

FIRE SAFETY
INTERIOR FINISHES, FURNISHINGS, AND DECORATIONS

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FIRE SAFETY

INTERIOR FINISHES, FURNISHINGS, AND DECORATIONS

1. INTRODUCTION

1.01 This practice establishes fire and life safety requirements applicable to interior finishes, furnishings, and decorations as defined below. This practice applies to all buildings, properties, and areas owned, leased, shared, or rented by the company and its subsidiaries.

1.02 This is the initial issue of this practice. This practice has been issued to standardize the loss prevention guidelines throughout the corporation and to reflect changes in the fire codes and corporate policy. This practice consolidates and supersedes the applicable sections of Corporate Instruction (CI) 76.206 Fire Prevention Precautions, Section 2.7, and AT&T Practice 760-610-200, Considerations for Interior Finishes and Furnishings, both of which have been cancelled. Whenever this practice is reissued, the reason(s) for reissue will be listed in this paragraph.

1.03 This practice does not contain admonishments.

1.04 We want your comments on this practice. We would like to know if the coverage of the subject was thorough, if you could find the information easily, and if the content was easily understood. For information on how to comment, refer to AT&T Practice 000-010-015.

1.05 The terms in this document that have a specific meaning are defined as follows:

- o **Shall** indicates a requirement for compliance with this practice.

- o **Should** indicates a strong recommendation that is not required.

- o **Listed** refers to a requirement which is satisfied if the device or procedure of interest is either listed by Underwriters' Laboratories (UL Listed) or approved by Factory Mutual (FM Approved). Listings or approvals granted by similar recognized agencies (e.g., CSA [Canadian Standards Association]) also satisfy this requirement.

- o **Approved** refers to acceptance by the Authority Having Jurisdiction at the particular company location.

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- o **Interior Finishes** include interior wainscoting, paneling, or other wall finishes applied structurally or for acoustical correction, surface

insulation, or similar purposes. Requirements for finishes do not apply to trim nor to materials which are less than 1/28 inch [0.91 millimeters (mm)] in thickness cemented to the surface of walls or ceilings, and if these materials have flame spread characteristics no greater than paper of this thickness cemented to a noncombustible backing.

o **Interior Furnishings** include items such as desks, chairs, tables, bookcases, shelving, file cabinets, coat racks, credenzas, sideboards, side tables, planters, dividers, and office modular systems.

o **Decorations** include materials such as seasonal decorations, Christmas trees, scenery, streamers, straw, bamboo and other wood products, artificial plants and flowers, artwork, flags, bunting, and other similar surface coverings, permanent or temporary in nature, attached to the building interior finish for decorative effect.

o **Fire Retardant** refers to materials, usually combustible, which have been subjected to a treatment to prevent or retard ignition or the spread of fire under the conditions for which they are used.

o **Flame Retardant** refers to materials, usually decorative, which due to chemical treatment or inherent properties do not ignite readily or propagate flaming conditions under small to moderate exposure. It is the preferable term to denote chemicals, processes, paint, or coatings used for the treatment of such materials as fabrics, foliage, Christmas trees, and similar items in the class of decorations or furnishings. Flame retardant denotes a lower degree of resistance to fire than fire retardant.

NOTE: [The definitions contained in Practice 760-600-115, Glossary, may also be helpful in understanding this practice.]

1.06 This practice is based on the National Fire Codes of the NFPA (National Fire Protection Association), the various model building codes, OSHA (Occupational Safety and Health Act) regulations, and requirements of our corporate insurance carriers. Consult them for additional information if desired.

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1.07 Where any local or state codes, laws, rules, or regulations of the public Authorities Having Jurisdiction at the location impose **more stringent** requirements than those cited in this practice, those codes, laws, rules, or regulations **shall** be followed.

Exception: Where a legally authorized variance has been granted by the Authority Having Jurisdiction, in writing, to specific requirements of a local code, law, rule, or regulation.

1.08 Where local conditions indicate the practical desirability to deviate from the requirements of this practice, the Fire Protection Engineering Manager should be consulted for guidance in achieving equivalent levels of protection by alternate means.

2. TEST METHODS

A. General

2.01 Manufacturers and suppliers of finishes and furnishings to AT&T **shall** supply written documentation concerning the type of test conducted and the results of the tests prior to a product being accepted for use in AT&T facilities.

2.02 Materials or products to be used in AT&T buildings shall meet specific ``standards of acceptance" which are based on flame spread and smoke contribution when tested in accordance with various test procedures. A description of each test procedure is provided below to aid those individuals who do not have ready access to the complete test procedure.

2.03 Whenever possible, the complete test procedure should be available to the user or specifier to aid in understanding how the rating for a product was developed. In many cases, these standards do not establish a fail-pass criteria. The ratings developed are an aid in the evaluation of one product versus another and should be used accordingly.

