



Facility Guidelines Institute (FGI) Requirements for Acoustic Ceiling Panels/Tiles June 20, 2024

Environmental Health & Engineering, Inc. (EH&E) provides this report to Rockfon containing our summary of acoustic ceiling panel/tile (ACP) requirements promulgated by the Facility Guidelines Institute (FGI), an independent, non-profit organization dedicated to developing guidance for the planning, design, and construction of healthcare facilities.

The purpose of this document is to provide a summary and set of tables that serve as a reference for architects, engineers, and others involved in healthcare facility design and construction to determine whether and which type of ACPs are allowed or required in each area of healthcare facilities.

BACKGROUND

FGI publishes guidelines for the planning, design, and construction of healthcare facilities (the Guidelines). The Guidelines, which are generally updated at four-year intervals, are adopted on a state level and apply to new construction and major renovation. EH&E reviewed and summarized the requirements for ceilings in the Guidelines for hospitals, outpatient facilities, and residential facilities as outlined in FGI's 2018 and 2022 editions (FGI-2018 and FGI-2022). Note that some states currently adopt versions of the Guidelines published prior to FGI-2018, and some states do not adopt or use the Guidelines in any official capacity. Refer to FGI's adoption map.¹ EH&E also reviewed other materials; refer to Appendix A for the research methodology and team.

SUMMARY

FGI-2018 and FGI-2022 broadly allow for implementation of ACP lay-in ceilings in most healthcare facility areas. Three classes of ceilings may be implemented in healthcare facilities:

1. Lay-in ceilings with ACPs with no minimum weight requirement and an un-gasketed grid.
2. Lay-in ceilings with ACPs that weigh a minimum of 1 pound per square foot (lb/sq), and/or a gasketed grid (at least one; both not required).

¹ FGI. 2024. *Adoption of FGI Guidelines*. St. Louis, Missouri: Facility Guidelines Institute.
<https://www.fgiguideines.org/guidelines/adoption-map/>.

3. Monolithic ceilings.²

The design and construction requirements for ceilings in Hospitals, Outpatient Facilities, and Residential Facilities are presented in Appendix B in Tables B.1, B.2, and B.3, respectively. The aim of these tables is to serve as a reference to quickly determine whether and which type of ACPs are allowed or required in each area of healthcare facilities. Facility areas and departments within the table are ordered by approximate total square footage for typical facilities.

Ceiling design and construction requirements for analogous areas across facility types have no difference in ceiling design and construction requirements. For example, lay-in ceilings with ACPs and an un-gasketed grid are allowed in staff and administrative areas; and lay-in ceilings with ACPs that weigh at least 1 lb/sq and/or a gasketed grid are allowed in airborne infection isolation rooms in hospitals, outpatient facilities, and residential facilities alike.

Broadly, the ceiling design and construction required by FGI is determined by the types of procedures for which the space is designed.³ To reduce the chance of infection, surgically invasive procedures that require an aseptic surgical field are to be performed in spaces with monolithic ceilings. Where less invasive diagnostic and therapeutic procedures are performed, the Guidelines allow lay-in ceilings with ACPs that weigh a minimum of 1 lb/sq and/or a gasketed grid. Most other areas, including public areas and most other patient areas where asepsis is not required, lay-in ceilings with ACPs with no minimum weight requirement, and an un-gasketed grid are allowed.

Laundry and food preparation areas. In most areas where lay-in ceilings with ACPs that weigh a minimum of 1 lb/sq are allowed, lay-in ceilings with ACPs with no weight minimum and a gasketed grid are allowed as an alternative. The only exceptions are some laundry areas, and food preparation areas, food supply, and storage rooms *in hospitals only*. In these cases, if lay-in ceilings are implemented, the ACPs must weigh a minimum of 1 lb/sq. Note that this does not apply to those areas in outpatient facilities or residential facilities, where lay-in ceilings with ACPs with no weight minimum and an un-gasketed grid can be implemented in all laundry, food preparation, supply, and storage areas.

Mechanical, electrical, and communications rooms. The only areas wherein ceilings are not required in healthcare facilities are service areas (mechanical, electrical, and communications rooms); however, ceilings, including ACP lay-in ceilings, are allowed. For areas of healthcare

² In Class 3 Imaging Rooms, Operating Rooms (Class B and C), and Surgical Cystoscopic Rooms where monolithic ceilings are required by the 2018 FGI, the 2022 FGI allows monolithic ceilings or modular or prefabricated ceilings in hospitals and outpatient facilities.

