



LEED Specifications for MDF Wood Products and Finishes

LEED Specifications for MDF core-based products

RealAcoustix manufactures many products that include MDF (medium density fiberboard) as the core product. These products include, but are not limited to, RealQuads, RealDiffs, Wave Series, DSA, DHA MicroP, MicroPSF, and many others. The use of MDF in these products constitutes over 95% of the total volume of the product so it is considered to be the product with regards to LEED credits and pre/post-consumer recycled content.

The following LEED credits apply to any of our MDF core products:

MR Credit 4.2: Recycled Content: 100% pre-consumer. Post-consumer content would require a plan by the project with regards to disposition of the product after use.

Intent: Increase demand for building products that incorporate recycled content materials, thereby reducing the impacts resulting from extraction and processing of virgin materials.

Requirements: Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes an additional MR Credit in 4.1 of the total value of the materials in the project. The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

EQ Credit 4.4: Low-Emitting Materials: Composite Wood & Agrifiber Product

Intent: Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well being of installers and occupants.

Requirements: Composite wood and agrifiber products used on the interior of the building (defined as inside of the weatherproofing system) shall contain no added urea-formaldehyde resins. Laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall contain no added urea-formaldehyde resins. NOTE: We do not recommend the use of NAF (no added formaldehyde) MDF as it seriously compromises the composition and strength of this product. Instead, if low-VOC is a requirement, we can completely seal the MDF with water-based lacquer, which prevents off-gassing and seals the product. This may qualify the MDF or other wood product for this Credit. The customer must specifically request this and additional costs will apply.

Composite wood and agrifiber products are defined as: particleboard, medium density fiberboard (MDF), plywood, wheat board, strawboard, panel substrates and door cores. Materials considered fit-out, furniture and equipment (FF&E) are not considered base building elements and are not included.

Finishes and how they affect both wood specifications and VOC concerns

After applying the various LEED credits for wood types and use, it is important to note that the issue of VOC ratings often comes up. Composite woods, by themselves, emit various levels of volatile organic compounds, or VOC's. However, in finished products, such as those from RealAcoustix, the VOC's of the wood compounds, be they MDF,



plywood, veneer's etc., become a moot point inasmuch as they are sealed by the finishes applied in our factory. The finishes prevent any potential off-gassing (VOC's) of the wood as all products are completely sealed.

This then brings up the question of the VOC ratings of the finishes. While there is no question that the chemicals in the painting process do emit serious volatile organic chemicals, as noted below in the V4, Table 1 specifications, this only concerns finishes applied *in the field*. The chemicals in the lacquers we use completely off-gas within 48 hours of painting them. This means that by the time they come to the customer, there are no potential VOC issues or concerns with either the finishes or the substrates used therein.

After careful research, it is our opinion that any potential contaminants are mitigated by the facts presented above. The application, or lack thereof, of LEED points is up to the owner, architect or contractor on the project. These items are presented to provide the best information currently available from the USGBC regarding these issues.

Laminating adhesives:

Please note that all laminating adhesives used for MDF?wood to MDF/wood veneers or wood to plastic laminates contain no added urea formaldehyde.

Table 1. Thresholds of compliance with emissions and content standards for 7 categories of materials

Category	Threshold	Emissions and content requirements
Interior paints and coatings applied on site	At least 90%, by volume, for emissions; 100% for VOC content	<ul style="list-style-type: none"> • General Emissions Evaluation for paints and coatings applied to walls, floors, and ceilings • VOC content requirements for wet applied products