



Standard Classification for Serviceability of an Office Facility for Change and Churn by Occupants¹

This standard is issued under the fixed designation E1692; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This classification covers pairs of scales for classifying an aspect of the serviceability of an office facility, that is, the capability of an office facility to meet certain possible requirements to accommodate changes in working method, and frequent relocations of staff, and realignment of workstations.

1.2 Each pair of scales shown in Figs. 1-5, printed side by side on a page, are for classifying one topic of serviceability within that aspect of serviceability. Each paragraph in an Occupant Requirement Scale (see Figs. 1-5) summarizes one level of serviceability on that topic that occupants might require. The matching entry in the Facility Rating Scale (see) is a translation of the requirement into a description of certain features of a facility that, taken in combination, indicate that the facility is likely to meet that level of required serviceability.

1.3 The entries in the Facility Rating Scale (see Figs. 1-5) are indicative and not comprehensive. They are for quick scanning, to estimate approximately, quickly, and economically how well an office facility is likely to meet the needs of one or another type of occupant group over time. The entries are not for measuring, knowing, and evaluating how an office facility is performing.

1.4 This classification can be used to estimate the level of serviceability of an existing facility. It can also be used to estimate the serviceability of a facility that has been planned but not yet built, such as one for which single-line drawings and outline specifications have been prepared.

1.5 This classification indicates what would cause a facility to be rated at a certain level of serviceability, but it does not state how to conduct a serviceability rating or how to assign a serviceability score. That information is found in Practice E1334. The scales in this classification are complementary to and compatible with Practice E1334. Each requires the other.

¹ This classification is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.25 on Whole Buildings and Facilities.

Current edition approved April 1, 2012. Published May 2012. Originally approved in 1995. Last previous edition approved in 2005 as E1692 – 95a (2005). DOI: 10.1520/E1692-95AR12.

2. Referenced Documents

2.1 ASTM Standards:²

E631 Terminology of Building Constructions

E1334 Practice for Rating the Serviceability of a Building or Building-Related Facility

E1679 Practice for Setting the Requirements for the Serviceability of a Building or Building-Related Facility

2.2 ISO Documents:³

ISO 6240 International Standard, Performance Standards in Building—Contents and Presentation

ISO/DIS 7162 Draft International Standard, Performance Standards in Building—Contents and Format of Standards for Evaluation of Performance

ISO/DIS 7164 Draft International Standard, Performance Standards in Building—Definitions and Means of Expression for the Performance of a Whole Building

3. Terminology

3.1 Definitions:

3.1.1 For standard definitions of additional terms applicable to this classification, see Terminology E631.

3.1.2 *facility, n*—physical setting used to serve a specific purpose. E631

3.1.2.1 *Discussion*—A facility may be within a building, or a whole building, or a building with its site and surrounding environment; or it may be a construction that is not a building. The term encompasses both the physical object and its use.

3.1.3 *facility serviceability*—the capability of a facility to perform the function(s) for which it is designed, used, or required to be used. E631

3.1.3.1 *Discussion*—The scope of this performance is of the facility as a system, including its subsystems, components, and materials and their interactions, such as acoustical, hydrothermal, air purity, and economic; and of the relative importance of each performance requirement.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

