

SCOPE:

To inform the Reader of the how the contents of “LEED 2009 for **SCHOOLS** New Construction and Major Renovations” effective April 27, 2009 relates to Amweld International, our Distributors, and Customers. It will also address how it differs from “LEED 2009 for New Construction and Major Renovations”.

PURPOSE:

With the emphasis on **SCHOOLS**, to allow the Reader to have a concise yet thorough knowledge of what constitutes a “Green Building”, how Amweld International’s materials & components can affect the attainment of ratings, and what services Local Distributors can perform to assist Architects, Contractors and Owners to comply from design through construction and into occupancy.

DESCRIPTION/OVERVIEW:

A few terms, namely “Green Buildings”, LEED, USGBC, or Sustainability are used for this subject. Within the scope of this Tech Data, they all pertain to the “LEED 2009 for **SCHOOLS** New Construction and Major Renovations” document, for public use and display, written by the U.S. Green Building Council (USGBC). This Document identifies performance standards for academic buildings on K through 12 school grounds. Non-academic buildings (offices, dormitories, maintenance buildings) on K-12 school grounds, pre-K, and post-secondary buildings have the option to use this Document or “LEED 2009 for New Construction and Major Renovations” (see TD# G-11.0 R07/09).

LEED stands for “Leadership in Energy & Environmental Design” a registered trademark of USGBC. The document defines what USGBC considers as a national design guideline for a “Green Building”. The public document may be downloaded from: <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=298>.

The Green Building Rating System is a voluntary third-party system of rating environmental design impact of the ENTIRE BUILDING leading to a LEED certification. Buildings earn “points” toward certification by meeting or exceeding specified requirements ranging from site conditions, energy & water efficiency, water quality, environmental quality, materials, heating/ventilation, furniture, appliances, alternative energy sources, and innovative design processes. Even though steel doors & frames are a relatively small percentage of the entire building’s value, Amweld International’s products directly impact primarily the “Materials & Resources” (MR) series of credits. Distributor services can aid in other areas.

GENERAL PRODUCT INFORMATION:

STEEL:

According to the Steel Recycling Institute (www.recycle-steel.org), steel is this Country’s most widely recycled material. In 2007, the latest data available, steel produced by the Basic Oxygen Furnace (BOF) method (used primarily for steel sheet) incorporated over 14 million TONS of steel scrap to produce 44 million TONS of liquid steel, a recycled content of 32%. Of this, about 25% was post-consumer and almost 7% was post-industrial.

These figures will fluctuate with scrap availability, sources, quantity exported, and the “recipe” used by the individual Steel Mill.

A Statement addressed to Architects, Engineers, Designers, and Specifiers regarding the recycled content percentages of steel is available at the above-mentioned website.

NON-RECYCLED CONTENT:

Amweld International does use materials with a small recycled content in certain critical structural or performance components. These include adhesives, paint coatings, and certain core materials. Keeping in mind that the typical 15 Series door is over 90% steel by weight, the remaining materials by weight are negligible.

FRAMES:

The typical 400, FR, or 2600 frame (or component) is over 95% steel by weight. Refer to the “STEEL” paragraph above for recycled content.

DOORS:

Typical weights for materials (other than steel) in a typical 3-0 X 7-0 door follow. The balance of material can be considered as steel.

15-17-25-27-61- 63 Series:

- Expanded Polystyrene Core = about 3 pounds per door. Note: Due to the critical structural and performance criteria, our Supplier cannot use recycled material.
- Adhesive = 1 1/2 to 2 pounds per door.
- Paint (see prime paint below) = about 1 pound.

45-47 Series:

- Honeycomb Core = about 3.75 pounds per door of which 18% is recycled material.
- Adhesive = 1 1/2 to 2 pounds per door.
- Paint (see prime paint below) = about 1 pound.

35-37 Series:

- Temperature Rise Coreboard = about 65 pounds per door of which 42% is recycled material.
- Adhesive = 1 1/2 to 2 pounds per door.
- Paint (see prime paint below) = about 1 pound.

83-85-87-89 Series:

- Polyurethane Slab Core = about 6 pounds per door. Note: Due to the performance criteria, our Supplier cannot use recycled material.
- Adhesive = 1 1/2 to 2 pounds per door.
- Paint (see prime paint below) = about 1 pound.

03 Series Full Glass:

- Paint (see prime paint below) = about 1 pound.
- Perimeter Insulation (optional) = about 4 pounds.

05-07 Series:

- Insulation = between 3 pounds for standard fiberglass up to 14 pounds for 8 pcf mineral wool.
- Paint (see prime paint below) = about 1 pound.

PRIME PAINT & FILLER:

Primer used is a "low volatile organic compound" (VOC) water reducible emulsion. In order to meet strict performance requirements, recycled materials are generally not used.

Filler is generally minimal and is sanded smooth after application. The minimal weight is therefore disregarded.

PACKAGING:

Doors as shipped by Amweld International are generally packaged in cardboard corner pads and banding. Our Supplier indicates that the corner pads are made from about 50%-recycled material. A set of four weighs about one pound. The plastic banding, although a petrochemical, weighs less than 4 ounces.

Frame components are generally banded with plastic weighing about one ounce per 6-pack, a minimal amount.

