



Vinyl Siding Meets the Requirements for California Wildland–Urban Interface (WUI) Code

Purpose: This document is intended to educate vinyl siding distributors, contractors, builders, building officials, and other interested stakeholders on vinyl siding compliance with Chapter 7a, Section 704A.3 of the *California Building Code* dealing with WUI fire areas.

Note: *The California State Fire Marshal's office recommended that the Vinyl Siding Institute, Inc. (VSI) publish this information to show how vinyl siding complies with State Fire Marshall standard 12-7a-1 and Chapter 7a, Section 704A.3 of the California Building Code.*

Conclusion: Vinyl siding installed over exterior gypsum sheathing panels complies with Chapter 7a, Section 704A.3 of the *California Building Code*. This building assembly meets the requirements of the regulations for WUI areas.

Vinyl Siding and Fire Safety: For several years, the State of California has implemented regulations to help protect homes within WUI areas. Currently, Chapter 7a of the *California Building Code* regulates how buildings should be constructed to provide fire protection in these areas. The purpose of this regulation “is to establish minimum standards for the protection of life and property by increasing the ability of a building...to resist the intrusion of flames or burning ember projected by a vegetation fire and contributes to a systematic reduction in conflagration losses.”¹

Vinyl siding applied over exterior gypsum sheathing panels have been proven to meet the scope and intent of Chapter 7a. Vinyl's chemical makeup makes it inherently flame resistant. Rigid vinyl building products are slow to ignite, have a slow flame spread, and cease to burn after the flame sources are removed. The products of vinyl combustion are no more hazardous than those produced by burning many other common materials, both natural and synthetic. Vinyl is one of the few materials that meet the stringent National Fire Protection Association's requirements for insulating electrical and data transmission cables, including in plenum applications.

The following describes several tests conducted with vinyl siding and exterior gypsum sheathing panels. These tests clearly demonstrate that vinyl siding applied with exterior gypsum sheathing panels meets the intent of Chapter 7a, not only because is vinyl siding a fire-safe cladding, but it performs as required in WUI areas.

Test #1²: In full-scale laboratory experiments at the U.S. Department of Commerce's National Institute of Standards and Technology, it took less than 80 seconds for flames exiting from a simulated house with combustible exterior walls and a window to ignite a similar house 1.8 meters (6 feet) away. In another experiment the flames from one simulated house again reached the second, but the gypsum barrier prevented damage to the building's interior. In both tests vinyl siding was used as the exterior cladding.

Test #2³: In June of 2008, the Western Fire Center, Inc. performed four tests using various types of vinyl siding. All tests produced passing results according to the requirements of *standard 12-7a-1 and Chapter 7a, Section 704A.3 of the California Building Code.*

Test #3⁴: There are numerous examples of vinyl siding's approved use with one and two hour fire-rated assemblies. Several third-party testing organizations have examined many brands of vinyl siding over exterior gypsum sheathing panels for use in fire-rated assemblies. The data from one such test by the Southwest Research Institute, Inc. is referenced below. These test results substantiate the use of vinyl siding with exterior gypsum sheathing panels as an acceptable assembly for compliance with Chapter 7a.

Calculated Fire Rate Assemblies: In recognition of vinyl siding's fire-safe characteristics, the International Building Code (IBC)'s Fire Safety Code Development Committee recently changed Section 721 of the IBC to allow vinyl siding as part of a calculated fire-rated wall assembly method for code compliance.

Background: The Vinyl Siding Institute (VSI) is the trade association for manufacturers of vinyl and other polymeric siding and suppliers to the industry. The purpose of VSI is to:

- Address regulatory issues, including material restrictions, monitoring of building codes and the education of building code developers and regulators.
- Help develop material, product, and performance standards by working through standards-making organizations and code bodies.
- Sponsor certification programs that improve the quality of siding and its installation.
- Provide a forum for issues of interest to the vinyl siding industry.
- Engage in product stewardship and outreach activities to enhance the image of the industry and its products.

VSI actively participates in the building codes and standards-making process and is currently a member of:

- ASTM International (ASTM)
- International Code Council (ICC)
- National Fire Protection Association (NFPA)

For questions about vinyl siding, please contact:

Matt Dobson, Director of Code and Regulatory
Vinyl Siding Institute, Inc.
National Housing Center
1201 15th St, NW, Suite 220
Washington, DC 20005
mdobson@vinylsiding.org
(703) 244-2930

Referenced Information

1. 2007 *California Building Code*, Chapter 7A, Section 701A.1
2. National Institute of Standards and Technology, House to House Fire Simulation, November 2006
3. Western Fire Center, Inc., 2008, Testing of Vinyl Siding Samples in Accordance with 12-7a-1
4. Southwest Research Institute, Inc., Fire Performance Evaluation of Double 4-IN. Brentwood Vinyl Siding Panels Tested In Accordance with ASTM E119-98, "Standard Test Methods for Fire Tests of Building Construction and Materials"