A.6. Change and Churn by Occupants

Scale A.6.1. Disruption due to physical change

Occupant Requirement Scale		Facility Rating Scale
<p><input type="checkbox"/> 9 ○ TOLERANCE FOR DISRUPTION: No loss of work effectiveness can be tolerated. ○ EXTENT OF STAFF DISRUPTION: Relocation of individuals or small groups completed overnight. ○ DISRUPTION OF NEARBY STAFF: No disruption to staff.</p>	<p><input type="checkbox"/> 8</p>	<p><input type="checkbox"/> 9 ○ Disruption during relocation: If universal footprint geometry, this is not a problem. Individuals and small groups can be relocated overnight with almost no disruption to occupants. ○ Disruption to neighbouring occupants: If universal footprint geometry, this is not a problem. Relocating or rearranging workplaces causes no disruption to nearby occupants <i>If universal footprint geometry, neither of the above is a problem.</i></p>
<p><input type="checkbox"/> 7 ○ TOLERANCE FOR DISRUPTION: No disruption and loss of work effectiveness can be tolerated. ○ EXTENT OF STAFF DISRUPTION: Essential that relocation of individuals or small groups be completed over a weekend. ○ DISRUPTION OF NEARBY STAFF: Minor disruption to staff for packing and unpacking files and equipment.</p>	<p><input type="checkbox"/> 6</p>	<p><input type="checkbox"/> 7 ○ Disruption during relocation: Individuals and small groups can be relocated over a weekend, including rearrangement of communications and network systems, with minor disruption to occupants. ○ Disruption to neighbouring occupants: Remodelling or rearranging workplaces causes negligible disruption to nearby occupants. . <i>If universal footprint geometry, neither of the above is a problem.</i></p>
<p><input type="checkbox"/> 5 ○ TOLERANCE FOR DISRUPTION: Limited disruption and loss of work effectiveness can be tolerated. ○ EXTENT OF STAFF DISRUPTION: Can lose some productivity for one or two working days for staff involved in relocation or realignment of offices. ○ DISRUPTION OF NEARBY STAFF: Maximum of one or two hours of significant disruption for other nearby staff.</p>	<p><input type="checkbox"/> 4</p>	<p><input type="checkbox"/> 5 <i>If universal footprint geometry is NOT or WILL NOT BE installed:</i> ○ Disruption during relocation: It takes one weekend plus one or two working days with severe disruption of office area to relocate small groups and make necessary adjustments, e.g. services. ○ Disruption to neighbouring occupants: Remodelling or rearranging workplaces causes minor disruption to occupants nearby, e.g. downtime of one or two hours.</p>
<p><input type="checkbox"/> 3 ○ TOLERANCE FOR DISRUPTION: Moderate disruption can be tolerated. ○ EXTENT OF STAFF DISRUPTION: Can lose equivalent of up to four working days when staff are unable to do normal work, or must spend time to move to temporary office space. ○ DISRUPTION OF NEARBY STAFF: Maximum of one day significant disruption for other nearby staff.</p>	<p><input type="checkbox"/> 2</p>	<p><input type="checkbox"/> 3 ○ Disruption during relocation: It takes one weekend plus two to four working days with severe disruption of office area to relocate small groups and make necessary adjustments, e.g. services. ○ Disruption to neighbouring occupants: Remodelling or rearranging workplaces causes major disruption to occupants nearby or on floors above or below, e.g. total downtime of one day.</p>

Scale A.6.1 continued on next page

FIG. 1 Scale A.6.1 for Disruption Due to Physical Change

3.1.4 *office*—a place, such as a room, suite, or building, in which business, clerical, or professional activities are conducted. **E631**

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *churn rate*—the rate at which changes in the layout or location of individual workstations occur in an organization, calculated as the number of occasions during the year in which the location at which an individual works is changed, or a

A.6. Change and Churn by Occupants

Scale A.6.1. Disruption due to physical change (continued)

Occupant Requirement Scale	Facility Rating Scale
<p>1 ○ TOLERANCE FOR DISRUPTION: <input type="checkbox"/> Extended disruption can be tolerated, including relocation of staff to interim (swing) space for a few weeks. ○ EXTENT OF STAFF DISRUPTION: Can lose equivalent of up to five working days for staff involved in changes. ○ DISRUPTION OF NEARBY STAFF: Maximum about one day downtime for other nearby staff.</p>	<p>1 ○ Disruption during relocation: It takes two weekends plus up to five working days with severe disruption of office area to relocate small groups and make necessary adjustments, e.g. services. ○ Disruption to neighbouring occupants: Remodelling or rearranging workplaces causes major disruption to occupants nearby or on floors above or below, e.g. downtime of over 1 day, so consider moving occupants to temporary other space.</p>
<p><input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance.</p>	
<p>Minimum <u>Threshold</u> level = <input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP</p>	

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 1 Scale A.6.1 for Disruption Due to Physical Change (continued)

workstation was relocated, including realignments or moves within the building, and moves in or out of the facility, with the total being divided by the total number of occupants at the end of the year and expressed as a percentage.

