A picture frame mat made by the process of injection molding a molten material into a prepared mold, allowing the material to cool and ejecting the resultant mat. The molten material may be selected from the group consisting of plastic, glass, ceramic, liquid metal, powdered metal and combinations thereof. A secondary step in manufacturing the mat involves modifying a surface portion of the mat. This step is selected from the group consisting of a) plating said surface portion, b) adding a surface modifier to a mold cavity prior to injecting said material, and c) coating said surface portion with said surface modifier. The surface modifier added to the mold cavity consists of graphics carried by a Mylar® sheet. The plating step is preferably electroplating using copper, brass, pewter, antique versions of those three, gold, or statuary finishes. The coating step would comprise the addition of paint to areas of the treated surface portion.
PICTURE FRAME MAT MADE BY INJECTION-MOLDING PROCESS

BACKGROUND AND SUMMARY OF THE INVENTION

[0001] The present invention is directed to mats used in picture frames. More particularly, the present invention is directed to picture frame mats made by the process of injection molding. This application claims benefit of U.S. provisional patent app. No. 60/332,715 filed Nov. 14, 2001.

[0002] Typically, picture frame mats are made of either paper or fiber board. This planar “secondary frame” does very little to add additional interest to the framed item. Accordingly, people often attempt to spice up their matting by using multiple layers of paper or board which are of several different colors or bevel the inner edge of the fiber board. While these techniques can enhance the interest of the framed article somewhat, they simply fall short of accomplishing the intended purpose.

[0003] The mat of the present invention is formed by an injection molding process. The finished product may be made by injecting molten plastic, glass, ceramic, liquid metal, powdered metal, or combinations thereof into a mold, allowing the mold to cool and then ejecting the mat. The mold will preferably provide the mat with 3-dimensionality which will significantly add interest to the framed item. It is contemplated that the injection-molded mat made by the process of the present invention may have a surface portion modified by an additional step selected from the group consisting of plating (such as electroplating, for example) or adding a surface modifier to a mold cavity prior to injecting the formation material. One method of applying this surface modifying material comprises inserting a Mylar® carrier sheet with graphics printed thereon. The molten material will pick up the graphics and set with the design adhered to the upper surface of the mat. Alternatively, the surface portion may be electroplated to make it appear as if the mat is made of copper, brass, pewter, antique copper, antique brass, antique pewter, and statuaries finishes. Finally, some or all of the surface may be painted or coated with all alternative surface modifying substance.

[0004] Various other features, advantages and characteristics of the present invention will become apparent after a reading of the following specification.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] The preferred embodiment(s) of the present invention are set forth in the drawings, like items bearing like reference numerals and in which

[0006] FIG. 1 is a front view of a first embodiment of the picture frame mat made by the process of the present invention;

[0007] FIG. 2 is a side view of the first embodiment;

[0008] FIG. 3 is a front view of a second embodiment;

[0009] FIG. 4 is a front view of a third embodiment; and

[0010] FIG. 5 is a front view of a fourth embodiment.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(s)

[0011] A first embodiment of the picture frame mat made by the process of the present invention is depicted in FIGS. 1 and 2 generally at 20. The mat 20 has an oval opening 22 for a personal picture or photograph, for example, a confirmation or parochial school graduation photo. Mat 20, as best seen in FIG. 2, has 3-dimensionality at 24 which is not characteristic of conventional matting. Indeed, the variation in height may certainly exceed the variance shown in FIG. 2 (and in fact, does in other embodiments). Further, mat 20 includes in this embodiment a character 26, in this instance, a depiction of Christ with a Spirit dove on His right hand extended outwardly/overheadly over the head of the individual in the photograph.