³ FGI. 2022. *Applying the FGI Guidelines to Spaces Where Invasive vs. Noninvasive Patient Care is Delivered*. St. Louis, Missouri: Facility Guidelines Institute. <https://fgiguideines.org/wp-content/uploads/2023/09/Application-Guidance-invasive-1.pdf>.

facilities outside of service areas that are not specified in their respective tables, ceilings are required. Because there are no ceiling requirements for these areas, ceilings may be lay-in ceilings with ACPs with no minimum weight requirement and an un-gasketed grid.⁴

If you have any comments or questions regarding this report, please contact either of us at 1-800-TALK EHE (1-800-825-5343).

Sincerely,



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Appendix A Methodology and Research Team

Appendix B Tables—Ceiling Design and Construction Requirements for Healthcare Facilities

⁴ FGI. 2022. *Guidelines for Design and Construction of Hospitals*, 2022 Edition. Section 2.1-7.2.3.3 (4). St. Louis, Missouri: Facility Guidelines Institute.

APPENDIX A METHODOLOGY AND RESEARCH TEAM

For the assessment of acoustic ceiling panel/tile (ACP) requirements, EH&E reviewed the 2014, 2018, and 2022 editions of the Facility Guidelines Institute's Guidelines for Hospitals, Outpatient Facilities and Residential Facilities. The design and construction requirements outlined in these publications for ceilings in each area of each facility type, where presented, were compiled and compared. Table 7-1 Design Parameters – Inpatient Spaces, Table 8-1 Design Parameters – Specialized Outpatient Spaces, and Table 9-1 Design Parameters for Residential Health, Care, and Support-specific Spaces from The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 170,¹ which is presented as Part 3 of FGI-2018 and FGI-2022, were adapted into Tables B.1 – B.3 of Appendix B of this report.

The research team consisted of the following individuals:

- Michael A. Sellitto, M.S., C.I.H.
 - Staff Scientist II / Project Manager
- Brian J. Baker, PE
 - Principal Engineer
- Kristin Pitocco, MPH
 - Principal Consultant
- Bryan Connors, M.S., C.I.H.
 - Managing Principal Consultant

¹ ANSI/ASHRAE/ASHE Standard 170-2017. 2017. *Ventilation of Health Care Facilities*. Washington, DC: American National Standards Institute, American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., American Society for Health Care Engineering.

Appendix B Tables - Ceiling Design and Construction Requirements for Healthcare Facilities

Table B.1 Facility Guidelines Institute Acoustic Ceiling Tile Requirements for Hospitals (2018 and 2022)	Acoustic Ceiling Panels		
	No panel weight or grid gasket requirement	Panel weight or grid gasket requirement	Not Permitted
Public Areas			
Waiting areas, corridors, lobbies, reception, dining, chapel, shops, toilet rooms, etc.	✓		
Staff and Administrative Areas			
Offices, corridors, staff lounges, conference rooms, sleeping quarters, toilet rooms, etc.	✓		
Intensive Care / Inpatient Nursing / MED - SURG			
Patient rooms and patient toilet rooms (note requirements for special patient areas below)	✓		
Clean and soiled workroom or holding room, equipment storage rooms	✓		
PE rooms and PE ante rooms including combination All / PE room and anterooms ^a			X
All rooms and all ante rooms		✓	
Wound intensive care patient rooms and patient toilet rooms (burn unit) ^a			X
Diagnostic and Treatment Areas			
Laboratories (all)	✓		
Class 1 Imaging rooms, treatment rooms, examination rooms	✓		
Class 2 Imaging rooms, Class A surgery procedure rooms		✓	
Class 3 Imaging rooms ^a			X
Endoscopy procedure rooms and scope cleaning rooms		✓	
Bronchoscopy, sputum collection, and pentamidine administration		✓	
Dialysis treatment and reprocessing rooms	✓		
Nuclear medicine treatment rooms and hot laboratories	✓		
Nurses stations and medication rooms, nourishment areas / rooms	✓		
Emergency Department			
Exam rooms, treatment rooms, treatment stations	✓		
Trauma rooms (crisis or shock)		✓	
Triage	✓		
Pre and post procedure patient care areas	✓		
ER decontamination ^a			X
Surgical Suite			
Substerile service areas (including clean corridors and sterile corridors)		✓	
Operating rooms (class B and C) and surgical cystoscopic rooms ^{a, b}			X
Operating room equipment storage rooms		✓	
Cardiac catheterization laboratories		✓	
Sterile processing rooms - clean / decon / storage (within surgical suites)		✓	
Patient Recovery Areas			
Pre and post procedure (phase I and II) patient care areas	✓		

