
TECHNICAL BULLETIN

Understanding Building Codes

Understanding the definitions of “Naturally Durable Wood” and “Fire-Resistant Wood” in the context of the International Building Code (IBC) and International Residential Code (IRC) is essential for meeting exterior building standards and code requirements.

Building Codes

Many municipalities have adopted the International Building Code and International Residential Code as the standard for minimum design and construction requirement.



Naturally Durable Wood

Wood species vary significantly in terms of appearance and performance for exterior applications. To comply with building codes, you must select a wood species that fits the “Naturally Durable” criteria as outlined by the IBC and IRC. Both codes mandate that wood used in deck construction must either be treated or naturally durable, with a minimum durability equivalent to redwood or cedar. Redwood and cedar are classified as durability Class 2 (moderate) or higher for above-ground use. It’s crucial to note that durability ratings apply to heartwood only, so untreated sapwood from redwood, cedar, or other species is considered non-durable.

Fire-Resistant Wood

The International Building Codes do not specifically address naturally fire-resistant wood but refer to fire-retardant-treated wood in section 2303.2. Fire-retardant-treated wood is processed with chemicals under pressure or by other methods to achieve a flame spread index of 25 or lower when tested according to ASTM E84 or UL723. Naturally untreated wood that has a flame spread index of 25 or less and meets NFPA Class A standards is generally regarded as fire-resistant or a limited combustible material.

Design Values

Wood used in decking, stringers, and beams must have established design values and engineered span tables based on load requirements and wood grade. This data is essential for specifiers and code officials. While not mandatory, some designers and inspectors may request an ICC-ES number for construction products. This number correlates with an ICC-ES report that confirms code compliance without requiring additional documentation. Although a product lacking an ICC-ES number is not automatically disqualified, documentation demonstrating compliance with minimum standards may be needed. Tropical Forest Products provides code compliance information in the form of an ICC-ES report for this reason.