

## 2.1 List of Materials

Exact measurements are given in millimeters. Approximate minimum lengths are in centimeters. My own choice of materials is determined by the supply of woods and metal parts in my area. Thus I use 5 or 6 mm oak as the basis of many parts in my design because planed oak strip or moulding of excellent quality is easily available with the right dimensions from my lumber-yard. I have also used teak for cameras.

Before you start on your camera project, you should find out what materials are supplied by your local lumber-yard and hardware store. Many dimensions may be adjusted to match the materials available. You may also choose to change some of the details in my design. The following list of materials is meant only as a point of departure.

### 2.1.1 Wood

#### Frames:

Planed hardwood  $1\frac{3}{16}$  x  $\frac{1}{4}$  in: approx. 63 in

Planed hardwood  $\frac{15}{16}$  x  $\frac{1}{4}$  in: approx. 63 in

$\frac{5}{16}$  in plywood: approx.  $7\frac{7}{8}$  x  $15\frac{3}{4}$  in

Planed hardwood  $1\frac{3}{8}$  x  $\frac{13}{32}$  in: approx.  $12\frac{19}{32}$  in (frame connectors)

Planed hardwood  $\frac{5}{8}$  x  $\frac{1}{4}$  in: approx.  $31\frac{1}{2}$  in

Veneer strip:  $\frac{13}{32}$  x  $\frac{3}{32}$  in: four pieces approx.  $5\frac{29}{32}$  in long

#### Lens board:

$\frac{5}{32}$  in birch plywood:  $5\frac{1}{2}$  x  $5\frac{1}{2}$  in

Planed hardwood approx.  $\frac{25}{32}$  x  $\frac{1}{4}$  in: approx.  $23\frac{5}{8}$  in

#### Front Panel (undrilled lens board):

$\frac{5}{32}$  in birch plywood:  $5\frac{1}{2}$  x  $5\frac{1}{2}$  in

Planed hardwood approx.  $\frac{25}{32}$  x  $\frac{1}{4}$  in: approx.  $23\frac{5}{8}$  in

#### Spring Back:

$\frac{5}{16}$  mm plywood:  $7\frac{1}{4}$  x  $7\frac{1}{4}$  in (back panel)

Planed hardwood  $\frac{25}{32}$  x  $\frac{1}{4}$  mm: approx.  $31\frac{1}{2}$  in (film holder seat)

Planed hardwood  $\frac{13}{32}$  x  $\frac{1}{4}$  in: approx.  $17\frac{23}{32}$  in (film holder seat)

Planed hardwood  $\frac{15}{32}$  x  $\frac{1}{4}$  in:  $15\frac{3}{4}$  in (film holder seat)

$\frac{5}{32}$  in birch plywood: approx.  $4\frac{23}{32}$  x  $6\frac{3}{32}$  in (ground glass frame—exact measurements should be taken from a film holder)

Planed hardwood  $\frac{15}{16}$  x  $\frac{13}{32}$  in: approx.  $12\frac{19}{32}$  in (ground glass frame)

Planed hardwood  $\frac{19}{32}$  x  $\frac{1}{4}$  in: approx.  $17\frac{23}{32}$  in (ground glass frame)

Planed hardwood  $\frac{25}{32}$  x  $\frac{3}{16}$  in: approx.  $8\frac{21}{32}$  in (ground glass frame)

#### Standards:

Planed hardwood  $1\frac{3}{16}$  x  $\frac{19}{32}$  in: approx.  $17\frac{23}{32}$  in

#### Sliders and tripod block:

Planed hardwood  $\frac{11}{32}$  x  $1\frac{25}{32}$  in: approx.  $31\frac{1}{2}$  in

Planed hardwood  $\frac{19}{32}$  x  $\frac{25}{32}$  in: approx.  $7\frac{7}{8}$  in

Planed hardwood  $\frac{19}{32}$  x  $\frac{1}{4}$  in: approx.  $7\frac{7}{8}$  in

Planed hardwood  $1\frac{3}{16}$  x  $\frac{1}{4}$  in: approx.  $11\frac{13}{16}$  in