HOW THIS RELATES TO "GREEN BUILDING RATING SYSTEM":

The Rating System assigns points toward the Building's compliance based on "Credit Sections" defined in the LEED for **SCHOOLS** document. These points are all relative to the value of the ENTIRE BUILDING. Amweld International and our Distributors do not necessarily determine the final value of the steel doors & frames furnished, but the percentage by weight can be used to estimate the dollar values.

HOW AMWELD INTERNATIONAL PRODUCTS CONTRIBUTE:

Using "LEED 2009 for **SCHOOLS** New Construction and Major Renovations" the most evident of the areas where Amweld products have a direct contribution toward earning these points occur in the following Credit Sections:

- MR (Materials and Resources) CREDIT 4 Recycled Content:

Points are awarded for buildings that incorporate recycled materials based on the sum of post-consumer + one-half pre-consumer (example: production process scrap) recycled content determined by weight and multiplied by cost. Recycled content of 10% earns one point; recycled content of 20% earns two points. As evidenced by the above paragraphs, the recycled content of Amweld International's products is so high that they would easily meet these requirements.

- MR CREDIT 5 Regional Materials

One point is awarded for buildings that incorporate a minimum of 10% (based on cost) of total value of materials if manufactured within a radius of 500 miles. Two points are awarded for buildings that incorporate a minimum of 20% (based on cost) of total value of materials if manufactured within a radius of 500 miles.

Note: Even though the Amweld factory that produced the doors or frames may be outside of this radius, your Facility is the "manufacturer" if you modify, label, or assemble (for example) any of Amweld International's products. LEED has established the definition of a manufacturing in Versions 2.0 and 2.1 as referring to the place of final assembly of components into the product.

- IEQ (Indoor Environmental Quality) Credit 9 (Enhanced Acoustical Performance)

One point is awarded where classrooms, walls, core learning spaces, etc meet the STC requirements of ANSI S12.60 paragraph 4.5.5. A copy is available through the Acoustical Society of America. This Document, although somewhat confusing, indicates door STC ratings of 30 between classrooms and rooms other than music rooms, mechanical equipment rooms, pool areas and gymnasium areas. These other areas require an STC of 40. Amweld International's Tech Data# D-12.0 indicates test results that affirm compliance with both ratings. The STC 30 can even be achieved with standard 15 or 61 type doors with suitable sound seals. The "Specifications" Section of the Amweld International website show other options that meet or exceed these STC levels.

- IEQ CREDIT 10 Mold Prevention

One point is awarded in this Section primarily for ventilation, but it should be noted that physical properties of our Expanded Polystyrene under water resistance show that this core allows only miniscule water retention, thus reducing a major source of mold.

SPECIAL NOTE REGARDING INDOOR ENVIRONMENTAL QUALITY (IEQ) CREDITS:

IEQ CREDITS not specifically noted in this TD pertain to indoor air quality issues **during or after the construction process, not during the manufacturing process**. Points are awarded for controlling emissions of **jobsite-applied** paints, adhesives, sealants, etc. within specified limits. Other IEQ Credits relate to heating/ventilating systems, lighting, thermal comfort by allowing operable windows, increasing "daylight" or views by using glazing. Nothing in this Section directly relates to doors or frames.

OTHER CREDITS:

Sustainable Sites (SS), Water Efficiency (WE), and Energy and Atmosphere (EA) Credits directly relate to the design, location, operating systems, and performance of the building. These Sections do not directly relate to doors or frames.

Innovation in Design (ID) Credits are awarded for design features or performance above requirements and/or innovative performance in categories not specifically addressed.

Regional Priority (RP) Credits are bonus points for exceeding other Credit Levels or by addressing local issues. Since these Credits are based on ZIP Code, these Credits are not addressed in this TD.

OPTIONAL DISTRIBUTOR CONTRIBUTIONS:

By providing some creative additional "services", the local Distributor can also have an indirect contribution toward earning points for the Building. At the Distributor's preference, these can be quoted as paid options or provided as free services by the Distributor. These opportunities occur in the following Credit Sections:

- **MR CREDIT 1.2 (Building Reuse-Maintain Interior Nonstructural Elements)**
Credits are awarded for re-using existing interior elements including doors (frames and hardware are assumed to be included) in at least 50% by area of the completed building or additions. An on-site survey may be all that is required. The Distributor then has an opportunity to provide new materials if existing door assemblies no longer meet Codes.
- **MR CREDIT 2 (Construction Waste Management)**
Credits are awarded for diverting construction waste from landfills. One point is awarded for diverting at least 50% of debris; two points are awarded for diverting at least 75%. As a "material supplier" the Distributor is not normally involved in the management of construction debris, but they can provide a list of known local recyclers for various materials.
- **MR CREDIT 3 (Materials Reuse)**
Credits awarded are very similar to Credits in MR 1.2. The Distributor can promote the use of 2600 slip-on drywall, 800 or 1800 retrofit, FR pressure fit, FR "High Riser" or similar removable frames. In the event of a major renovation, these designs are re-usable. Re-used materials earn one point if they are at least 5% of total value of materials; two points if at least 10%. It is also an opportunity for the Distributor to sell excess or obsolete material, possibly to a small new Project or renovation.

CONCLUSIONS:

We trust that this Tech Data will serve to clarify the "Green Building" concept, to identify the extent to which Amweld's products contribute to attaining "points" for the Building, and to suggest opportunities that enhance the service level of the local Distributor.