3.2.1.1 *Discussion*—The workstation that is relocated may be as an individual’s workstation or a workstation that is shared by a workgroup or project team. The relocation may require the movement of furniture screens or of partition walls, or it may require no change to the physical premises, for example, when “universal footprint” has been installed.

3.2.2 *footprint (of a workstation)*—the size and shape of the part of usable office area occupied by a single workspace.

3.2.2.1 *Discussion*—A footprint may be of a workspace containing a single workplace, for example, the office or open-plan workplace of a single individual; or of a workspace containing one or more workplaces assigned to individuals, for example, a mail room; or of a workspace containing no workplaces assigned to individuals, for example, a meeting room.

3.2.3 *major changes*—changes in layout that cause sufficient disruption so that the occupants cannot continue to work and must be moved to another location.

3.2.4 *minor changes*—changes in layout that do not require the occupants to leave their work area. Instead, the tradesmen can work around the occupants.

3.2.4.1 *Discussion*—Minor changes normally involve only a few workstations in open plan, or one or two rooms, with no affect on nearby workstations and no affect on heating, ventilating, or air conditioning systems.

3.2.5 *universal footprint*—a method of office space planning in which only a very few standard sizes and shapes of footprint are used.

3.2.5.1 *Discussion*—Two or three standard sizes are established in typical applications of this method. If larger sizes are needed, they are two of the initial footprint modules, without a dividing partition or wall between them.

4. Significance and Use

4.1 Each Facility Rating Scale in this classification provides a means for estimating the level of serviceability of a building or facility for one topic of serviceability, and for comparing that level against the level of any other building or facility.

4.2 This classification can be used for comparing how well different buildings or facilities meet a particular requirement for serviceability. It is applicable despite differences such as location, structure, mechanical systems, age, and building shape.

4.3 This classification can be used to estimate the amount of variance of serviceability from target or from requirement for a single office facility or within a group of office facilities.

4.4 This classification can be used to estimate the following: (1) the serviceability of an existing facility for uses other than its present use; (2) the serviceability (potential) of a facility that has been planned but not yet built; and (3) the serviceability (potential) of a facility for which a remodelling has been planned.

4.5 The use of this classification does not result in building evaluation or diagnosis. Building evaluation or diagnosis generally requires special expertise in building engineering or technology and the use of instruments, tools, or measurements.

4.6 This classification applies only to facilities that are building constructions or parts thereof. (While this classification may be useful in rating the serviceability of facilities that

