52. MEDICINE CABINET, CLOSET SHELVING, ETC.

A suitable, built-in medicine cabinet of neat design in enamelled finish with plate glass mirror in the door shall be provided in the bathroom, preferably over the basin.

One or two shelves of dressed material suitable for painting will be required in the bedroom closets and at least four shelves in the linen closet. Hook rails and one shelf are required in the Entrance Hall coat closet. Shoe shelves and coat rods are desirable in the bedroom closets.

53. INSULATION

(*a*) Insulation is required in the construction of exterior walls and ceilings. The minimum alternative requirements are as follows:

(1) Solid Masonry Walls

½" Fibre Board
⅜" Foil back Gypsum Lath

(2) Frame Walls

T. & G. Sheathing both sides
½" Fibre Board
⅜" Foil back Gypsum Lath
Reflective foils approved by C.M.H.C. 1" Glass, Rock or Mineral Wool Batts (paper both sides, envelope type)

(3) Ceilings

1" Fibreboard
Two layers of approved type reflective foil with air space between and above
2" Glass, Rock or Mineral Wool Batts
3" Loose Fill

(*b*) Alternate types of insulation may be used providing C.M.H.C. approval is obtained.

54. VAPOUR BARRIERS

(*a*) *Necessity:*

1. Vapour Barriers are necessary as a protection against condensation forming within the exterior frame of frame wall construction, and in the top floor ceiling. This condensation is the result of the movement of water vapour from the warm interior of the building to the relatively cold surfaces within the wall. Water vapour always tends to move from a point of high vapour pressure (corresponding to high temperature) to a point of low vapour pressure (corresponding to low temperature) just as water tends to flow from a high level to a low one.

2. One may well question why so much attention is today being paid to the study of condensation when no thought was given to this question in the past, other than to provide for ventilation of the attic space, (generally after condensation had been observed). Strangely enough this moisture problem is the result of modern improvements in construction, designed to increase the comfort of the occupant in his home, and to decrease operating costs. Two pronounced trends in modern building are: (1) tighter construction, exemplified by weather stripping, caulking around openings and insulation; and (2) air conditioning with the maintenance of high humidities in cold weather. It is interplay of these two factors which has resulted in the occurrence of condensation. In older houses, there was a frequent interchange of indoor and outdoor air by filtration through cracks. The result was a balance of vapour pressure between interior and exterior. This, of course, meant an extremely low relative humidity indoors but eliminated all possibility of condensation. In modern houses, however, the exchange of indoor and outdoor air is kept at a minimum and in addition to the common sources of moisture such as cooking, laundry work, bathing, respiration and evaporation from plants, moisture is often added artificially to the air by the evaporation of water in the furnace pan, in containers on radiators, and in other types of air conditioning or humidifying units. The vapour pressure indoors is thus much higher than it is outdoors and there is a tendency for the moisture to diffuse into the walls, where it condenses. Recent studies have shown that most of the trouble occurs when the relative humidity is maintained at or above 40% and under these conditions evidence of condensation may appear after every cold snap.

(*b*) *Vapour Barriers shall be used:*

1. Wherever loose fill insulation is used.
2. Wherever wool type batts which do not have the required vapour barrier qualities in the back or wrapping are used.
3. Around windows, doors or openings, or where studs are not standard spacing.

(*c*) *Vapour Barriers are recommended:*

1. Where the insulating medium of exterior walls consists of an insulating plaster base.
2. As an extra precaut on where wool type batts of an approved type are used.

(*d*) *Types of Vapour Barriers:*

1. It is important to distinguish between building papers which may be used in general construction work, and papers which are acceptable as vapour barriers. The first may be said to be the protection against the penetration of air and moisture from the outside through the exterior and into the interior of the wall. This condition is met by the application of a