Planed hardwood  $\frac{23}{32}$  x  $\frac{1}{4}$  in: approx.  $11\frac{13}{16}$  in

$\frac{5}{32}$  in birch plywood:  $2\frac{19}{32}$  x  $1\frac{25}{32}$  in

## 2.1.2 Metal

### **Rail:**

Aluminum rail 1 3/16 x 1 3/16 in: approx. 14 31/32 in

### **Standards:**

Brass 25/32 x 3/32 in: 11 1/32 in (front standard)

Brass 25/32 x 3/32 in: 11 1/32 in (front standard)

Brass 1 9/16 x 3/32 in: 7 7/8 in (rear standard)

Brass 1 9/16 x 3/32 in: 7 7/8 in (rear standard)

Angle irons approx. 1 3/8 x 1 3/8 x 19/32 in (two for front standard)

### **Lens board lock (retainers):**

Brass 4 29/32 x 23/32 x 3/32 in (upper lock plate)

Brass 4 23/32 x 23/32 x 3/32 in (lower lock plate)

Brass 4 1/8 x 13/32 x 3/32 in (cover plate for upper lock)

### **Spring back lock (retainers):**

Brass 1 9/16 x 25/32 x 1/32 in (bottom)

Brass 1 9/16 x 25/32 x 1/32 in (bottom)

Brass 2 9/16 x 1 25/32 x 1/32 in (top lock)

Brass 2 9/16 x 1 25/32 x 1/32 in (top lock)

Brass 1 31/32 x 13/32 x 1/32 in (cover plate for top lock)

Brass 1 31/32 x 13/32 x 1/32 in (cover plate for top lock)

### **Spring back springs:**

Leaf springs approx. 6 1/2 x 3/16 in (two springs)

### **Ground glass frame:**

Brass 3 15/16 x 5/32 x 1/32 in (for the correct positioning of the ground glass)

### **Bellows retainers and reinforcement of corners:**

Brass 31/32 x 1 1/2 x 1/32 in (8 pieces)

### **Tripod block:**

Brass 2 19/32 x 1 25/32 x 1/32 in

## 2.1.3 Screws, threaded inserts bolts and nuts

The most common types of screws are not listed. Length of screws depends on design and is normally not listed.

### **Frames:**

#### **Control screws (adjustment screws):**

Six threaded inserts (or pronged T-nuts):  
thread diameter 3/16 in (M5)

Six knurled screws or knurled nuts with screws:  
diameter 3/16 in (M5)

Twelve washers: for screws with diameter 3/16  
in (M5)

### **Sliders and tripod block:**

#### **For attaching the tripod block to the tripod:**

One threaded insert (or pronged T-nut) for the tripod block: inner diameter 13/32 in (M10). The threaded insert should fit the tripod screw, with or without a tripod screw adapter.

#### **For attaching the crosspiece ("beam") of the standards to the sliders:**

Two hex-head brass bolts: diameter 1/4 in (M6),  
length depends on design

Two knurled screws or knurled nuts with  
screws: diameter 1/4 in (M6)

Two washers for M6 (1/4 in) screws (to go  
under the wing nuts)

Two brass wing nuts: diameter 1/4 in (M6)

Two brass cap nuts (acorn nuts): diameter 1/4  
in (M6)

#### **Fastening screws for the sliders:**

Three brass bolts: diameter 3/16 in (M5), length  
approx. 2 3/4 in

Three brass wing nuts: diameter 3/16 in (M5)

Three brass cap nuts (acorn nuts): diameter  
3/16 in (M5)

Six washers: for screws with diameter 3/16 in  
(M5)

### **Standards:**

#### **For attaching the brass uprights to the crosspiece:**

Eight cheese-head (flatheaded) brass machine  
screws: length 15/16 in

Eight brass cap nuts (acorn nuts)

#### **For the angle-irons:**

Eight brass cheese-head machine screws:  
length 1/4 in

Eight brass cap nuts (acorn nuts)

**Notes:** Pronged T-nuts are sometimes also referred to as captive nuts or spiked nuts. On how to make knurled screws from knurled nuts and machine screws, see section 4.6 and Figure 26.