A.6. Change and Churn by Occupants

Scale A.6.2. Illumination, HVAC and sprinklers

Occupant Requirement Scale	Facility Rating Scale
<p>9 <input type="checkbox"/> ○ FREQUENCY OF LAYOUT CHANGE: Churn rate is at least 75%, requiring very frequent minor realignment of individual workplaces or relocation of staff, including small groups.</p> <p>○ ADJUSTMENTS DUE TO RELOCATED EQUIPMENT: Change typically requires relocation of heat-generating equipment and equipment that needs special exhaust ventilation, so adjustments to air system, lighting and ceiling are required in many relocations.</p>	<p>9 <input type="checkbox"/> <i>If universal footprint geometry is NOT or WILL NOT BE installed:</i></p> <p>○ Relocating light fixtures: There is no need to relocate ceiling light fixtures, e.g. all are integrated with planning grid, or uplighting is used instead of ceiling mounted lights.</p> <p>○ Relocating air diffusers: Air diffusers on flexible ducts can be relocated at minimum cost, and with only a few minutes of disruption to office occupants.</p> <p>○ Special air exhaust: Space and capacity are available in ceiling and duct shafts for exhaust air ducts for special exhausts.</p> <p>○ Relocating sprinklers heads: There is no need to relocate sprinkler heads, e.g. all are integrated with planning grid.</p> <p><i>If universal footprint geometry IS or WILL BE installed:</i></p> <p>○ Special air exhaust: Flexible air ducts are easy to connect.</p>
<p>7 <input type="checkbox"/> ○ FREQUENCY OF LAYOUT CHANGE: Churn rate is in the range of 30% to 75%, requiring frequent minor realignment of individual workplaces or relocation of staff, including small groups.</p> <p>○ ADJUSTMENTS DUE TO RELOCATED EQUIPMENT: Change often requires relocation of heat-generating equipment and equipment that needs special exhaust ventilation, and requires many adjustments to air system, lighting and ceiling.</p>	<p>7 <input type="checkbox"/> <i>If universal footprint geometry is NOT or WILL NOT BE installed:</i></p> <p>○ Relocating light fixtures: Light fixtures are easily relocated within ceiling grid.</p> <p>○ Relocating air diffusers: Air diffusers on flexible ducts can be relocated at minimum cost, and a few hours of disruption to office occupants.</p> <p>○ Special air exhaust: Exhaust air ducts for special exhausts are easy to install, and space is available in ceiling and duct shafts.</p> <p>○ Relocating sprinklers heads: Sprinkler heads are easily relocated within ceiling grid.</p> <p><i>If universal footprint geometry IS or WILL BE installed:</i></p> <p>○ Special air exhaust: Can be installed at moderate cost.</p>
<p>5 <input type="checkbox"/> ○ FREQUENCY OF LAYOUT CHANGE: Churn rate is in the range of 15% to 30%, requiring periodic minor realignment of individual workplaces or relocation of staff, including small groups.</p> <p>○ ADJUSTMENTS DUE TO RELOCATED EQUIPMENT: Change sometimes requires relocation of heat-generating equipment and equipment that needs special exhaust ventilation, and requires some adjustments to air system and lighting.</p>	<p>5 <input type="checkbox"/> <i>If universal footprint geometry is NOT or WILL NOT BE installed:</i></p> <p>○ Relocating light fixtures: Light fixtures can be relocated within ceiling grid with some difficulty.</p> <p>○ Relocating air diffusers: Air diffusers can be relocated at moderate cost.</p> <p>○ Special air exhaust: Exhaust air ducts for special exhausts are possible, but expensive or difficult to install.</p> <p>○ Relocating sprinklers heads: Sprinkler heads can be relocated within ceiling grid with some difficulty and disruption, but only pipes serving relocated heads need to be realigned.</p> <p><i>If universal footprint geometry IS or WILL BE installed:</i></p> <p>○ Special air exhaust: Expensive or difficult to install.</p>

Scale A.6.2. continued on next page

FIG. 2 Scale A.6.2 for Illumination, HVAC, and Sprinklers

A.6. Change and Churn by Occupants

Scale A.6.2. Illumination, HVAC and sprinklers (continued)

Occupant Requirement Scale	Facility Rating Scale
<p>1</p> <p><input type="checkbox"/> Churn is negligible. Change rarely requires relocation of heat-generating equipment or equipment that needs special exhaust ventilation. Uniformity of furniture and screen arrangements means no adjustments are required to air system and lighting.</p>	<p>1</p> <p><input type="checkbox"/> ○ Relocating light fixtures: Light fixtures are only relocatable by surface-mounting fixtures with surface mounted conduits.</p> <p><input type="checkbox"/> ○ Relocating air diffusers: Air diffusers are only relocatable by removing non-accessible ceiling.</p> <p><input type="checkbox"/> ○ Special air exhaust: Exhaust air ducts for special exhausts must be run exposed under the ceiling to the exterior with no space in duct shafts.</p> <p><input type="checkbox"/> ○ Relocating sprinkler heads: Sprinkler piping system will have to be replaced in the whole area where any sprinkler heads must be replaced, causing major disruption to occupants, and great expense.</p> <p><input type="checkbox"/> ○ Universal footprint geometry: Would be exceptionally difficult or costly to install.</p>
<p><input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor importance.</p>	
<p><input type="checkbox"/> Mandatory minimum level (threshold) =</p>	<p><input type="checkbox"/> NA or NR</p>

NOTES

Space for handwritten notes on Requirements or Ratings

FIG. 2 Scale A.6.2 for Illumination, HVAC, and Sprinklers (continued)

are not building constructions, such facilities are outside the scope of this classification.)

