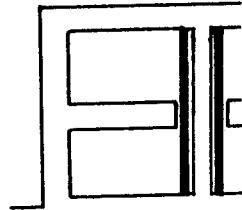


## INTERIOR WALLS

### SUMMARY



Interior walls constitute the means for separating the various activities occurring simultaneously within the building. In fulfilling this principal separating function, such interior partitions must meet criteria of structural soundness, physical durability and present an acceptable appearance. The field tests in this area emphasize these performance objectives and are directed at conditions which impair this performance.

PERFORMANCE OBJECTIVE: PROVIDE STRUCTURAL STABILITY

TEST # 1: Resistance to Loads

Test Method: Determine past performance, if possible, Test by examining each interior wall from a distance of five feet. Cracks, splits or any other discrepancies should be carefully located and recorded in terms of position, length, depth, width, direction and described in detail in regard to special relationships, such as to beams, corners, wall openings, etc. Photograph any unusual conditions observed.

Deflections in any direction, as indicated by measurements taken with a plumb line and level, should also be noted, recorded and photographed.

Measures: Cracks, splits

- Record length, depth, width to 1/32 inch

Measures: Deflection

- Record to 1/32 inch

TEST # 2: Resistance to Impact

Test Methods: Determine past performance, if possible. Test by observing from a distance of one foot areas of high impact loads, such as around doorways, and note any instances of either cracking or splitting. Record and photograph.

Measures: Cracking, splitting, crushing, indentation  
- Record to 1/32 inch

TEST # 3: Support for Attached Loads

Test Method: Determine past performance, if possible. Test by examining the wall at points of support for attached loads, from a distance of one foot, noting any damage to the wall, its surface or any other subsystems as a result of attached loads (e.g., clothes racks, blackboards, hung shelves, etc.). Record and photograph any instances of damage.

Measures: Cracking, splitting, deflection, permanent set  
- Record to 1/32 inch

TEST # 4: Proper Installation of Nonsystem Elements

Test Methods: Determine past performance, if possible. Test by examining the interior walls, from a distance of one foot, at the interface with nonsystem elements. Door and window tolerances should be checked for loose fit or tight fit. Door jams and window frames should be checked for cracks and spaces where they meet the wall. Bulletin boards, blackboards and other fastened objects should be checked for looseness and broken surfaces around their fasteners. Any broken or loose hardware should be noted by location and type of damage, recorded and photographed.

Measures: Looseness, tightness

- Record according to the amount of or resistance to movement as extensive, moderate or slight

Measures: Cracks, splits

- Record to 1/32 Inch

PERFORMANCE OBJECTIVE: PROVIDE A PHYSICALLY DURABLE SURFACE

TEST # 5: Durability of Surfaces

Test Method: Determine past performance, if possible. Test by observing all wall surfaces from a distance of four feet. Cohesion/adhesion of surfaces can be checked by noting instances of buckling, peeling, delamination and the extent and location of each. Delamination of surface or residual adhesive which may occur due to removal of adhesive tape. Record and photograph.

Durability of the surfaces is tested by locating concentrations of dents, scratches, gouges and punctures. Such concentrations may be expected to occur around doors and the lower ten inches of doors. Observe from a distance of one foot. Measure the depth and width of these, if possible. Note their location, severity and photograph.

Test for color fastness to light, evenness of color and abrasion by visual comparison between an unused sample and a sample area of the material in use. Record and photograph any deterioration observed. Short descriptions of certain special instances where damage seems extreme or out of the ordinary should be written. Record and photograph.

Measures: Record the incidence, location, severity and extent of buckling, peeling, delamination, cracking, crazing, splitting, blistering (to 1/2 inch); indentation, punctures, scratching and gouging (to 1/32 inch).

#### TEST # 6: Resistance to Scratching and Abrasion

Test Method: Determine past performance, if possible. Test by locating, from a distance of four feet, concentrations of damage due to scratching or abrasion. Note any relationship to openings in the wall (e.g., windows, doors, etc.) and describe according to location, type, severity and extent of damage. Record and photograph.

Measures: Scratches, gouges, punctures, indentation, chipping  
- Record to 1/32 inch

#### TEST # 7: Water Absorption and Retention

Test Method: Determine past performance, if possible. Test by comparing, from a distance of two feet, an unused sample with the material in use on the surface of the wall. Note instances of water-related deterioration, and such relationships to windows, doors, elements of the water system, the roof system and exterior walls as may exist. Record instances of damage by noting location, type, extent and severity of damage. Photograph.

Measures: Color change, staining, cracking, blistering, swelling  
- Record by location, severity and extent of damage

PERFORMANCE OBJECTIVE: PROVIDE SATISFACTORY APPEARANCE AND MAINTAINABILITY

TEST # 8: Cleanability and Resistance to Stains

Test Method: Determine past performance, if possible. Test by visually locating, from a distance of five feet, stains and other areas which need cleaning. List the stains and note the locations. Attempt to remove the existing stains with cleansors and methods used by the maintenance staff. Record the results and any effects on wall materials.

Observe, from a distance of three feet, areas which have been cleaned and note any loss of gloss value in comparison to an unused sample of the same material, and any other cleaning-related deterioration.

Measures: Cleanability

- Record the change in the stain after cleaning as:
  - completely removed (not visible from two feet)
  - trace remaining (just visible from five feet)
  - mostly removed (visible from five feet)
  - partially or not removed (easily visible from five feet)

TEST # 9: Dust Accumulation

Test Method: Determine past performance, if possible. Test by visually comparing an unused sample with the material in use on the wall. Note any graying which might indicate dust retention on or within the surface of the material.

Measures: Color change (graying)

- Record color change as slight, moderate or severe.

In recent years some excellent work has been done in collecting performance data on interior finishes-interior walls, floors and ceilings. Two documents which contain excellent information are:

"The PBS Performance Specification for Office Buildings", by D. Hattis and T. Ware, et. al., National Bureau of Standards Report, 10 527, Jan. 1971

"The Performance Concept", V.I. by Staff, National Bureau of Standards Report, 9849, June 1968

SUMMARY OF INTERIOR WALLS PERFORMANCE TESTS

PERFORMANCE OBJECTIVE: PROVIDE STRUCTURAL STABILITY

- TEST # 1: Resistance to Loads
- TEST # 2: Resistance to Impact
- TEST # 3: Support for Attached Loads
- TEST # 4: Proper Installation of Nonsystem Elements

PERFORMANCE OBJECTIVE: PROVIDE A PHYSICALLY DURABLE SURFACE

- TEST # 5: Durability of Surfaces
- TEST # 6: Resistance to Scratching and Abrasion
- TEST # 7: Water Absorption and Retention

PERFORMANCE OBJECTIVE: PROVIDE SATISFACTORY APPEARANCE AND MAINTAINABILITY

- TEST # 8: Cleanability and Resistance to Stains
- TEST # 9: Dust Accumulation