



MIKE CAUSEY, INSURANCE COMMISSIONER & STATE FIRE MARSHAL
BRIAN TAYLOR, CHIEF STATE FIRE MARSHAL

October 28, 2020

Michael Rettie
Orange County Inspections Division
131 West Margaret Lane
Hillsborough, NC 27278

**RE: Fire Door and Fire Shutter Testing
2018 NCBC Section 716.5 Fire Door and Shutter Assemblies**

Mr. Rettie:

This letter is in response to your request for formal interpretation undated that was received in NCDOI by email on October 15, 2020. Your request for formal interpretation states:

“Does either the 2018 NC Building Code or (by reference) NFPA 80 require any type of formal test either from a qualified third party agency, the contractor, door installer or Code Enforcement Official (AHJ) to verify, confirm or otherwise certify the installation meets either of these referenced documents, or require any such test result to be provided as a condition for approval of a Final Building Inspection or issuance of a Certificate of Compliance?”

Remarks:

Code sections noted in this letter are referring to the 2018 edition of the NC Building Code unless otherwise noted.

For purposes of this letter “NFPA 80” is referring to the 2013 edition of NFPA 80.

Although the following addresses doors, the same assessment will apply to fire-resistant-rated shutters and windows.

Code Analysis:

As noted in the request for interpretation, Section 716.5 indicates in the last sentence of that section that fire doors and shutters shall be installed as required by Section 716.5 and NFPA 80.

NFPA 80:

Chapter 5 is titled “Care and Maintenance”. Section 5.2.1 then states:

“Upon completion of the installation, door, shutters, and window assemblies shall be inspected and tested in accordance with 5.2.4.”

5.2.4.1 then indicates that Section 5.2.4 is dealing with periodic inspections.

5.2.4.2 indicates that compliance with 5.2.3 is required.

2018 NC Administrative Code and Procedures:

Section 107.1.7 – Fire Protection Inspection, indicates that materials used for fire protection are required to be inspected. A fire-resistant-rated door would be a material used for fire protection.

Fire-resistant-rated doors are required to be inspected at the time of installation because of NC Administrative Code and Policies, Section 107.1.7 and because of the reference to NFPA 80 in NC Building Code, Section 716.5. The requirements of NFPA 80, Section 5.2.4 apply because of NFPA 80, Section 5.2.1 and NFPA 80, Section 5.2.3 applies because of NFPA 80, Section 5.2.4.2. NFPA 80, Section 5.2.3.1 then requires inspection of fire-resistant-rated door installations be performed by someone trained by the manufacturer to conduct the testing of such doors just as is required for annual inspections.

Conclusions:

Newly installed fire-resistant-rated doors are required to be tested on site by someone trained by the manufacturer. Because NCGC 160D-1116 (Attachment A below) requires a building to comply with the NC Building Codes prior to a certificate of completion, documentation from the qualified tester of satisfactory testing is required prior to issuing a certificate of completion. The intent is, therefore, that such documentation be provided prior to issuing a certificate of occupancy.

As a matter of reference, a copy of your letter of request for formal interpretation (Attachment B below) and associated exhibits are included with this letter.

Please call if you have comments or questions.

Sincerely,



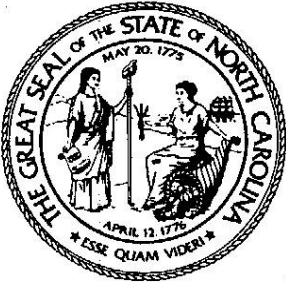
Carl Martin, RA
Chief Code Consultant

cc: File
Robbie Davis, Chairman – BCC
Daniel Priest, Chairman Building Standing Committee – BCC
Wayne Hamilton – Chairman Fire Code Standing Committee – BCC

ATTACHMENT A

§ 160D-1116. (Effective January 1, 2021) Certificates of compliance. At the conclusion of all work done under a building permit, the appropriate inspector shall make a final inspection, and, if the inspector finds that the completed work complies with all applicable State and local laws and with the terms of the permit, the inspector shall issue a certificate of compliance. No new building or part thereof may be occupied, no addition or enlargement of an existing building may be occupied, and no existing building that has been altered or moved may be occupied, until the inspection department has issued a certificate of compliance. A temporary certificate of occupancy or compliance may be issued permitting occupancy for a stated period of time of either the entire building or property or of specified portions of the building if the inspector finds that such building or property may safely be occupied prior to its final completion. Violation of this section shall constitute a Class 1 misdemeanor. A local government may require the applicant for a temporary certificate of occupancy to post suitable security to ensure code compliance. (2019-111, s. 2.4.)

