

ABAA POSITION PAPER ON PLACING AIR BARRIER REQUIREMENTS IN A SEPARATE SECTION

MARCH 2004

INTRODUCTION: The construction industry is in a period of rapid Air Barrier product evolution and accompanying improvements in on-site labor quality and productivity. It is important to configure Air Barrier specifications (and accompanying bid documents) in such a way as to afford the building owner the benefit of installation by the most up-to-date, highly trained and economic Air Barrier contractors and their work force.

1. **A SINGLE SOURCE IS BEST:** The Air Barrier Association of America (ABAA) believes that a unified single source for the main exterior wall Air Barrier assembly best serves the owner's interests. An ABAA licensed Air Barrier contractor who is knowledgeable and takes ownership of the Air Barrier is the best assurance of quality the owner and architect can have.

The ABAA Licensed contractor:

- a) Has trained and certified applicators.
 - b) Has knowledge of Air Barrier requirements: both theoretical and practical.
 - c) On ABAA Specified Jobs is: 1. monitored and 2. its ABAA Certified Applicators are audited to ensure:
 - Proper application techniques.
 - Manufacturers instructions have been followed during installation.
 - Proper use of equipment
 - On site quality control which documents installation and testing by applicator.
 - Proper record keeping.
2. **ABAA's SINGLE SPECIFICATION SECTION POLICY:** It is in the best interests of the Building Owner, Architect, Engineer, General Contractor/Construction Manager to have the bid documents arranged so that the main exterior wall Air Barrier Assembly occurs in its own separate section of the specification. Also, it is most effective, if all other elements of the building enclosure's Air Barrier assemblies are also referenced in one place.
 - a) This dual organization of Air Barrier information makes it easy to recognize all of the different components of the building enclosure's Air Barrier Assemblies.
 - b) If the main exterior Air Barrier wall assembly specification were to occur in other sections of the specification, unintended confusion, lack of understanding, lack of ownership and divided responsibility for this item is apt to prevail on the project, all to the owner's detriment.
 - c) The General Contractor/Construction Manager should find that this undivided approach can improve contract scheduling and also provide cost efficiencies.

- d) Notwithstanding any of the above, if the General Contractor or Construction Manager chooses to do so, they can still divide up different portions of the basic exterior wall Air Barrier Assembly section between different trade sections. Of course in doing so, the General Contractor or Construction Manager would assume the responsibility and ownership of the Air Barrier assembly and its installation.
- e) See specification section below for typical main exterior wall Air Barrier assembly that also references some other elements and assemblies of the building enclosure's Air Barrier system.
- f) See Division 1 specification section below intended to have the General Contractor or Construction Manager assume leadership in coordinating the entire building's air barrier system from roof to foundations (and the different trades involved) as well as conducting its own control program and/or facilitating the Owner's own control program and procedures.

3. AIR BARRIERS AND ENERGY SAVINGS:

- a) From an energy savings point of view there is near consensus that in most all climates, properly installed Air Barrier assemblies can substantially reduce operating energy costs.
- b) The addition of the main Air Barrier assembly within the exterior wall construction has enhanced the building operators ability to maintain the designed air pressures with less chance of disruption.

4. BUILDING DETERIORATION AND MOLD FORMATION:

- a) **UNINSULATED WALLS:** Historically buildings were built without Air Barriers or insulation. The mix of materials used (and their myriad unsealed joints) permitted the natural unimpeded free flow of air through the building enclosure. The comparatively unobstructed flow of air, combined with the high temperature of the wall, minimized the chances that moisture vapor would build up in building enclosure pockets where condensation might later support the growth of mold. [This airflow transferred the water vapor to the exterior before it could condense to liquid water].
- b) **INSULATED WALLS:** As insulation was installed within building wall construction, lower temperatures of the exterior portions of the wall resulted and the flow of air through the exterior walls slowed down to the point where water vapor condensed to liquid water on the colder surfaces within the building enclosure.
- c) **INSULATED WALLS WITH AIR BARRIER:** For purposes of reducing the potential for deterioration and mold growth, Air Barriers are intended to

drastically impede and stop this free flow of air in order to minimize the occurrence of condensation and avoid deterioration, corrosion, decay and mold-producing liquid water accumulation in the building enclosure.

5. IT HAS BEEN ESTIMATED THAT 3 BILLION SQUARE FEET OF AIR BARRIERS WILL BE INSTALLED IN THE U.S. THE NEXT 12-18 MONTHS.

- a) Air Barriers have only recently been introduced in Massachusetts pursuant to 2001 changes in the state's energy code. Air Barriers are now being incorporated into the majority of vertical construction projects in Massachusetts.
- b) The states of Wisconsin, Texas and others have recently changed their building code to incorporate Air Barriers. Six to seven other states are considering doing the same.
- c) Various governmental agencies in conjunction with technical and professional associations, spanning of public and private building enclosure interests across the country including ABAA are sponsoring numerous Air Barrier educational workshops.
- d) Unfortunately, this growth of a brand new industry is occurring against the backdrop of a construction industry only marginally informed about the effective design and installation of Air Barrier assemblies.
- e) Many architects, engineers, specification writers and subcontractors are still in early learning stages. Many general contractors and others who actually coordinate building construction are not yet aware of these code and/or specification requirements.

6. **THE AIR BARRIER ASSOCIATION OF AMERICA IS A NON-PROFIT TECHNICAL AND EDUCATIONAL ORGANIZATION FOR THE EMERGING AIR BARRIER INDUSTRY COUNTRYWIDE.**

- a) ABAA is based on its Canadian predecessor: NABA (National Air Barrier Association.) The Canadian Building Code has required Air Barriers in building since 1990 and set out very specific requirements in 1995. NABA is the repository of the 15 year accumulated knowledge of Air Barrier “do’s and don’ts” previously generated in Canada.
- b) ABAA consists of architects, specification writers, manufacturers, suppliers, and subcontractors from a variety of trades who are ahead in the U.S. education process. ABAA is dedicated to establishing a responsive and effective Air Barrier industry in the US. This process includes the training and certification of Air Barrier applicators, the licensing and continuing education of Air Barrier contractors and acting as an educational resource for the industry.
- c) There is an ever-growing number and variety of Air Barrier materials and application processes. The skills required for proper installation and testing of these widely differing materials span a spectrum of subcontractor industries in construction. The ABAA licensed contractors include Waterproofing, Masonry, Industrial Coatings, Roofing, and Sheet Metal contractors.