conditions. The rods are removed from the oven, the cap plugs removed, the copper and Teflon tubes disassembled and cleaned (stage 8) and returned to storage (stage 11). The "annealing" may be termed post-curing.

The cast rods should then be inspected to see if any bubbles are visible. Bubbles may be removed by cutting out at the button-forming stage. Of course, too many bubbles in a given rod will cause rejection of the entire rod. Any rods which may excessively curve or warp after removal from the casting tubes are disposed of. If water has leaked into the casting tubes, a haze will show, and as before, hazy portions may be cut out and disposed of if limited.

As has been mentioned above, the present process is adapted to forming colored PMMA of the type especially suitable for contact lens manufacture. The preferred and most often used color is blue. A preferred batch for fabricating blue contact lenses, according to this invention, is as follows:

TABLE I

DuPont (H205) MMA	60.0	grams
Sartomer EDMA	0.3	gram
Blue dye	.03	gram
SBP	0.09	gram

The preferred dye is a mixture of Acetosol blue GLST and Poly dye Blue GSFR.

For a gray colored contact lens, the following composition was used (all dyes manufactured by and purchased from Sandoz and Inmont):

TABLE II

MMA	180.0	grams
EDMA	0.90	gram
Acetosol Blue GLST	.0450	gram
Acetosol Red BLSN	.0414	gram
Acetosol Yellow RLSN	.0027	gram
Polydye Blue GSFR	.0009	gram
SBP	.216	gram

For a green contact lens, we suggest the following batch composition:

TABLE III

MMA	180.0	grams
EDMA	0.9	gram
Acetosol Blue GLST	.0642	gram
Dermalight Red 2GL	.0504	gram
Acetosol Yellow RLSN	.0276	
SBP	.216	

For a brown contact lens, we suggest the following batch composition:

TABLE IV

MMA	180.0	grams
EDMA	0.9	gram
Acetosol Blue GLST	.0933	gram
Acetosol Red BLSN	.2031	gram
Acetosol Yellow RLSN	.0636	gram
SBP	0.270	gram

In the foregoing discussion, we have disclosed and described in detail a preferred method for the fabrication of an improved PMMA rod stock for the fabrication of intraocular lenses and thin contact lenses. The improved PMMA allows one to manufacture thin contact lenses which do not exhibit undesirable warpage in use. The lenses are characterized by color uniformity, high molecular weight, and absence of strain patterns. The improved PMMA for contact lens use is characterized by light cross-linking. The rods are extremely uniform in physical and chemical properties. The rods of PMMA, cast according to the present invention, are characterized by right cylindrical geometrical cross-sectional configuration. This is a distinct departure from prior art methods of fabricating PMMA rod stock which included filling a plastic bag or tube and hanging more or less like smoked sausages for curing.

In the course of the work disclosed above, other possible plastics were considered and tested for the fabrication of the cylindrical forms in which the PMMA was cast. Polyolefins were tried and were found not as acceptable. The polyolefins are oxygen permeable and oxygen is an inhibitor of polymerization. However, polyolefins may be used as a coating for a metal stiffener, such as the aluminum or copper stiffener disclosed herein.

We have discussed aluminum and copper as the preferred stiffeners. Aluminum is preferable because of its light weight but eigher aluminum or copper is excellent because of high thermal conductivity and thus allowance for better water-bath control.

PMMA rod stock, fabricated according to this invention, is at least a 99% PMMA. Previous materials have analyzed at least 95% PMMA.

In the above description, we indicate there can be a difference in PMMA destined for contact lenses as distinguished from intra-ocular implant lenses. For example, we mention 20 hours cure time for hard contact lenses and 40 hours for implant lenses. We prefer to use a little less initiator in making the implant lens because we prefer a higher molecular weight in this non-cross-linked system. Actually, it is difficult to even discuss comparison to "molecular weight" with a non-cross-linked verses cross-linked system. In any event, we prefer the longer time period to get a heavier molecular system. The difference is probably insignificant.

Having thus described the invention in detail and with sufficient particularly to allow those skilled in the art to practice it, what is desired to have protected by letters patent is set forth in the following claims

We claim:

1. A thin hard optical lens of polymethylmethacrylate material of at least 99% polymethylmethacrylate characterized by good machinability, color uniformity, and optical quality, said material being characterized by having an average molecular weight of at least one million and substantial freedom from strain and free from warpage.

2. A substantially rigid polymethylmethacrylate lens according to claim 1 wherein said lens is lightly cross-linked.

3. The polymethylmethacrylate lens of claim 1 in the form of a contact lens of about 0.07 millimeter thickness.

4. A thin hard optical lens of claim 1, said lens being about 0.07 millimeter thickness and substantially free of strain patterns when viewed in polarized light.

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