2.04 Specific levels of acceptance (ratings) are specified within the body of this practice.

2.05 Caution must be exercised in the evaluation of any test results, since no test method can accurately simulate actual fire conditions. Ratings should be used to compare one product with another and to evaluate the relative degree of fire spread.

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B. Descriptions of Fire and Smoke Tests

2.06 Wall and Ceiling Finish Test - NFPA 255, Test Method of Surface Burning Characteristics of Building Materials (also known as ASTM E-84, The Steiner Tunnel Test). This test was developed at Underwriters' Laboratories as a method of measuring the flammability of interior finishes, typically

identified in building codes as wall and ceiling materials.

2.07 In this test, the material to be tested is fastened horizontally to the ceiling of a 25-foot long tunnel and ignited by a gas flame at one end. With a specified draft, the specimen is allowed to burn for up to 10 minutes. The distance of flame spread travel and the amount of smoke developed are measured and compared to two standard reference materials-red oak and cement asbestos board. A rating is given for flame spread, smoke developed, and fuel contributed from the material being tested. The rating is based on a somewhat arbitrary scale; flame spread, smoke developed, and fuel contributed of cement asbestos board is set at 0, and the corresponding ratings of seasoned red oak is set equal to 100.

2.08 Carpet Test - NFPA 253, Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source (also known as ASTM E-648, Radiant Panel Test). This test simulates the exposure of floor covering in a corridor to a fire in an adjoining room with the door open.

2.09 In this test, the sample is placed in the normal horizontal plane with the radiant panel at an angle above the sample. Sufficient energy is generated in the panel to induce surface burning of the sample with the aid of a pilot ignition flame. The end point of burning is related to the radiant flux at that point and is identified as the critical radiant flux. The Critical Radiant Flux rating is reported in units of watts per square centimeter. The higher the value, the more resistant the floor covering is to spread of fire.

2.10 Underlayments for carpets will adversely affect ratings for carpets. Therefore, the proposed carpet and underlayment should be tested as a system along with the adhesive that will be used in the actual installation.

2.11 Fabric and Decoration Tests - There are a wide variety of test methods available for fabrics and decorations. The method chosen for advertising use is frequently the method which yields the most favorable results. Among the most common tests quoted for fabrics and other decorative materials are NFPA 255, discussed earlier, and NFPA 701, Methods of Fire Tests of Flame Resistant Textiles and Films.

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2.12 NFPA 701 was developed to evaluate flame-resistant materials which are used extensively in the interior furnishings of buildings, transportation facilities, protective clothing for certain occupations and situations, and for protective outdoor coverings such as tarpaulins and tents. Where laundering or weathering is claimed, the fabric is tested for flame resistance after being subjected to the applicable cleaning or exposure procedures. These test requirements also apply to plastic films, with or without reinforcing or backing, when used for decorative or other purposes inside

buildings, or as temporary or permanent enclosure for places of public assembly and buildings under construction. The test determines whether flame-resistant textiles and films are comparatively difficult to ignite and whether it is comparatively difficult to propagate flame beyond the area exposed to the source of ignition.

2.13 This test procedure uses samples cut in rectangular shape clamped in the vertical position. Samples are preconditioned in a controlled atmosphere for approximately 1-1/2 hours before testing. After mounting the samples, a test flame is placed 3 to 4 inches (76 to 102 mm) below the sample for a short period of time. This time frame will vary from 12 seconds for small tests up to 2 minutes in large scale tests. The time for flame and afterglow to cease, after removal of the test flame, is measured as well as the length of char.

2.14 The criteria of acceptance for small scale testing are:

- o Flaming **shall not** continue more than 2 seconds after removal of test flame.
- o Permissible length of char or destroyed material.

Fabric Weight Oz/Sq Yd	Maximum Average Char Length	Maximum Char Length Any Specimen
Over 10	3-1/2 inches (90mm)	4-1/2 inches (114mm)
6 - 10	4-1/2 inches (114mm)	5-1/2 inches (140mm)
< 6	5-1/2 inches (140mm)	6-1/2 inches (165mm)

2.15 The criteria of acceptance for large scale testing are:

- o Flaming **shall not** continue more than 2 seconds, single sheets or folded specimens, after removal of test flame.

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- o Char length for single sheet **shall not** exceed 10 inches (254mm).
- o Char length for folded specimens **shall not** exceed 35 inches (890mm).
- o Where dripping occurs, the drip from the test specimen **shall not** continue to flame after it reaches the floor of the tester.

C. Test Results Classifications

2.16 Interior finishes and furnishings are classified, based on the results

of the tests described above, as follows:

- Class A - Interior Finish: Flame spread 0 - 25, smoke developed 0 - 450 (as determined by NFPA 255)
- Class B - Interior Finish: Flame spread 26 - 75, smoke developed 0 - 450 (as determined by NFPA 255)
- Class C - Interior Finish: Flame spread 76 - 200, smoke developed 0 - 450 (as determined by NFPA 255)
- Class I - Interior Floor Finish: Critical Radiant Flux, minimum of 0.45 watts per square centimeter (as determined by NFPA 253)
- Class II - Interior Floor Finish: Critical Radiant Flux, minimum of 0.22 watts per square centimeter (as determined by NFPA 253)

2.17 Fabrics such as draperies, wall hangings, etc., are classified according to NFPA 701 as either flame resistant or not.

