The use of plastics in interior construction is nothing new, but the extent of their substitution for items made of metal, glass and wood is greater than many realize.

There has been a “quiet revolution” which has take place rather gradually and without fanfare to the extent that today’s construction involves a “plastic” product in practically every set of plans.

The term “plastic” is most easily categorized by the term “synthetic.” Hardboard and rubber, for example, are plastics,” but in this article we shall confine ourselves to the use of vinyls, styrenes, acrylics, polycarbonates and similar thermoplastic polymers which are either molded or extruded, for the articles most used in interior construction belong in this group.

Luminous ceilings were one of the first applications where plastics replaced what had previously been accepted as conventional-glass. At this point, plastic—whether it be a prism, egg crate or plain sheet is now part of the conventional commercial fixture.

Related to these rigid sheets are the many varieties of decorative sheets for shower stalls, room dividers, imitation stained glass, etc.

Another use for cast or extruded sheet is for shatter-proof glazing and for corner guards. Perhaps the best known rigid sheet products are high pressure laminates, most familiarly used for kitchen table tops.

Flexible sheeting is used extensively to give a decorative (wood grain, textured colors, etc.) finish to composition wallboards and trims. These long-lasting washable surfaces make attractive low-cost panels.

New machinery has been developed which enables shop-application of vinyl wallcoverings to partition panels thus enabling the contractor to offer a wide range of finishes without an extensive inventory.

Molded parts and extruded profiles are a new portion of the plastics picture. Plastic screws, “mollys,” and clips are easily molded from flexible or rigid compounds. These are not only low in cost but they have features of permanent clarity (or color) and resistance to rusting and corrosive action.

Extruded profiles are now an accepted part of floors, walls and ceilings. Plastic J Bead, for example, now appears in many specifications. It is a natural, for it is easy to cut, it does not rust, and there is not the loss from mangled and dented pieces as there is with metal.

Tile Use First

Probably the first extruded vinyl trim in interior commercial construction was a patented flexible cove molding designed primarily for acoustical life. When this molding was, initially produced (1953) a majority of acoustical tile was cemented in place. A wood or fibre molding was used at the perimeter because wood-fibre tile (used extensively at that time) was difficult to scribe. The new plastic molding enabled rough-cutting the tile shy of the wall, and the molding held itself in place by its friction fit (see Fig. 1).

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This product also was suitable for large columns and curved wall treatment. One of the largest installations was in a plaster wall—concrete ceiling construction.

Each metal lath partition and wall-finish assembly terminated at a casing bead, set 3/8 inch below the ceiling expediting the application of plaster inasmuch as the plasterer could work on either wall or ceiling, alone, without relation to the other surface (see Fig. 2). The space between casing bead and ceiling was quickly and attractively filled with the snap-in type plastic molding (see Fig. 3).

The same system was followed where glazed tile had been mounted over the metal lath and plaster partitions.

The year 1954 saw the introduction of the “F” profile molding. This was a section which could not be rolled satisfactorily in metal, and it had not been extruded in aluminum at the time.

The purpose of this design was to cover the outside corners of acoustical tile constructed at soffits or boxed in air ducts, etc. The same year a plastic suspension system was invented that was designed specifically for light weight panel ceilings (see Fig. 4, 5, 6).

New Innovation

Another innovative and now widely used plastic product is rigid vinyl baseboard. This appeared in many demountable partition systems, but in 1965 a companion clip of plastic was introduced which enabled fastening the baseboard to the drywall at any point instead of to special track or only at the studs.

Plastic casing beads, stop beads and expansion joints are now available in a variety of sizes for use either indoors or outdoors. This is another instance where the non-corrosive quality of plastic makes it ideal for use with mortar-type mixtures.

The latest innovation is a patented demountable partition system consisting of rigid vinyl parts which can be used with conventional metal studs and track.

Receivers are securely fastened to the studs with drywall screws, and battens or corner pieces engage in an easy but positive manner. The system is installed progressively, but individual panels can be removed as desired. The use of standard metal studs and PVC instead of aluminum trim results in an attractive low-cost system.
To summarize, there has been a steady growth in the use of plastics in interior construction. This has not been because of great technological changes in the plastics industry but because the construction industry has become aware of what plastics can do, and enough plastic items are in evidence so that the image of the word "plastic" no longer is associated with inferior substitutes.

The integral color of plastics

overcomes a paint peeling or chipping problem, and eliminates special packaging to protect the finish. Plastic sections are light in weight, easy and safe to handle and simple to cut.

Being a thermoplastic material they have greater deflection than a similar section made of metal, but

they are unequalled for non-load-bearing applications. Extruded profiles can be punched, drilled, angle-cut or even chopped in small pieces to make clips, spacers, etc.

It is the versatility of plastics that makes such an exciting field where one is limited only by his imagination and ingenuity.