

INTERIOR FINISH OF ROOMS IN CENTRAL OFFICE BUILDINGS

1. GENERAL

1.01 This section outlines suggestions for the general treatment and finish of floors, walls, columns and ceilings of various rooms and spaces common to central office buildings of fire-resistive construction. It is intended as a reference in providing desirable elements of utility, appearance and economy of maintenance, also in minimizing hazards to equipment.

1.02. This section is revised and reissued to remove the previously suggested use of structural tile for walls in central offices and to include several recommendations pertaining to interior walls, partitions and floors in telephone buildings.

1.03 Arrows are used to indicate revisions in the text.

2. FLOORS

2.01 Floor areas which can be finished as an integral part of the slab forming the structural floor are considered preferable to finish surfaces bonded to the hardened slab or laid independently over a fill. Through joints where required in floor finishes should be flush and level to reduce dust accumulations and prevent irregularities in applied surface coverings.

2.02 Pipes and conduit to be concealed in the floor are generally run in the thickness of the structural slab. Cinder fill between the finished floor and the slab to accommodate under-floor duct work is not considered necessary and is generally not being provided.

Concrete Floor Surfaces

2.03 Concrete floors for cable vaults, boiler rooms, power rooms, and other interior areas not finished with a floor covering material, are generally of good quality and steel troweled so that surface treatments are not necessary.

Too much water or excessive troweling tends to bring out moisture and float soft cement to the surface, producing powder. The use of an applied hardener is recommended where the concrete floor is subject to excessive dusting under traffic. The application of an approved hardener is as outlined in Section H53.105, Hardening and Dustproofing Concrete Floors. Where the floors in these areas are painted, runners are sometimes provided to protect the finish in the traffic lanes.

2.04 Floors which are to be painted, treated with a hardener or finished with a resilient covering should be thoroughly dried out. Moisture in concrete floors has a disintegrating effect on linoleum particularly. Moisture tests of new floors should be made before application of a covering, and the recommendation of the manufacturer should be followed.

Resilient Floor Coverings

2.05 Concrete floors are usually covered with sheet linoleum, asphalt, vinyl-asbestos or rubber tile. This treatment provides the desirable features of attractive appearance, quietness and comfort underfoot, and a smooth surface relatively easy to maintain. The materials offer a wide range of colors and decorative effects, but solid colors, in extremely light or dark shades tend to show traffic marks more readily. Pattern designs of the various contrasting colors are considered more easily maintained.

2.06 *Vinyl-asbestos tile* is comparable in cost to linoleum. It has the advantage of being less subject to damage from indentation than asphalt tile. It is also available in a wider range of colors and can be used below and above grade.

2.07 *Linoleum* provides a lasting surface, quiet and resilient underfoot. It is relatively easy to maintain with a minimum of surface joints.

2.08 *Asphalt tile* has a lower initial cost than linoleum and its higher resistance to underfloor moisture permits use on floors below grade or on the ground, where linoleum is not suitable. A treated tile at higher cost is available for use in areas where regular asphalt tile would be damaged by grease or oil.

2.09 *Rubber floor coverings* while very durable under heavy traffic are relatively higher in cost and require more careful maintenance to preserve the appearance. However, they are more resilient and slip resistant than linoleum or asphalt tile, and are considered for use in public offices and areas justifying special treatment.

Applied Hard Surface Finishes

2.10 *Terrazzo* floor finishes are considered desirable in entrance halls to larger buildings, from the standpoint of durability, appearance and maintenance. Terrazzo floor surfaces in toilet rooms are not as easily maintained as unglazed tile floor surfaces because of the tendency of the terrazzo toward staining and pitting. Traffic marks are more apparent on the extremely light shades of terrazzo finishes and the extremely dark shades require special maintenance. Aggregates containing marble chips of contrasting colors provide an attractive and more readily maintained surface. Abrasive particles added to the aggregate to provide additional slip resistance are preferably black or very dark initially because of their tendency to darken under traffic.

2.11 *Unglazed tiles* of highly vitreous composition are used on floors in toilet rooms, and in kitchens and associated areas. Tiles treated in manufacture to provide slip-resistive surfaces are used in the kitchen areas. The use of the larger tiles closely set is suggested to reduce the amount of porous filler exposed in the surface joints.