4.7 This classification is not intended for, and is not suitable for, use for regulatory purposes, nor for fire hazard assessment or fire risk assessment.

5. Basis of Classification

5.1 The scales shown in Figs. 1-5 contain the basis for classification.

5.2 Instructions for the use of these figures are contained in Practices E1334 and E1679.

6. Keywords

6.1 air diffusers; relocating; air exhaust (in building); special; building; change and churn by occupants; facility; facility occupants; function; light fixtures; relocating; office; partition walls; in office; performance; rating; rating scale; requirements; serviceability; use; walls (partition) in office; workplace layouts; changes in

A.6. Change and Churn by Occupants

Scale A.6.3. Minor changes to layout

Occupant Requirement Scale	Facility Rating Scale
<p>9 <input type="checkbox"/> ○ FREQUENCY OF CHANGE: Churn rate is at least 75%, requiring very frequent minor realignment of individual workplaces or relocation of staff, including small groups. ○ PERSONNEL REQUIRED TO MAKE ADJUSTMENTS: Strong preference that staff can make such adjustments without technical help. ○ EFFECTS OF CHANGES: Vital that building and systems can accommodate minor changes without affecting overall serviceability, or disrupting work of occupants.</p>	<p>9 <input type="checkbox"/> ○ Changes in workplace layouts: Occupants, with help from facilities personnel or building operators, can make minor relocations of staff (individuals or small groups). Cable/data management does not require a technician for minor adjustments, e.g. prewired fixed-location workplaces require electronic reprogramming, not physical relocation. ○ Consequences of minor changes: Minor changes have no effect on serviceability.</p>
<p>7 <input type="checkbox"/> ○ FREQUENCY OF CHANGE: Churn rate is in the range of 30% to 75%, requiring frequent minor realignment of individual workplaces or relocation of staff, including small groups. ○ PERSONNEL REQUIRED TO MAKE ADJUSTMENTS: Strong preference that own facilities people can make such adjustments without outside help. ○ EFFECTS OF CHANGES: Important that building and systems can accommodate minor changes with negligible adverse effects on serviceability, and negligible disruption to occupants.</p>	<p>7 <input type="checkbox"/> ○ Changes in workplace layouts: Occupants' facilities personnel and building operators can make minor rearrangements in layout, e.g. realignment of a group of three to five workplaces. A prewired horizontal distribution system exists in the ceiling or floor, with spare capacity, and generally easy access, e.g. involves working mostly in aisles, not above workplaces. Regardless of fitup or furniture options, cabling and building services are easy to adjust. ○ Consequences of minor changes: Minor changes have negligible effect on serviceability, e.g. cables are easily distributed to any workplace position. There is minimal glare on VDU screens in any location, and effective air circulation, regardless of layout option.</p>
<p>5 <input type="checkbox"/> ○ FREQUENCY OF CHANGE: Churn rate is in the range of 15% to 30%, requiring periodic minor realignment of individual workplaces or relocation of staff, including small groups. ○ PERSONNEL REQUIRED TO MAKE ADJUSTMENTS: Can tolerate the added lead time needed when minor changes are done by external designers or contractors and technicians. ○ EFFECTS OF CHANGES: Can tolerate temporary inconvenience and disruption, and temporarily reduced serviceability due to changes.</p>	<p>5 <input type="checkbox"/> ○ Changes in workplace layouts: Occupants' facilities personnel and building operators do most of the minor rearrangements in layout, with minimal need for skilled external designers or contractors, e.g. realignment of a group of three to five workplaces. A prewired horizontal distribution system exists in the ceiling or floor, with some spare capacity, and somewhat difficult access, e.g. involves working above other workplaces. Regardless of fitup or furniture options, cabling and building services are somewhat difficult to adjust. ○ Consequences of minor changes: Minor changes cause some problems which can be easily corrected, e.g. cables on the floor under work surfaces.</p>