3. INTERIOR FINISH

3.01 Resilient flooring such as vinyl tile, vinyl asbestos tile, asphalt tile, linoleum, or other sheet or rolled covering do not in themselves constitute a hazard nor contribute significantly to the spread of fire. As such, specific criteria has not been established for these floor coverings.

3.02 In areas such as computer rooms, telephone equipment rooms, and other areas where delicate electronic equipment is present, wall and ceiling finish and window coverings **shall** be Class A, with the additional restriction that the maximum permitted smoke developed rating **shall** be 50. Floor finish **shall** be resilient type, or **shall** be rated as Class I.

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3.03 Interior finish in a means of egress **shall** comply with AT&T Practice 760-610-205, Egress/Access Requirements.

3.04 In all other areas: wall finish **shall** be Class B; floor finish **shall** be Class II; and ceiling finish **shall** be Class A with maximum permissible smoke developed rating of 50.

3.05 Where a facility is equipped throughout with an **approved** automatic sprinkler system, the interior finish requirements of paragraph 3.04 may be relaxed. In this case, local building code requirements will apply.

4. INTERIOR FURNISHINGS

4.01 Where possible, furnishings **shall** be tested in accordance with NFPA 255. Where the nature of the furnishing makes this impracticable, furnishings **shall** be of noncombustible materials or **shall** be rated as Flame Resistant in accordance with NFPA 701.

4.02 In areas such as computer rooms, telephone equipment rooms, and other areas where delicate electronic equipment is present, furniture, shelving, cabinets, etc., **shall** be constructed of noncombustible materials.

4.03 In all other areas, furniture, work stations, storage racks, and product handling aids should be noncombustible. All drapes, curtains, furniture coverings, etc., used in areas such as conference rooms, private offices, medical offices, places of assembly, etc., **shall** either be noncombustible or be flame-proofed commercially prior to initial use and after each cleaning.

4.04 Materials selected for use in draperies **shall** be flame retardant. A certification of this flame retardancy **shall** be provided by the manufacturer of the material. This certification **shall** identify the retardant used, the life expectancy of the treatment, and the recommended procedure for cleaning and restoring the flame-retardant qualities.

4.05 Materials selected for blinds should be flame retardant.

4.06 The use of wood furniture, desks, tables, chairs, credenzas, etc., in themselves do not increase the hazard of fire; however, they are a major contributor to the fuel load. As such, the use of this type of furnishing should be held to a minimum.

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4.07 Many interior office designs are incorporating the use of modular furniture. This type of furniture, in many cases, has the structural element and/or the panel constructed of expanded foam plastic. This material could generate a considerable amount of smoke when exposed to fire.

4.08 Whenever modular furniture is considered, the flame-spread and smoke developed ratings should be reviewed. These ratings should be obtained from the manufacturer. Where significant differences exist in these ratings, preference **shall** be given to the product(s) with the lower ratings. Where modular furniture is used and the panels are covered with fabric or vinyl, they should bear a Class A rating. (See **Fabric and Decoration Tests** under major heading **TEST METHODS**.)

5. DECORATIONS

5.01 All decorations **shall** be flame retardant and bear a Class A rating.

5.02 Christmas Trees, Garlands, Wreaths, Etc. - Freshly cut trees, garlands, wreaths, etc., cannot be treated to have any significant flame-retardant value and are not permitted on Company premises. All decorations, including trees, garlands, wreaths, etc., **shall** be flame resistant as determined by NFPA 701.

5.03 Potted Live Trees - Potted live trees are permitted subject to the following additional restrictions:

- o The tree is specifically approved by the resident head at the facility
- o The tree is located in a location where it is constantly supervised and is watered regularly.

5.04 Decorative Lighting - Decorative lighting (e.g., Christmas tree lights, etc.) should not be permitted on Company premises. Where such lighting is deemed desirable, it **shall** be restricted to centrally located areas such as lobbies, cafeterias, and break areas under the following conditions:

- o The installation is specifically approved by the resident head at the facility
- o The lights are **listed** and installed in accordance with applicable electrical safety requirements

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- o Lights are restricted to a ``mini-light" type which have a maximum voltage of 6 volts per bulb. This type bulb has low temperature and heat generation.
- o All lighting is turned off after normal working hours to conserve energy and avoid potential problems from heating of other decorations.

6. NOTICE OF ISSUANCE

6.01 This practice applies to all AT&T locations (national and international). Questions concerning its content should be referred to:

Fire Protection Engineering Manager
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One Oak Way

Berkeley Heights, NJ 07922-2727
Telephone: (201) 771-2178

6.02 This practice was issued by the Corporate Fire Protection Engineering Organization and produced by the Document Development Organization.

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