

Summer 2009: Minimizing Masonry Litigation

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Avoiding Lawsuits, Part 8:
Barriers and Flashing

The most frequent causes of siding lawsuits are missing or inadequate water-resistive barriers and flashing.

by Norm Cooper, P.E.

Norm Cooper, P.E., has served the justice system as a forensic engineer in more than 700 cases. He is included in Who's Who in American Law and national and international editions of Who's Who in Engineering. Cooper's web address is www.realtyengineering.com.

Next Edition

Upcoming articles will include case studies of disputes and lawsuits involving other masonry issues. Code Requirements The International Residential Code (IRC) for one- and two-family residences, and the International Building Code (IBC) for most other construction, usually is the adopted and applicable law governing design and construction. But it is essential to verify what code applies by obtaining a copy of the state law or local ordinance that applies to the specific construction, and that may contain amendments to the adopted code.

After the applicable building codes, the next ranking authority is usually manufacturers' instructions, such as Technical Notes on Brick Construction by the Brick Industry Association, Recommended Practices by the Building Stone Institute, and TEK by the National Concrete Manufacturer's Association. Briefs of 2006 sections of said codes relevant to barrier and flashing follow:

IBC section 1403.2 and IRC section R703.1 require: "Exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall include flashing. The exterior wall envelope shall be designed and constructed in such a manner as to prevent the accumulation of water within the wall assembly by providing a water-resistive barrier behind the exterior veneer and a means for draining water that enters the assembly to the exterior. Protection against condensation in the exterior wall assembly shall be provided."

IBC 1404.2 requires: "A minimum of one layer of No. 15 asphalt felt, complying with ASTM D 226 for Type 1 felt or other approved materials, shall be attached to the studs or sheathing, with flashing in such a manner as to provide a continuous water-resistive barrier behind wall veneer";

IRC R703.2 requires: "One layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D 226 for Type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches. Where joints occur, felt shall be lapped not less than 6 inches. The felt or other approved material shall be continuous to the top of walls and terminated at penetrations and building appendages";

IBC Section 1405.3 requires: "Flashing shall be installed in such a manner so as to prevent moisture from entering the wall or to redirect it to the exterior. Flashing shall be installed at the perimeters of exterior door and window assemblies, penetrations and terminations of exterior wall assemblies, exterior wall intersections with roofs, chimneys, porches, decks, balconies and similar projections and at built-in gutters and similar locations where moisture could enter the wall. Flashing with projecting flanges shall be installed on both sides and the ends of copings, under sills and continuously above projecting trim."

IRC Section R703.8 requires: "Approved corrosion-resistant flashing shall be applied shingle-fashion in such a

manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashings shall be installed at all of the following locations:

- Exterior windows and door openings. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage.
- At the intersection of chimneys or other masonry construction with frame or stucco walls. With projecting lips on both sides under stucco copings.
- Under and at the ends of masonry, wood or metal copings and sills.
- Continuously above all projecting wood trim.
- Where exterior porches, decks, or stairs attach to a wall or floor assembly of wood-frame construction.
- At wall and roof intersections.
- At built-in gutters.”IRC R404.1.6 requires: “Concrete and masonry foundation walls shall extend above the finished grade adjacent to the foundation at all points a minimum of 4 inches where masonry veneer is used and a minimum of 6 inches elsewhere.”

IRC 1061.3 requires: “Construction documents for all buildings shall describe the exterior wall envelope in sufficient detail to determine compliance with this code. The construction documents shall provide details of the exterior wall envelope as required, including flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-restive membrane and details around openings.”

Case Summaries

The following examples are from hundreds of expert witness cases where compliance with the above codes, or lack thereof, determined the outcome.

In none of these cases was there any evidence of the required preconstruction design and specification of barriers or flashing, which may have prevented these costly problems and litigation. MD