Table B.1 Facility Guidelines Institute Acoustic Ceiling Tile Requirements for Hospitals (2018 and 2022) Continued	Acoustic Ceiling Panels		
	No panel weight or grid gasket requirement	Panel weight or grid gasket requirement	Not Permitted
NICU Suite			
Delivery rooms (cesarean) ^{a, b}			X
Neonatal intensive care rooms, infant feeding prep spaces		✓	
Newborn nursery rooms	✓		
Labor, delivery, recovery and postpartum	✓		
Oncology / Bone Marrow Treatment Suite			
Patient rooms and patient toilet rooms ^a			X
Clean corridors		✓	
Behavioural Health Suites			
All (seclusion rooms, treatment rooms, patient rooms, patient toilet rooms) ^a			X
Pharmacy Suite			
Pharmacy general, storage rooms, staff lounge and lockers	✓		
Pharmacy clean rooms ^a			X
Sterile Processing Department			
Soiled or decontamination rooms		✓	
Sterilizer equipment room and staff changing rooms	✓		
Sterile processing rooms / clean workroom, sterile storage; equipment and supply storage rooms		✓	
Janitorial and Service			
Environmental services rooms (janitors rooms or closets)	✓		
Mechanical and electrical rooms, communications equipment rooms ^c	✓		
Central Medical and Surgical Supply			
Laundry, general ^d		✓	
Clean linen handling and storage rooms, central supply rooms	✓		
Linen and trash chute rooms and soiled linen handling rooms	✓		
Food and Nutritional Services			
Food preparation areas, food supply and storage rooms ^d		✓	
Warewashing	✓		
Morgue Services			
Autopsy rooms and nonrefrigerated body-holding rooms	✓		

ACP Acoustic Ceiling Panels
 All Airborne Infection Isolation
 PE Protective Environment
 ER Emergency Room
 FGI Facility Guidelines Institute

a FGI requires these ceilings to be monolithic
 b The 2022 FGI allows for modular or prefabricated ceilings
 c FGI does not require ceilings in these areas, but ACPs are allowed
 d FGI allows ACPs or monolithic ceilings. If ACPs are used, they must weight a minimum of 1 pound per square foot

Table B.2 Facility Guidelines Institute Acoustic Ceiling Tile Requirements for Outpatient Facilities (2018 and 2022)	Acoustic Ceiling Panels		
	No panel weight or grid gasket requirement	Panel weight or grid gasket requirement	Not Permitted
Public Areas			
Waiting areas, corridors, lobbies, reception, dining, chapel, shops, toilet rooms, etc.	✓		
Staff and Administrative Areas			
Offices, corridors, staff lounges, conference rooms, toilet rooms, etc.	✓		
Diagnostic and Treatment Areas			
Patient rooms and patient toilet rooms	✓		
Clean and soiled workroom or holding room, equipment storage rooms	✓		
PE rooms and PE ante rooms including combination All / PE room and anterooms ^a			X
All rooms and all ante rooms		✓	
Laboratories (all)	✓		
Class 1 Imaging rooms, treatment rooms, examination rooms	✓		
Class 2 Imaging rooms, Class A surgery procedure rooms		✓	
Class 3 Imaging rooms ^a			X
Endoscopy procedure rooms and scope cleaning rooms		✓	
Bronchoscopy		✓	
Dialysis treatment and reprocessing rooms	✓		
Nuclear medicine treatment rooms and hot laboratories	✓		
Nurses stations and medication rooms, nourishment areas / rooms	✓		
Pre and post procedure (phase I and II) patient care areas	✓		
Cancer treatment (infusion) areas	✓		
Surgical Suite			
Substerile service areas (including clean corridors and sterile corridors)		✓	
Operating rooms (class B and C) and surgical cystoscopic rooms ^{a, b}			X
Operating room equipment storage rooms		✓	
Cardiac catheterization laboratories		✓	
Sterile processing rooms - clean / decontamination / storage (within surgical suites)		✓	
Emergency Department			
Exam rooms, treatment room, treatment stations	✓		
Trauma room (crisis or shock)		✓	
Triage	✓		
Pre and post procedure patient care areas	✓		
ER decontamination ^a			X
NICU Suite			
Delivery rooms (cesarean) ^{a, b}			X
Neonatal intensive care rooms, infant feeding prep spaces		✓	
Newborn nursery rooms	✓		
Labor, delivery, recovery and postpartum	✓		

