or "B". The "AA" grade panels are always preferable, however, "AB" grade is acceptable. All plywood should be a minimum of three plies. All fastenings should be bronze or hot dipped galvanized ferrous metal. Brass fastenings are not advised nor are the electroplated screws commonly sold in hardware stores. All screws are to be of the flat head type intended for wood. All nails are of the ring-type nail common to boat construction. Unless otherwise specified, all wood-to-wood joints are to be glued with a waterproof or highly water resistant glue such as plastic resin, resorcinol, epoxy, or other equivalent type used per the manufacturer's instructions regarding temperature, clamping requirements, curing time, and mixing method.

**CHECK ALL SIZES TO THE WORK PRIOR TO CUTTING.** Abbreviations used are: Mahog = mahogany; SP = Sitka spruce; DF = Douglas-fir; PW=plywood; Ext=exterior; MAR=marine.

ITEM	MATERIAL	NO. PCS.	SIZE
<b>LUMBER:</b>			
Transom & frame members	Mahog or DF	Random-random material as follows in as long of lengths and as wide widths as possible with some widths to 8"-- 20 bd. ft. 1" (four-quarters) 150 bd. ft. 1-1/4" (five-quarters)	
Keel	Mahog or DF	2	1"net x 6" x 18'
Bottom battens	Mahog or DF	2 2 2 2	1-1/4" x 2" x 24' 1-1/4" x 2-1/2" x 23' 1-1/4" x 2-1/2" x 22' 1-1/4" x 2-1/2" x 18'
Chine logs	Mahog or DF	2	1"net x 2-3/4" x 26'
Side battens	Mahog or DF	2 2	1-1/4" x 2" x 27' 1-1/4" x 2" x 28'

		2	1-1/4" x 2" x 29'
Sheer clamps	Mahog or DF	4	1" x 3" x 21'
Raised sheer clamps	Mahog or DF	4 2	5/8" net x 1-1/4" x 28' 5/8" net x 1-1/4" x 14'
Carling	Mahog or DF	2	1" x 3" x 21'
Deck battens	Mahog or DF	2 2 1 2	1" x 2" x 3' 1" x 2" x 5' 1" x 2" x 6' 1" x 3" x 4'
Harpin	Mahog or DF	4 4	1" x 10" x 12' 1" x 6" x 9'
Stem	Mahog or DF	2 2	1" x 9" x 7' 1" x 12" x 5'
Lift strakes	Mahog or DF	1 (makes 2) 1 (makes 2) 1 (makes 2)	1" net x 2-1/2" x 24' 1" net x 2-1/2" x 20' 2" x 4" x 20'
Rub rail	Oak or teak	2	1" x 1-3/4" x 30'
Rub rail (Transom)	Oak or teak	1	1" x 1-3/4" x 10'
Transom cross brace	Mahog or DF	1	2" x 6" x 10'
Motor stringer uprights	Mahog or DF	2 (4)*	2" x 6" x 3'
Motor stringers	Mahog or DF	2 (4)*	2" x 6" x 9'
<b>PLYWOOD:</b>			
Planking	DF MAR AA or AB	34	1/4" x 4' x 8'
Raised side planking	DF MAR AB	3	3/8" x 4' x 8'
Transom	DF Ext AB	3	1/2" x 4' x 10'**
Floor timbers, gussets	DF Ext AB	2	1/2" x 4' x 8'
Stem, breasthooks, harpin, floor timbers	DF Ext AB	2	3/4" x 4' x 8'
Decking, motor stringer lams	DF Ext AB	4	3/8" x 4' x 8'
Structural bulkheads	DF Ext AB	8	3/8" x 4' x 8'
(*) For twin engine options. **4' x 8' sheets can be substituted for longer sheets in all cases. Adjust quantities accordingly.			

**FASTENINGS:**

**Screws:** Flathead wood type, bronze or hot dipped galvanized

- 1-1/4" #8 - 8 gross
- 1-1/2" #8 - 11 gross
- 2" #10 - 9 gross
- 3" #14 - 6 dozen

**Nails:** Ring type boat nails, bronze or Monel

- 1" - 9 pounds
- 1-1/4" - 10 pounds
- 1-1/2" - 2 pounds
- 1-3/4" - 1 pound

**Carriage Bolts:** Bronze or hot dipped galvanized complete with nuts and washers. Threaded rod can be used optionally and jamming with nuts. IMPORTANT: All lengths must be checked to work. See instructions for options.

**Glue:** Epoxy - 5 gallons