ATTACHMENT B



**APPENDIX E
APPEALS
NORTH
CAROLINA
BUILDING
CODE**

COUNCIL

325 North Salisbury Street, Room 5_44
Raleigh, North Carolina 27603 (919) 647-0095

APPEAL TO NCDOI/NCBCC	Hearing Date _____ /
_____ / _____ GS 153A-374, GS 160A-434	GS 143-140, GS 143-141
Formal Interpretation by NCDOI _____	Appeal of Local Decision to NCBCC _____
Appeal of Local Decision to NCDOI _____	Appeal of NCDOI Decision to NCBCC _____

APPELLANT Michael Rettie **PHONE** (919) 245 - 2600 x _____
REPRESENTING Orange County Inspections Division
131 West Margaret Lane
ADDRESS

CITY Hillsborough **STATE** NC **ZIP** 27278 **E-MAIL** mrettie@orangecountync.gov **FAX** (919) 644 - 3347

North Carolina State Building Code, Volume Building - Section 716.5

REQUEST ONE: Formal Interpretation by NCDOI Appeal of Local Decision to NCBCC
 Appeal of Local Decision to NCDOI Appeal of NCDOI Decision to NCBCC

Type or print. Include all background information as required by the referenced General Statute supporting information.

This request for a formal interpretation focuses upon the requirement that fire door and shutter assemblies “shall be installed in accordance with the provisions of this section and NFPA 80.”

Does either the 2018 NC Building Code or (by reference) NFPA 80 require any type of formal test either from a qualified third party agency, the contractor, door installer or Code Enforcement Official (AHJ) to verify, confirm or otherwise certify the installation meets either of these referenced documents, or require any such test result to be provided as a condition for approval of a Final Building Inspection or issuance of a Certificate of Compliance?

REASON:

Given the understanding of the critical importance of these opening protectives to be properly installed, function as intended and otherwise provide the necessary protections, the ability of a field Inspector to provide an in-depth, detailed evaluation of all the specific standard requirements found both in the NFPA 80 specifications as well as the Manufacture and listing agency specifications for each door assembly installed upon a project site is not possible.

The operational specifications and related installation requirements addressing fit and function (of section 716 and NFPA 80 chapter 4) are routinely verified as is the manual or automatic operation of the door assembly as part of typical field Code enforcement inspections.

It is unclear whether additional inspection and testing are required by Chapter 5 of NFPA 80, titled as “Care and Maintenance” but includes a reference under 5.2.1 “upon completion of the installation, door, shutter, and window assemblies shall be inspected and tested in accordance with 5.2.4.”

Section 5.2.4 addresses “Periodic Inspection and Testing”, section 5.2.4.2 references: “As a minimum, the provisions of 5.2.3 shall be included in the periodic inspection and testing procedure”. While the Building Code does not address the “care and Maintenance” aspects of a project, by including the reference to “completion of installation” brings to mind new construction.

1 APPEAL TO NCDOI/NCBCC

FORM 3/14/17

Signature

NFPA 80 2013

Standard for fire doors and other opening protectives

(Perceived relevant chapter sections for discussion points of question)

Chapter 1 Administration

1.1* Scope. This standard regulates the installation and maintenance of assemblies and devices used to protect openings in walls, floors, and ceilings against the spread of fire and smoke within, into, or out of buildings.

Chapter 5 Care and Maintenance

5.1* General.

5.1.1 Application.

5.1.1.1* This chapter shall cover the inspection, testing, and maintenance of fire doors, fire shutters, fire windows, and opening protectives other than fire dampers and fabric fire safety curtains.

