

Vigilant-Fiberglass Bill of Materials

(scroll down for a 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 waste, 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 x 1000' lineal ft
- Fiberglass mat 1 oz per square foot: 9600 sq. ft. or 600 lbs.
- Fiberglass woven roving 18 oz per square yard: 8440 sq. ft. or 1055 lbs.
- Polyester non-thixotropic laminating resin with catalyst for fiberglass planking for initial coating: 350 lbs. or approximately 35 gallons
- Polyester laminating resin with catalyst: 4000 lbs. or approximately 8 drums (55 gal. size)

HULL LAMINATE MATERIAL ESTIMATE - FOAM SANDWICH METHOD

- Foam material (PVC) 3/4" thick x 1080 sq. ft.
- Fiberglass mat 1 oz per square foot: 8900 sq. ft. or 556 lbs.
- Fiberglass woven roving 18 oz per square yard: 970 lbs. or 7760 sq. ft.
- Polyester resin with catalyst: 3500 pounds or approx. 7 drums (55 gal. size)

Vigilant-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 (r-r) 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), Douglas-fir, 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; DF = Douglas-fir; PW=plywood; Ext=exterior; MAR=marine.

ITEM	MATERIAL	NO. PCS.	SIZE
LUMBER:			
Keel (deadwood)*	Mahog, Oak or DF	1	6" x 8" x 8'
		1	6" x 8" x 12'
		1	6" x 8" x 16'
		1	8" x 8" x 2'-6"
		1	8" x 8" x 6-6"
		1	8" x 8" x 15'
		1	8" x 8" x 18'
		1	8" x 8" x 21'
		1	8" x 10" x 4'
Stem & stem knee	Mahog, Oak or DF	1	4" x 12" x 10'
		1	4" x 12" x 4'
		1	4" x 12" x 3'-6"
Stem cap laminations	Mahog, Oak or DF	4	1/2" x 3" x 16'
Keel	Mahog, Oak or DF	2	2" x 12" x 35'
Keel filler strake	Mahog, Oak or DF	1	1-1/4" x 8" x 4'

Transom knee (**)	Mahog, Oak or DF	1	6" x 12" x 3'
Frame members (bottom, side & deck beam members)	Mahog, Oak or DF	3	2" x 4" x 12'
		3	2" x 4" x 16'
		11	2" x 6" x 12'
		3	2" x 6" x 14'
		3	2" x 6" x 16'
		1	2" x 6" x 18'
		5	2" x 6" x 20'
		2	2" x 8" x 16'
4	2" x 10" x 14'		
1	2" x 10" x 16'		
Floor timbers	Mahog, Oak or DF	1	3" x 10" x 16'
		1	3" x 12" x 8'
		1	3" x 12" x 16'
		1	3" x 14" x 16'
Engine stringers	Mahog, Oak or DF	2	4" x 10" x 20'
Engine stringer blocking	Mahog, Oak or DF	2	3" x 3" x 16'
Transom uprights	Mahog, Oak or DF	2	2" x 6" x 5'
Chine logs	Mahog, Oak or DF	2	2" x 5" x 42'
Spray rails	Mahog, Oak or DF	2	1" x 3" x 42'
Sheer clamps	Mahog, Oak or DF	6	1" x 3" x 44'
Rub rail	Mahog, Oak or DF	2	2" x 3" x 44'
		4	1" x 3" x 44'
Guards	Mahog, Oak or DF	2	3" x 4" x 12'
Side planking battens	Mahog, Oak or DF	2	1-1/4" x 3" x 24'
Cockpit sole clamp	Mahog, Oak or DF	2	2" x 3" x 20'
Bottom battens	Mahog, Oak or DF	4	2" x 4" x 40'
		2	2" x 4" x 36'
		2	2" x 4" x 34'
Carlings	Mahog, Oak or DF	2	3" x 4" x 15'
		2	3" x 6" x 8'
		2	3" x 8" x 10'
Shelf	Mahog, Oak or DF	2	2" x 2" x 10'
Bulwark clamp	Mahog, Oak or DF	2	1" x 2" x 26'
Bulwark cleat	Mahog, Oak or DF	2	1" x 10" x 26'
(*) Keel may be built up progressively using laminations of 1" to 2" thick members laid flat of widths to suit in lieu of above.			
(**) Transom knee may be built up with thinner and smaller solid wood members scabbed on each side with 3/4" plywood laminations in lieu of above.			
PLYWOOD:			
Side & Bottom planking	DF MAR AA or AB (+)	80	3/8" x 4' x 8'

Bulwark planking	DF MAR AA or AB (+)	1 1	1/2" x 4' x 12'** 1/2" x 4' x 14'**
Gussets/floor timbers	DF Ext AA or AB	5	3/4" x 4' x 8'
Stem siding	DF Ext AA or AB	3	3/4" x 4' x 8'
Structural bulkheads	DF Ext AA or AB	12	3/4" x 4' x 8'
Transom (++)	DF Ext AA or AB	2	3/4" x 5' x 14'**

(+) Some builders may wish to use AA or AB Exterior PW for the planking. This is sometimes satisfactory, however, the material must be free of major voids, used where bending is minimal, and where patches or plugged areas will not be exposed to moisture. In any case, the Marine grade is superior.

(**) 8' panels may be utilized with proper overlapping in the laminations or with butt joining methods depending on the member, using extra panels as required.