Resources for Selecting Architectural Details, Surfaces, and Furnishings for Health Care Facilities

2010 Health Guidelines Revision Committee Specialty Subcommittee on Surfaces

In the 2010 Facility Guidelines Institute (FGI) *Guidelines for Design and Construction of Health Care Facilities*, the requirements for architectural details, surfaces, and furnishings can be found in the same location in every chapter to make them easier to find. This organization is based on the criteria for selecting health care surfaces established in the 2006 edition of the Guidelines in appendix section A1.5-2.2.1.5. The 2010 edition has expanded on these criteria, further defining performance characteristics, including resources for appropriate selection and application to assist in preparing specifications. This information is provided as recommended supplemental material to the 2010 Guidelines; it is not all inclusive but rather a starting point for creation of a collective resource of relevant information. ***This paper will be periodically updated using suggestions from readers; it can be downloaded from the FGI website at http://www.fgiguidelines.org/interim_pubs.html.***

In the 2010 FGI *Guidelines*, preferred performance characteristics of ideal products are listed in appendix section A1.2-3.2.1.5 in Chapter 1.2 (Planning, Design, Construction, and Commissioning). The content of this resource list is organized using these characteristics.

1. Resources that address these preferred characteristics:
- Easy to maintain/repair and clean
- Slip-resistant (appropriate coefficient of friction)
- Easy to install, demolish, and replace
- Has compatible substrate and materials for surface assemblies
- Resilient, impact-resistant

(1) General information

Americans with Disabilities Act (ADA): www.ada.gov

ADA Accessibility Guidelines for Buildings and Facilities (ADAAG. www.access-board.gov/adaag/html/adaag.htm

Uniform Federal Accessibility Standards (UFAS). www.access-board.gov/ufas/ufas-html/ufas.htm

ICC/ANSI A117.1-2003: *Accessible and Useable Buildings and Facilities*. www.ansi.org

(2) Flooring

American Association of Textile Chemists and Colorists (www.aatcc.org)

AATCC Evaluation Procedure 1: *Gray Scale for Color Change*

AATCC Evaluation Procedure 2: *Gray Scale for Staining*

AATCC Test Method 16: *Colorfastness to Light* Option 3 (Xenon Arc Continuous Light) for 40 AATCC fading units

Carpet and Rug Institute (CRI): www.carpet-rug.org

ASTM D5684: *Standard Terminology Relating to Pile Floor Coverings*

ASTM D6540: *Standard Test Method for Accelerated Soiling of Pile Yarn Floor Covering*

Resilient Floor Covering Institute (RFCI): www.rfci.com

ASTM F693: *Standard Practice for Sealing Seams of Resilient Sheet Flooring Products*

ASTM F710: *Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring*

ASTM F1482: *Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring*

ASTM F1516: *Standard Practice for Sealing Seams of Resilient Flooring Products by the Heat Weld Method (When Recommended)*

ASTM F1869: *Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride*

ASTM F2170: *Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in Situ Probes*

ASTM F2419: *Standard Practice for Installation of Thick Poured Gypsum Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring*

ASTM F2471: S*tandard Practice for Installation of Thick Poured Lightweight Cellular Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring*

(3) Walls, wall bases, and wall protection

Chemical Fabrics and Film Association (CFFA): www.chemicalfabricsandfilm.com

Wallcoverings Association (WA): www.wallcoverings.org

(4) Ceilings

(5) Lighting

Illuminating Engineering Society of North America (IESNA) standards: www.iesna.org

IESNA RP-29: *Lighting for Hospitals and Health Care Facilities*

IESNA RP-28: *Lighting and the Visual Environment for Senior Living*

ANSI/ASHRAE/IESNA 90.1: *Energy Standard for Buildings Except Low-Rise Residential Buildings*

(6) Doors and hardware

(7) Grab bars

(8) Handrails

(9) Furnishings (includes upholstery)

American Association of Textile Chemists and Colorists (AATCC): www.aatcc.org

American Fiber Manufacturers Association (AFMA): www.fibersource.com

(10) Casework, millwork, and built-ins

International Cast Polymer Alliance (ICPA): www.icpa-hq.org

ANSI/ICPA-SS-1: *Performance Standard for Solid Surface Materials*

International Solid Surfaces Fabricators Association (ISSFA): www.isfanow.org

NEMA (The Association of Electrical and Medical Imaging Equipment Manufacturers): www.nema.org

ANSI/NEMA LD 3: *High-Pressure Decorative Laminates*

(11) Furniture

Business and Institutional Furniture Manufacturer's Association (BIFMA): www.bifma.com

(12) Window treatments

(13) Signage and wayfinding

2. Resources that address these preferred characteristics:

- Does not support microbial growth
- Nonporous and smooth
- Seamless
- Made of non-toxic/non-allergenic materials

(1) General

Centers for Disease Control and Prevention (CDC): www.cdc.gov

(2) Flooring

Carpet and Rug Institute (CRI): www.carpet-rug.org

Resilient Floor Covering Institute (RFCI): www.rfci.com

(3) Walls, wall bases, and wall protection

Association of the Wall and Ceiling Industry (FWCI): www.awci.org
Mold: Cause, Effect and Response (Foundation Research Series)

