

# Mirage-Fiberglass Bill of Materials

(scroll down for plywood Bill of Materials)

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 or comparable: 1000'
- Fiberglass mat 1 oz per square foot: 700 lbs.
- Fiberglass woven roving 18 oz per square yard: 1180 lbs.
- Polyester non-thixotropic laminating resin with catalyst for fiberglass planking for initial coating: 300 lbs.
- Polyester laminating resin with catalyst: 3500 lbs.

## HULL LAMINATE MATERIAL ESTIMATE - FOAM SANDWICH METHOD

- Foam material (PVC) 3/4" thick: 540 sq. ft.
- Foam material (PVC) 5/8" thick: 520 sq. ft.
- Fiberglass mat 1 oz: 670 lbs.
- Fiberglass woven roving 18 oz per square yard: 1115 lbs.
- Polyester resin with catalyst: 3000 lbs.

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# Mirage-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
<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 at least 12":	1" ("four quarters" or 3/4" min. net thick ness) x 9" x 40 lin. ft. 2" ("eight quarters" or 1-1/2" min. net thickness) = 480 bd. ft. 2-1/2" ("Ten quarters" or 2" min. net thickness) = 235 bd. ft.
Stem	Teak, Mahog or DF	Random-random 2" ("eight quarter") material, some widths to at least 12" = 57 bd. ft.	
Skeg	Teak, Mahog or DF	1 1 1	3"net x 8" x 12' 3"net x 8" x 22' OR 3" net x 16" x 23"

Keel	Mahog or DF	3	1" net x 6" x 35'
Chine logs	Mahog or DF	2	1-1/2" net x 4" x 42'
Sheer clamps	Mahog or DF	8	3/4" net x 3-1/2" x 48
Bottom battens	Mahog or DF	4 8 8	1" x 3" x 36' 1" x 3" x 38' 1" x 3" x 39'
Side battens	Mahog or DF	4 4 4 4	1" x 3" x 44' 1" x 3" x 45' 1" x 3" x 46' 1" x 3" x 47'
Motor stringers	Mahog or DF	8	2" x 12" x 14'
Rub rails	Teak or Mahog	4	3/4" net x 3" x 48'
Raised sheer clamp	Mahog or DF	2	2" x 2" x 13'
Aft deck clamp	Mahog or DF	2	2" x 2" x 10'
Toe rails	Teak or Mahog	2 2	1-1/4" x 2" x 10' 1-1/4" x 2" x 32'
Guards	Teak or Mahog	2	2" x 3" x 12'
Carling	Mahog or DF	4	1" x 2" x 30'
Shelf	Mahog or DF	8	3/4" net x 1-1/2" x 30'
Foredeck battens	Mahog or DF	1 2 2	1-1/4" x 4" x 4' 1-1/4" x 3" x 5'(makes 2) 1-1/4" x 2" x 5'(makes 2)
Cabin clamp	Mahog or teak	2	1" net x 9" x 30'

**PLYWOOD:**

Transom	DF Ext AB	8 1	1/2" x 4' x 8' 3/4" x 4' x 8'
Bulkheads	DF Ext AB	22 4	3/8" x 4' x 8' 1/2" x 4' x 8'
Gussets, floor timbers, stem & breasthook	DF Ext AB	5 4	1/2" x 4' x 8' 3/4" x 4' x 8'
Bottom planking (*)	DF MAR AB	1220 sq. ft. 1/4" 1220 sq. ft. 3/8"	
Side planking (*)	DF MAR AB	1080 sq. ft. 1/2"	
Decking	DF Ext AB	5	1/2" x 4' x 8'
Aft raised decking	DF Ext AB	4	1/2" x 4' x 10'

(\*) 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. See instructions for veneer options and joining methods.

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

- 1-1/2" #8 - 9 gross
- 2" #10 - 16 gross
- 3" #14 - 6 gross
- 3-1/2" #18 - 3 dozen

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

- 1" - 13 pounds
- 1-1/4" - 21 pounds
- 1-1/2" - 12 pounds
- 1-3/4" - 18 pounds
- 2" - 1 pound

**Carriage Bolts:** Threaded rod can be used for most bolted junctions. Threaded rod is given as total estimated footage required. Each length required to form a bolted connection must be taken from the work. A nut and washer is used at each end with the nut jammed to form a head on one end. Where lengths are short enough, carriage bolts can be used in lieu of threaded rods--adjust the listing accordingly.

- 1/4" - 12'
- 5/16" - 33'
- 3/8" - 57'
- 1/2" - 42'