[0012] Mat 20 is made by the process of injection molding. An appropriately shaped cavity in a conventional steel mold (not shown) is filled with a material selected from the group consisting of plastic, glass, ceramic, liquid or molten metal, powdered metal, and combinations thereof, the mold cooled to allow the mat 20 to set up and then ejected from the mold. While plastic is the preferred material due to its comparative features (inexpensive, light weight, durability, flexibility), it is envisioned that these other materials would be suitable for a “high end” embodiment of mat 20, particularly for the first embodiment depicted in FIGS. 1 and 2. Character 26 is injection molded separately from the balance of mat 20 and adhered thereto. The character 26, which may take other forms for other embodiments (animals for the Noah’s ark version, alpha-numeric characters or blocks for the teddy bear embodiment, etc.), can be adhered using an adhesive, riveting, integral brads, or other means, directly to the mat 20 or to an intervening layer of glass.

[0013] For most applications, a secondary step in the process of manufacture will involve treating a surface portion of the mat 20. This secondary step may involve plating the upper surface (or a portion thereof). An electroplating process is preferred in which a layer of gold, copper, bronze, pewter, antique copper, antique bronze, antique pewter, or a statuary finish is applied to the substrate. This process results in an extremely attractive end product in which the 3-D features provide attractive light and shadow that enhance the eye appeal of the framed/matted photograph. This secondary process may, alternatively, involve the insertion of a carrier, typically, a Mylar® sheet with graphics thereon prior to filling the mold. The graphics will be transferred to upper surface of the mat 20 in the mold as the molten material cools. Finally, the process may involve the application of a coating, such as paint, to highlight various areas of the surface of mat 20.

[0014] A second embodiment is depicted in FIG. 3 generally at 20a. This embodiment has an opening 22a that is of a non-conventional shape to add additional interest to the finished article. It will be appreciated that the opening 22a in this (or any of the embodiments) may take whatever shape desired. Further, mat 20a may be sized to accommodate various sized photos, picture frames, etc. Lastly, although each embodiment shown in this application has been depicted in what is described as a “portrait” orientation, it will be appreciated that it is within the scope of the present invention to have “landscape” mats 20, as well.

[0015] A third embodiment of the product by process of the present invention is depicted in FIG. 4 generally at 20b. This embodiment is referred to as the teddy bear embodiment and, in the preferred form of this third embodiment,
everything shown here is incorporated into the mold. It is, however, contemplated that the balloons or one or more of the bears or blocks, could be molded separately and adhered to the mat (or glass) as was done in the first embodiment, to add additional interest to the finished framed picture. Similarly, the third embodiment of the product by process shown in FIG. 5 generally at 20c with irregular opening 22c may have a bird, dolphin, giraffe head/neck, or elephant trunk that is separately molded and adhered in this manner.

[0016] Various changes, alternatives and modifications will become apparent following a reading of the foregoing specification. It is intended that all such changes, alternatives and modifications as fall within the scope of the appended claims be considered part of the present invention.

I claim:

1. A picture frame mat made by the process of injection molding.

2. The picture frame mat made by the process of claim 1 wherein said picture frame mat is made by injecting a molten material selected from a group consisting of plastic, glass, ceramic, liquid metal, powdered metal, and combinations thereof into a mold, allowing the mat to cool setting up, and ejecting said picture frame mat from the mold.

3. The picture frame mat made by the process of claim 2 including an additional step of modifying a surface portion of said picture frame mat selected from the group consisting of a) plating said surface portion, b) adding a surface modifier to a mold cavity prior to injecting said material, and c) coating said surface portion with said surface modifier.

4. The picture frame mat made by the process of claim 3 wherein said modifying step comprises electroplating said surface portion with a metal to give said picture frame mat surface portion the appearance of being made of a material selected from the group consisting of gold, silver, copper, bronze, pewter, antique copper, antiqued bronze, and antiqued pewter and statuary finishes.

5. The picture frame mat made by the process of claim 3 wherein said modifying step comprises placing a graphics laden carrier sheet in a mold cavity prior injecting said material whereby said material picks up said graphics from said carrier sheet as it sets.

6. The picture frame mat made by the process of claim 1 additionally comprising an element which may be secured to an outermost surface of a completed framed article.

7. The picture frame mat made by the process of claim 1 wherein said picture frame mat has an upper surface with variable height.

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