D-Blaze® FRTW in contact with concrete or masonry foundations

The chemical components used to manufacture D-Blaze FRTW are somewhat water soluble and for that reason, as with all interior type fire retardants, D-Blaze FRTW can only be used in dry interior applications. Limited wetting while unprotected during construction can be tolerated but the wood should be allowed to dry before enclosure.

The active fire retardant component in D-Blaze FRTW is a phospho-ammonium-borate complex. It is well known that certain borate compounds demonstrate biological activity against decay fungi and termites. However, in order to make claims of biological efficacy a product must be evaluated by U.S. EPA and registered for that purpose. In addition, from a building code perspective, there must be documented proof that a product has been evaluated in accordance with the American Wood Protection Association efficacy standards or that it complies with the ICC-ES AC 326. D-Blaze has not been evaluated by the US EPA, or the ICC-ES AC 326, nor standardized as a wood preservative by AWPA, so it follows that decay or termite efficacy cannot be claimed for the product.

There is considerable confusion in the marketplace about the use of FRTW for sill plates and interior framing. The International Building Code (IBC) and the International Residential Code (IRC) set specific requirements and restrictions on the use of wood in construction framing in part to address the potential for attack by decay fungi and termites. Section 2304.11.2.1 (2012 IBC) or 2304.12.1.1 (2015, 2018, 2021, and 2024 IBC) and section R317.1 (2012, 2015, 2018, and 2021 IRC) or R304.1 (2024 IRC) state that where wood joists or the bottom of wood structural floors without joists are closer than 18" (457mm), or wood girder are closer than 12" (305mm) to the exposed ground in crawl spaces or unexcavated areas located within the perimeters of the building foundation, the floor construction (including posts, girders, joists and subfloor) shall be of naturally durable or preservative treated wood. It follows that D-Blaze FRTW would not comply with the code if the soil proximity criteria listed in sections 2304.11.2.1 (2012 IBC) or 2304.12.1.1 (2015, 2018, 2021, and 2024 IBC) and section R317.1 (2012, 2015, 2018, and 2021 IRC) or R304.1 (2024 IRC), exist.

Section 2304.11.2.2 (2012 IBC) or 2304.12.1.2 (2015, 2018, 2021, and 2024 IBC) and section R317.1 (2012, 2015, 2018, and 2021 IRC) or R304.1 (2024 IRC) relates to wood supported by an exterior foundation wall (e.g. a sill plate). It states that: Wood framing members including wood sheathing that rest on exterior foundation walls and are less than 8" (203 mm) from exposed earth shall be of naturally durable or preservative treated wood. It follows that D-Blaze FRTW can be used as a sill plate provided that the wood does not lie closer than 8" to exposed earth. In effect this can be interpreted to mean D-Blaze fire-retardant treated wood can be used in contact with concrete or masonry that will not get damp or wet in service. For example, window blocking, furring strips or cap blocking on concrete or masonry exterior walls are acceptable applications as long as they are enclosed within the weather envelope and not exposed to dampness or wetting.

D-Blaze FRTW can be used in contact with dry concrete floors but all interior FRTW treated wood should not be used in contact with damp concrete floors or concrete floors that may be subject to wetting, washing down, or flooding.

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