2.12 Where entrance hall floors are recessed for floor mats, the recess should be 3/8-inch deep for corrugated perforated type, and 1/2-inch for the link type.

2.13 In general, bases are of the same material as the floor finish, except that a marble base is usually provided with marble tile floor-

ing. Rubber set-on base is used with linoleum, asphalt, or rubber floor coverings.

2.14 Materials for treads and platforms of stairs are described in Section H32.610, Stairway Planning and Construction.

3. WALLS

3.01 Structural glazed tile treatment is suggested for consideration for walls and partitions for certain toilet rooms as outlined in Section H24.501, Toilet Rooms — General, also for house service compartments and kitchen space where permissible.

3.02 Structural concrete masonry units using preferably lightweight aggregates and set in cement lime mortar provide economical interior walls and partitions in telephone buildings. The use of reasonably smooth block together with the application of a suitable paint or coating generally provides a very satisfactory and pleasing surface. It is recommended that walls and partitions of these units be anchored firmly at ceilings and abutting columns because of possible shrinkage of the units in curing. It is suggested that this type of wall treatment be considered for temporary partitions requiring a fire-resistive rating and at permanent locations where acceptable.

3.03 When using concrete forms or blocks caution dictates that only properly cured material should be used. The use of cured material will reduce the hazard of cracking due to curing shrinkage; however, shrinkage control joints are also recommended. The use of tooled joints might be considered in preference to flush or bagged joints.

4. CEILINGS AND COLUMNS

4.01 Satisfactory finishes are obtained where columns and ceilings to be exposed are formed and poured to provide smooth surfaces. Where for decorative purposes however it is necessary to conceal concrete surfaces there are many products on the market today which will provide a smooth surface. The available smooth surfaces are subject to less dirt collection, which results in less maintenance cost.

4.02 The corners of columns, girders and beams are generally chamfered, adding to the finished appearance of exposed concrete surfaces. It is suggested that plastered partitions abutting concrete columns be kept back from the face of the column not less than the depth of the chamfer to avoid maintenance problems otherwise resulting from the poor bond and different expansion qualities of concrete and plaster.

4.03. In general, the ceilings and columns of basements, switchrooms, power rooms, quarters and toilet rooms have their exposed concrete surfaces formed to provide reasonably smooth surfaces.

4.04 To obtain smooth surfaces on exposed concrete it is important that the form work be constructed in a manner to provide a minimum of irregularities in the finished concrete surface. Forms are lined with plywood, tempered masonite or equal material, with a minimum of joints, and are cleaned and inspected before the concrete is poured. Triangular members for chamfering square corners of columns, beams, girders, etc, are usually provided in the form work. Before lining materials are reused they are thoroughly cleaned and inspected. It is important that all form linings be oiled with form oil in accordance with current specifications issued by the Portland Cement Association. The form structure is built true to line and level and securely braced to prevent movement or warping during subsequent operations. It is suggested that careful check be maintained dur-

ing pouring operations, to detect possible faults in the form structure. In order to free the concrete of voids and air pockets, it is agitated while still plastic by mechanical vibrators, hand spading or rodding. Forms are removed as early as permissible after the pour to permit removal of fins and the more prominent irregularities. With careful supervision of the form construction and concrete application, reasonably smooth surfaces are obtained and carborundum grinding is not generally warranted. The application of cement wash or grout to produce uniform surfaces is generally unsatisfactory because of the tendency of such applications to dust and scale. If a painted or enameled surface is required, it is suggested that prior to painting, the surface be treated with a neutralizing solution of magnesium fluosilicate as described in Section H53.105. The application is permitted to dry and any excess crystals are brushed off before painting.

Acoustic Surfaces

4.05 Consideration is usually given to the provision of acoustic treatment at ceilings of rooms where reduction in the anticipated noise level is indicated to obtain favorable service performance and working conditions. Such rooms include, for example, operating rooms, test desk rooms, assignment bureaus, public business and record offices, accounting space wherein noisy machines are employed, certain dining rooms and cafeterias. Detailed suggestions on the general subject of acoustic treatment are outlined in Section H32.354, Noise Reduction.