Chemical Fabrics and Film Association (CFFA): www.chemicalfabricsandfilm.com

Wallcoverings Association (WA): www.wallcoverings.org

(4) Ceilings

(5) Lighting

Illuminating Engineers Society of North America (IESNA): www.IESNA.org

(6) Doors and hardware

American Architectural Manufacturers Association (AAMA): www.aamanet.org
AAMA Certification Program
AAMA/WDMA/CSA 101/I.S.2/A440: *North American Fenestration
Standard/Specification for windows, doors, and skylights*:
www.aamanet.org/pubstore/A440H-08EN_UP_2.pdf

Builders Hardware Manufacturers Association (BHMA): www.buildershardware.com
ANSI/BHMA A156 standards for doors and hardware (A156.1 through A156.31).
http://global.ihs.com/news/temp/standards/BHMA.html

Steel Door Institute (SDI): www.steeldoor.org
ANSI/SDI-100: *Recommended Specifications for Standard Steel Doors and Frames*.
www.steeldoor.org/res/A250_8.pdf

Window and Door Manufacturers Association (WDMA): www.wdma.com

(7) Grab bars

(8) Handrails

(9) Furnishings (includes upholstery)

(10) Casework, millwork, and built-ins

ASTM International: www.astm.org
ASTM D6329: *Standard Guide for Developing Methodology for Evaluating the Ability of
Indoor Materials to Support Microbial Growth Using Static Environmental Chambers*
(as base standard)

ASTM G21: *Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi*

NSF International: www.nsf.org

ANSI/NSF 51: *Food Equipment Materials* splash zone approved. www.nsf.org

(11) Furniture

(12) Window treatments

(13) Signage and wayfinding

3. Resources that address this preferred characteristic:
- Has acoustic properties (e.g., sound absorption), where applicable

(1) General

Acoustics Research Council (ARC)

"Sound and Vibration Design Guidelines for Health Care Facilities;" prepared by ANSI S12 Workgroup 44 and the Joint ASA/INCE/NCAC Subcommittee on Healthcare Acoustics and Speech Privacy (TC-AA.NS.SC). www.fgiguidelines.org/interim_pubs.html or http://speechprivacy.org/joomla//index.php?option=com_content&task=view&id=18&Itemid=31.

(2) Flooring
(3) Walls, wall bases, and wall protection
(4) Ceilings
(5) Doors
(6) Furnishings (includes upholstery)
(7) Casework, millwork, and built-ins
(8) Furniture
(9) Window treatments

4. Resources that address these preferred characteristics:
- Durable
- Sustainable
- Low-VOC
- Cost-effective (initial and life-cycle cost-effectiveness)

(1) General

ASTM International: www.astm.org

ASTM E917-05e1: *Standard Practice for Measuring Life-Cycle Costs of Buildings and Building Systems*

ASTM E1991: *Standard Guide for Environmental Life Cycle Assessment (LCA) of Building Materials/Products*

ASTM E2129: *Standard Practice for Data Collection for Sustainability Assessment of Building Products*

ASTM E2432: *Standard Guide for General Principles of Sustainability Relative to Buildings*

The Athena Institute: www.athenasmi.org

Athena® EcoCalculator

California Integrated Waste Management Board (CIWMB): www.ciwmb.ca.gov.
>> Section 01350: Special Environmental Requirements Specification.
>>> www.ciwmb.ca.gov/GreenBuilding/Specs/Section01350
Green Building Initiative™ (GBI): www.thegbi.org
>> Green Globes® Building Rating/Certification
>> Proposed GBI 01: Green Building Assessment Protocol for Commercial Buildings
U.S. Green Building Council (USGBC): www.usgbc.org
>> LEED® green building certification program

(2) Flooring
Carpet and Rug Institute (CRI): www.carpet-rug.org
>> CRI Green Label
>> CRI Green Label Plus
NSF International: www.nsf.org
>> ANSI/NSF 140: *Sustainable Carpet Assessment*
>> NSF 332 Draft Standard: Sustainability Assessment for Resilient Floor Coverings
Resilient Floor Covering Institute (RFCI): www.rfci.com
>> FloorScore®

(3) Walls, wall bases, and wall protection
Chemical Fabrics and Film Association (CFFA): www.chemicalfabricsandfilm.com
Wallcoverings Association (WA): www.wallcoverings.org
NSF International: www.nsf.org
>> NSF 342 Guidance Document Draft: Sustainability Assessment for Wallcovering Products

(4) Ceilings

(5) Lighting
U.S. Environmental Protection Agency
>> Energy Star: www.energystar.gov