Scale A.6.3. continued on next page

FIG. 3 Scale A.6.3 for Minor Changes to Layout

A.6. Change and Churn by Occupants

Scale A.6.3. Minor changes to layout (continued)

Occupant Requirement Scale	Facility Rating Scale
<p><input type="checkbox"/> 3 ○ FREQUENCY OF CHANGE: Churn rate is less than 15%, requiring only occasional minor adjustments to individual workstations or relocation of staff. ○ PERSONNEL REQUIRED TO MAKE ADJUSTMENTS: Can tolerate the added lead time needed for minor changes done by external designers or contractors and technicians. ○ EFFECTS OF CHANGES: Can tolerate temporary inconvenience and disruption and some reduced serviceability due to changes, or, changes rarely involve workstations with cabling, computers or other electronic equipment requiring power.</p> <p><input type="checkbox"/> 1 ○ FREQUENCY OF CHANGE: Churn is negligible. Rarely require changes to individual or group areas, or can defer making even minor changes until the office is completely refitted.</p>	<p><input type="checkbox"/> 3 ○ Changes in workplace layouts: When minor rearrangements in layout are needed, e.g. realignment of a group of three to five workplaces, skilled external designers and contractors are needed. A prewired horizontal distribution system exists in the ceiling or floor, but is almost full, or is difficult to access. Regardless of fitup or furniture options, cabling and building services are difficult to adjust. ○ Consequences of minor changes: Minor changes are likely to worsen some factors affecting serviceability, e.g. cables across floor space between workstations. Power poles are not vertical. There is glare on VDU screens, obstruction to air supply, reduced visual privacy, increased distraction, and blocked view to distance.</p> <p><input type="checkbox"/> 2</p> <p><input type="checkbox"/> 1 ○ Changes in workplace layouts: When minor changes are needed to even one workplace, e.g. relocation or realignment of furniture and equipment, skilled external designers and contractors are needed. No prewired horizontal distribution system exists in the ceiling or floor, or, horizontal distribution is full or extremely difficult to access. Regardless of fitup or furniture options, cabling and building services are very difficult to adjust. ○ Consequences of minor changes: Minor changes are likely to seriously degrade serviceability, e.g. cables across open floor or aisles. Power poles are not vertical. There is glare on VDU screens, obstruction to air supply, reduced visual privacy, increased distraction, and blocked view to distance..</p>

<input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance.	
Minimum Threshold level =	<input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 3 Scale A.6.3 for Minor Changes to Layout (continued)

A.6. Change and Churn by Occupants

Scale A.6.4. Partition wall relocations

Occupant Requirement Scale	Facility Rating Scale
<p>9 <input type="checkbox"/> ○ FREQUENCY OF PARTITION CHANGE: Require very frequent minor realignment of individual workplaces or relocation of small groups of staff, because churn rate is more than 75%. ○ PROPORTION OF PARTITIONED OFFICES: Use mostly partition walls, e.g. the proportion of enclosed offices is more than 70% of workplaces for individuals.</p>	<p>9 <input type="checkbox"/> <i>If universal footprint geometry IS or WILL BE installed, the facility is at level 9 for this topic, or,</i> <i>If universal footprint geometry is NOT or WILL NOT BE installed:</i> ○ Floor to ceiling partition walls: There is no damage to flooring and minimum damage to the ceiling when relocating partition walls. ○ Extent of salvage: Partition walls are easily removed and fully salvageable.</p>
<p>7 <input type="checkbox"/> ○ FREQUENCY OF PARTITION CHANGE: Require frequent minor realignment of individual workplaces or relocation of small groups of staff, because churn rate is in the range of 30% to 75%. ○ PROPORTION OF PARTITIONED OFFICES: Use many partition walls, e.g. the proportion of enclosed offices and other rooms is in the range of 30% to 70% of workplaces for individuals.</p>	<p>7 <input type="checkbox"/> <i>If universal footprint geometry IS or WILL BE installed, and if the statements below are true, the facility is at level 9 for this topic, or,</i> <i>If universal footprint geometry is NOT or WILL NOT BE installed:</i> ○ Floor to ceiling partition walls: Floor to ceiling partition walls are erected on top of floor covering and anchored so as not to damage floor covering. Patching is not needed if partition walls are relocated. There is very minor damage to the ceiling when relocating partition walls. ○ Extent of salvage: Partition walls are easily removed and generally salvageable.</p>
<p>5 <input type="checkbox"/> ○ FREQUENCY OF PARTITION CHANGE: Require periodic minor realignment of individual workplaces or relocation of small groups of staff, because churn rate is in the range of 15% to 30%. ○ PROPORTION OF PARTITIONED OFFICES: Use some partition walls, e.g. up to 30% of workplaces for individuals.</p>	<p>5 <input type="checkbox"/> <i>If universal footprint geometry IS or WILL BE installed, and if the statements below are or will be true, the facility is at level 9 for this topic, or,</i> <i>If universal footprint geometry is NOT or WILL NOT BE installed:</i> ○ Floor to ceiling partition walls: Floor to ceiling partition walls are erected on top of floor covering and fixed so as to minimize damage to floor covering. Typically, the ceiling must be patched or repaired after relocating partition walls. ○ Extent of salvage: Partition walls are removable, with some elements salvageable, e.g. doors, frames/rails, and hardware.</p>