Table B.2 Facility Guidelines Institute Acoustic Ceiling Tile Requirements for Outpatient Facilities (2018 and 2022) Continued	Acoustic Ceiling Panels		
	No panel weight or grid gasket requirement	Panel weight or grid gasket requirement	Not Permitted
Pharmacy Suite			
Pharmacy general, storage rooms, staff lounge and lockers	✓		
Pharmacy clean rooms ^a			X
Sterile Processing Department			
Soiled or decontamination rooms		✓	
Sterilizer equipment room and staff changing rooms	✓		
Sterile processing rooms / clean workrooms, sterile storage; equipment and supply storage rooms		✓	
Janitorial and Service			
Environmental services rooms (janitors, rooms or closets)	✓		
Mechanical and electrical rooms, communications equipment rooms ^c	✓		
Central Medical and Surgical Supply			
Laundry, general ^d	✓		
Clean linen handling and storage rooms, central supply rooms	✓		
Linen and trash chute rooms and soiled linen handling rooms	✓		
Food and Nutritional Services			
Food preparation areas, food supply and storage rooms ^d	✓		
Warewashing	✓		

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a FGI requires these ceilings to be monolithic
 b The 2022 FGI allows for modular or prefabricated ceilings
 c FGI does not require ceilings in these areas, but ACPs are allowed
 d FGI allows ACPs or monolithic ceilings. If ACPs are used, they do not have a weight minimum requirement

Table B.3 Facility Guidelines Institute Acoustic Ceiling Tile Requirements for Residential Facilities (2018 and 2022)	Acoustic Ceiling Panels		
	No panel weight or grid gasket requirement	Panel weight or grid gasket requirement	Not Permitted
Public Areas			
Waiting areas, corridors, lobbies, reception, dining, chapel, shops, toilet rooms, etc.	✓		
Staff and Administrative Areas			
Offices, corridors, stagg lounges, conference rooms, sleeping quarters, toilet rooms, etc.	✓		
Nursing Homes			
All rooms and all ante rooms		✓	
Occupational physical therapy	✓		
Patient living / activity / dining spaces	✓		
Patient rooms, patient corridors, and patient toilet / bathing rooms (note requirements for special patient areas below)	✓		
Hospice Facilities			
All rooms and all ante rooms		✓	
Patient rooms, patient corridors, and patient toilet / bathing rooms	✓		
Assisted Living Facilities			
Resident living / activity / dining spaces	✓		
Resident rooms, resident corridors, and resident toilet / bathing rooms	✓		
Behavioural Health Facilities			
All patient areas (seclusion rooms, treatment rooms, patient rooms, patient toilet rooms) ^a			X
Food and Nutritional Services			
Food preparation areas, food supply and storage rooms ^b	✓		
Dietary storage	✓		
Warewashing	✓		
Support Spaces and Other			
Laundry, general ^b	✓		
Clean linen handling and storage rooms, central supply rooms	✓		
Linen and trash chute rooms and soiled linen handling rooms	✓		
Medication rooms	✓		
Nonrefridgerated body holding rooms	✓		
Janitorial and Service			
Environmental services rooms (janitors rooms or closets)	✓		
Mechanical and electrical rooms, communications equipment rooms ^c	✓		

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 AI Airborne Infection Isolation
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- a FGI requires these ceilings to be monolithic
- b FGI allows ACPs or monolithic ceilings. If ACPs are used, they do not have a weight minimum requirement
- c FGI does not require ceilings in these areas, but ACPs are allowed