

# Crispy 660 CABIN

**Bill of materials for complete hull building of motorboat Crispy 660 CABIN, plywood sheets and elements to be cut from solid wood boards are calculated as shown on plans in drawing 17 “Nesting”**

## **Plywood**

- specifications: marine grade plywood, oukumè or mahogany (oukumè is mandatory for 6 mm sheets), labelled CTBX, WBS10880, Lloyd's , Rina or other marine grade certifications:
- sheet size: 250x153 cm
- 5mm thickness: 1 sheet : non mandatory, useful to build the curved area of deck if 10 mmplywood is too stiff to bend
- 8 mm thickness: 3 sheets : cabin roof sandwich structure
- 10 mm thickness: 6 sheets (interiors and deck )
- 12 mm thickness: 21 sheets (bulkheads, hull panels , cabin and cockpit panels) , number of sheets is calculated building each bulkhead from three joined parts as shown in dwg. 17
- 20 mm thickness: 1 sheet (reinforcements and other parts)

**hull sides:** they can be done in two layers of 6 mm plywood , calculate 9 sheets, or they can be made in solid wood veneers, calculate 32 square meters of 6mm thick veneers, with width from 120 to 300 mm (see dedicated drawing)

**transom sandwich structure:** the core of transom is made by a layer of solid hard wood veneers, mahogany or oak as first choice: thickness 36 mm, total area 1.4 m<sup>2</sup>, see details on drawing 7

## **Solid wood elements**

- wood : mahogany, european fir (only first choice), european ash: in any case, wood veneers should have straight fibres , be knots and fractures free, sap pocket free, quite flexible and strong ; avoid strong and stiff wood like oak except for transom structure.

*quantities (with a calculated waste of 15%):*

- 40 x 40 mm battens: 23 linear meters (secondary hull bottom stringers)
- 50 x 40 mm battens : 15,2 linear meters (chine battens)
- 30 x 40 mm battens : 42 linear meters (sheer battens)
- 20 x 30 mm battens: 23 linear meters (deck stringers, intrenal cockpit side stringers)
- 50 x 30 mm battens : 16 linear meters (sheer stringers)
- 40 x 20 mm battens : 34 linear meters (cockpit stringers)
- 110 x 50 mm : 3 linear meters (cabin structure)
- 70 x 50 mm : 1 linear meters (cabin structure)
- 75 x 40 mm : 2 linear meters (cabin structure)
- 25 x 30 mm : 4 linear meters (cabin structure)
- 80 x 50 mm : 12 linear meters (cabin structure)
- 80 x 40 mm : 4 linear meters (cabin structure)
- 40 mm thickness planks : total of 6.5 m<sup>2</sup> see dwg 17 for details
- 100x50 mm plank : 5 linear meters (backone)

## **bonding compounds, resins, glass fabrics**

- re epoxy resins (suited for boat building): 80 kg approx., my advise is to buy a 60 kg batch when you begin the building and then evaluate the required resin amount at 70% of building work.
- Fillers, fenolic microballoons, silica, chopped glass fibres : evaluate quantities basing on the epoxy system datasheet
- +/- 45° biaxial glass fabric, 500 g/m2 : approx. 35 kg or 70 m2 (the total external hull glass sheeting is not structurally required , if you prefer to go for it to achieve a better chafe protection, add 7 kg of biaxial and 8 kg of resin)
- +/- 45° biaxial glass fabric, 200 g/m2: 10 m2 or 2 kg

## **cheap wood to build assembly scaffold**

70x70 mm battens: 20 linear meters

150 x50 mm boards: 26 linear meters