Scale A.6.4 continued on next page

FIG. 4 Scale A.6.4 for Partition Wall Relocations

A.6. Change and Churn by Occupants

Scale A.6.4. Partition wall relocations (continued)

Occupant Requirement Scale		Facility Rating Scale	
3 <input type="checkbox"/>	<p>○ FREQUENCY OF PARTITION CHANGE: Require only occasional minor adjustments to individual workstations or relocation of staff because churn rate is less than 15%.</p> <p>○ PROPORTION OF PARTITIONED OFFICES: Minimum use of partition walls, or rarely alter location of partition walls once installed.</p>	2 <input type="checkbox"/>	<p>3 <input type="checkbox"/></p> <p><i>If universal footprint geometry IS or WILL BE installed, and if the statements below are or will be true, the facility is at level 9 for this topic, or, If universal footprint geometry is NOT or WILL NOT BE installed:</i></p> <p>○ Floor to ceiling partition walls:: Floor to ceiling partition walls are erected on the floor before installation of floor covering. There are gaps in flooring material when removing or relocating partition walls.</p> <p>○ Extent of salvage: If partition walls are removed, there is little salvage.</p>
1 <input type="checkbox"/>	<p>○ FREQUENCY OF PARTITION CHANGE: Churn is negligible.</p> <p>○ PROPORTION OF PARTITIONED OFFICES: Minimum use of partition walls and very rarely alter location of partition walls once installed.</p>	1 <input type="checkbox"/>	<p>1 <input type="checkbox"/></p> <p><i>If universal footprint geometry IS or WILL BE installed, and if the above is or will be true, the facility is at level 9 for this topic, or, If universal footprint geometry is NOT or WILL NOT BE installed::</i></p> <p>○ Floor to ceiling partition walls: Floor to ceiling partition walls are erected on the floor before installation of floor covering. There is considerable damage to ceiling and gaps in flooring material when removing or relocating partition walls.</p> <p>○ Extent of salvage: If partition walls are removed, there is no salvage.</p>

<input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance.	
Minimum Threshold level =	<input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 4 Scale A.6.4 for Partition Wall Relocations (continued)