5.1.1.2 The requirements of this chapter shall apply to new and existing installations.

5.1.2 Operability.

5.1.2.1 Doors, shutters, and windows shall be operable at all times.

5.1.2.2 Doors, shutters, and windows shall be kept closed and latched or arranged for automatic closing.

5.1.3 Replacement. Where it is necessary to replace fire doors, shutters, windows or their frames, glazing materials, hardware, and closing mechanisms, replacements shall meet the requirements for fire protection and shall be installed and tested as required by this standard for new installations.

5.1.4 Field Modifications.

5.1.4.1* In cases where a field modification to a fire door or a fire door assembly is desired, and is not permitted by 4.1.3.2 through 4.1.3.4, the laboratory with which the product or component being modified is listed shall be contacted through the manufacturer and a written or graphic description of the modifications shall be presented to that laboratory.

5.1.4.2 Field modifications shall be permitted without a field visit from the laboratory upon written authorization from that laboratory.

5.1.4.3 When the manufacturer is no longer available, the laboratory shall be permitted to provide an engineering evaluation supporting the field modification.

5.1.5 Removal of Door or Window. Where a fire door or fire window opening no longer functions as an opening, or the door or window is removed and not replaced, the opening shall be filled to maintain the required rating of the wall assembly.

5.2* Inspection and Testing.

5.2.1* Upon completion of the installation, door, shutters, and window assemblies shall be inspected and tested in accordance with 5.2.4.

5.2.2* A record of all inspections and testing shall be signed by the inspector and kept for inspection by the AHJ.

5.2.2.1 Records of acceptance tests shall be retained for the life of the assembly.

5.2.2.2* Unless a longer period is required by Section 5.4, records shall be retained for a period of at least 3 years.

5.2.2.3* The records shall be on a medium that will survive the retention period. Paper or electronic media shall be permitted. [72:14.6.2.3]

5.2.2.4 A record of all inspections and testing shall be provided that includes, but is not limited to, the following information:

- (1) Date of inspection
- (2) Name of facility

- (3) Address of facility
- (4) Name of person(s) performing inspections and testing
- (5) Company name and address of inspecting company
- (6) Signature of inspector of record
- (7) Individual record of each inspected and tested fire door assembly
- (8)*Opening identifier and location of each inspected and tested fire door assembly
- (9)*Type and description of each inspected and tested fire door assembly
- (10)*Verification of visual inspection and functional operation
- (11) Listing of deficiencies in accordance with 5.2.3, Section 5.3, and Section 5.4

5.2.2.5* Upon completion of maintenance work, fire door assemblies shall be inspected and tested in accordance with 5.2.3.

5.2.3 Acceptance Testing.

5.2.3.1* Acceptance testing of fire door and window assemblies shall be performed by a qualified person with knowledge and understanding of the operating components of the type of assembly being subject to testing.

5.2.3.2* Before testing, a visual inspection shall be performed to identify any damaged or missing parts that can create a hazard during testing or affect operation or resetting.

5.2.3.3 Acceptance testing shall include the closing of the door by all means of activation.

5.2.3.4 A record of these inspections and testing shall be made in accordance with 5.2.2.

5.2.4 Periodic Inspection and Testing.

5.2.4.1* Periodic inspections and testing shall be performed not less than annually.

5.2.4.2 As a minimum, the provisions of 5.2.3 shall be included in the periodic inspection and testing procedure.

5.2.4.3 Inspection shall include an operational test for automatic-closing doors and windows to verify that the assembly will close under fire conditions.

5.2.4.4 The assembly shall be reset after a successful test.

5.2.4.5 Resetting of the release mechanism shall be done in accordance with the manufacturer's instructions.

5.2.4.6* Hardware shall be examined, and inoperative hardware, parts, or other defective items shall be replaced without delay.

5.2.4.7 Tin-clad and kalamein doors shall be inspected for dry rot of the wood core.

5.2.4.8 Chains or cables employed shall be inspected for excessive wear, stretching, and binding.