(6) Doors and hardware
American Architectural Manufacturers Association (AAMA): www.aamanet.org
>> AAMA Certification Label
Builders Hardware Manufacturers Association (BHMA): www.buildershardware.com
>> ANSI/BHMA A156 standards for doors and hardware (A156.1 through A156.31).
>>> http://global.ihs.com/news/temp/standards/BHMA.html
Steel Door Institute (SDI): www.steeldoor.org
>> ANSI/SDI-100: *Recommended Specifications for Standard Steel Doors and Frames*.
>>> www.steeldoor.org/res/A250_8.pdf
Window and Door Manufacturers Association (WDMA): www.wdma.com
>> AAMA/WDMA/CSA 101/I.S.2/A440: *North American Fenestration Standard/Specification for windows, doors, and skylights.*
>>> www.wdma.com/files/public/AAMA_WDMA_CSA_101_IS2_A440-11_Draft_6_07-17-09_CLEAN.pdf

(7) Grab bars

(8) Handrails

(9) Furnishings (includes upholstery)

American Association of Textile Chemists and Colorists (AATCC): www.aatcc.org

AATCC Test Method 16: *Colorfastness to Light*. Method 16A

NSF International: www.nsf.org

NSF 336 Draft Standard: Commercial Furnishings Fabric Sustainability Assessment

Wyzenbeek Test (Double Rubs)

(10) Casework, millwork, and built-ins

ASTM International: www.astm.org

ASTM D5116: *Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products*

ASTM D6670: *Standard Practice for Full-Scale Chamber Determination of Volatile Organic Emissions from Indoor Materials/Products*

International Cast Polymer Alliance (ICPA): www.icpa-hq.org

ANSI/ICPA-SS-1: *Performance Standard for Solid Surface Materials*

International Surface Fabricators Association: www.isfanow.org

NEMA (The Association of Electrical and Medical Imaging Equipment Manufacturers): www.nema.org

ANSI/NEMA LD 3: *High-Pressure Decorative Laminates*

(11) Furniture

Business and Institutional Furniture Manufacturer's Association (BIFMA International): www.bifma.org

ANSI/BIFMA E3-2008: Business and Institutional Furniture Sustainability Assessment Standard

(12) Window treatments

Window Coverings Association of America (WCAA): www.wcaa.org

(13) Signage and wayfinding

5. Resources that address these characteristics:

- Inflammable – Class I fire rating
- Low smoke toxicity

(1) General

National Fire Protection Association (NFPA): www.nfpa.org

NFPA 101: *Life Safety Code®*

NFPA 701: *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*

(2) Flooring

Carpet and Rug Institute (CRI): www.carpet-rug.org

Resilient Floor Covering Institute (RFCI): www.rfci.com

(3) Walls, wall bases, and wall protection

ASTM International: www.astm.org

ASTM E84: *Standard Test Method for Surface Burning Characteristics of Building Materials*. Flame spread rate and smoke-developed factor

Chemical Fabrics and Film Association (CFFA): www.chemicalfabricsandfilm.com

Wallcoverings Association (WA): www.wallcoverings.org
    NYC and NYS toxicity testing

(4) Ceilings
(5) Lighting
(6) Doors and hardware
(7) Grab bars
(8) Handrails

(9) Furnishings (includes upholstery)
    ASTM International: www.astm.org
        ASTM E84: *Standard Test Method for Surface Burning Characteristics of Building Materials*. (Class A-rated materials)
    Boston Fire Department, Fire Prevention Division. www.cityofboston.gov/fire
        BFD IC-10: Regulation of Upholstered Furniture.
        www.cityofboston.gov/fire/pdfs/BFD%20IX-10%20Upholstered%20Furniture%20Regulation.pdf
    California Department of Consumer Affairs, Bureau of Home Furnishings and Thermal Insulation:
        www.bhfti.ca.gov
        Technical Bulletin 117: Requirements, Test Procedure and Apparatus for Testing the Flame Retardance of Resilient Filling Materials Used in Upholstered Furniture.
        www.bhfti.ca.gov/industry/117.pdf
    National Fire Protection Association (NFPA): www.nfpa.org
        NFPA 710: *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films* (large and small scale)
        NFPA/UFAC 260: *Standard Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture*

(10) Casework, millwork, and built-ins
    ASTM International: www.astm.org
        ASTM E-84: *Standard Test Method for Surface Burning Characteristics of Building Materials*

(11) Furniture
(12) Window treatments
(13) Signage and wayfinding

6. Resources that address this preferred characteristic:
- Controls reflectivity/glare

(1) General
(2) Flooring
(3) Walls
(4) Ceilings

(5) Lighting
    Illuminating Engineers Society of North America (IESNA): www.iesna.org
        IESNA RP-29: *Lighting for Hospitals and Health Care Facilities*
        IESNA RP-28: *Lighting and the Visual Environment for Senior Living*

(6) Casework, millwork, and built-ins
(7) Window treatments
(8) Signage and wayfinding

7. Resources that address this preferred characteristic:
- Has options for color, pattern, and texture

(1) General
(2) Flooring
(3) Walls, wall bases, and wall protection
(4) Ceilings
(5) Lighting
(6) Doors and hardware
(7) Grab bars
(8) Handrails
(9) Furnishings (includes upholstery)
(10) Casework, millwork, and built-ins
(11) Furniture
(12) Window treatments
(13) Signage and wayfinding

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For information on purchasing the 2010 FGI *Guidelines for Design and Construction of Health Care Facilities*, visit the Facility Guidelines Institute website at www.fgiguidelines.org.