A.6. Change and Churn by Occupants

Scale A.6.5. Lead time for facilities group

Occupant Requirement Scale	Facility Rating Scale
<p><input type="checkbox"/> 9 ○ ADVANCE NOTICE OF REQUIRED CHANGE: Operations are subject to frequent substantial and rapid adjustments or changes, requiring very rapid reorganizing of how work is done, hence physical changes to the office. ○ ALLOWABLE TIME FOR COMPLETING CHANGE: Must be able to accomplish major changes to office facilities in days or weeks, including lead time.</p>	<p><input type="checkbox"/> 9 <i>If universal footprint geometry IS or WILL BE installed, the facility is at level 9 for this topic, or, **If universal footprint geometry is NOT or WILL NOT BE installed:</i> ○ Planning major realignment: Changes to building mechanical system distribution, zones or controls, or to screen or wall systems are not normally required, e.g. use of generic or universal footprints for both open plan areas and rooms. ○ Ordering and installation: There is a very short lead time for ordering, e.g. several days, and the components are usually in stock. Changes are made with minor or no physical alteration to building or services.</p>
<p><input type="checkbox"/> 7 ○ ADVANCE NOTICE OF REQUIRED CHANGE: Operations are subject to major adjustments that are expected to take effect within one or a few months. ○ ALLOWABLE TIME FOR COMPLETING CHANGE: Can tolerate a maximum of 8 weeks for planning major changes to an office and 10 weeks for implementation.</p>	<p><input type="checkbox"/> 7 <i>If universal footprint geometry IS or WILL BE installed, and if the statements below are true, the facility is at level 9 for this topic, or, **If universal footprint geometry is NOT or WILL NOT BE installed:</i> ○ Planning major realignment: It takes one to two months to plan and tender a major change, e.g. planning fitup of a whole floor. ○ Ordering and installation: It takes six to ten weeks from tenders to installation and commissioning.</p>
<p><input type="checkbox"/> 5 ○ ADVANCE NOTICE OF REQUIRED CHANGE: Operations are subject to occasional major adjustments that are expected to take effect in 6 months or less. ○ ALLOWABLE TIME FOR COMPLETING CHANGE: Can tolerate a maximum of 12 weeks for planning major changes to an office and 12 weeks for implementation.</p>	<p><input type="checkbox"/> 5 <i>If universal footprint geometry IS or WILL BE installed, and if the statements below are or will be true, the facility is at level 9 for this topic, or, **If universal footprint geometry is NOT or WILL NOT BE installed:</i> ○ Planning major realignment: It takes two to three months to plan and tender a major change, e.g. planning fitup of a whole floor. ○ Ordering and installation: It takes two to three months from tenders to installation and commissioning.</p>
<p><input type="checkbox"/> 3 ○ ADVANCE NOTICE OF REQUIRED CHANGE: ○ ALLOWABLE TIME FOR COMPLETING CHANGE: Operations seldom require major adjustments, but, if so, can take effect up to a year from the start of planning to commissioning.</p>	<p><input type="checkbox"/> 3 <i>If universal footprint geometry IS or WILL BE installed, and if the statements below are or will be true, the facility is at level 9 for this topic, or, **If universal footprint geometry is NOT or WILL NOT BE installed:</i> ○ Planning major realignment: It takes three to four months to plan and tender a major change, e.g. planning fitup of a whole floor. ○ Ordering and installation: It takes three to four months from tenders to installation and commissioning.</p>

Scale A.6.5 continued on next page

FIG. 5 Scale A.6.5 for Lead Time for Facilities Group

A.6. Change and Churn by Occupants

Scale A.6.5. Lead time for facilities group (continued)

Occupant Requirement Scale	
1 <input type="checkbox"/>	<p>○ ALLOWABLE TIME FOR COMPLETING CHANGE: Operations rarely require major adjustments, and if so, can take effect a year or more after decisions to realign office space.</p>

Facility Rating Scale	
1 <input type="checkbox"/>	<p><i>If universal footprint geometry IS or WILL BE installed, and if the above is or will be true, the facility is at level 9 for this topic, or, **If universal footprint geometry is NOT or WILL NOT BE installed:</i></p> <p>○ Planning major realignment: It takes eight to twelve months to plan and tender a major change, e.g. planning fitup of a whole floor.</p> <p>○ Ordering and installation: It takes four months or longer from tenders to installation and commissioning.</p>

<input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance.	
Minimum Threshold level =	<input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 5 Scale A.6.5 for Lead Time for Facilities Group (continued)

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org). Permission rights to photocopy the standard may also be secured from the ASTM website (www.astm.org/COPYRIGHT/).