

Architectural 5-Ply Specification

Technical Manual

June, 2010

Graham[®]
wood doors

ASSA ABLOY

ASSA ABLOY, the global leader
in door opening solutions

U.S. Green Building Council LEED Rating Statement

Based on review of current LEED rating systems for applicability to architectural wood doors,
Graham states the following.

Applicable LEED Programs and Credits:

Materials and Resources: Recycled Content

| Program | Checklist | Credit | Requirements |
|---|-------------------------------|-------------------------------|---|
| LEED-NC LEED-CS LEED-S LEED-CI | Materials and Resources | Recycled Content MR 4.1 | Use materials with recycled content such that the sum of the post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% of the total values of the material in the project. |
| LEED-NC LEED-CS LEED-S LEED-CI | Materials and Resources | Recycled Content MR 4.2 | Use materials with recycled content such that the sum of the post-consumer recycled content plus one-half of the pre-consumer content constitutes an additional 10% beyond MR Credit 4.1 (total of 20% based on cost) of the total values of the material in the project. |

NC = New Construction CS = Core and Shell S = School CI = Commercial Interiors

Post-consumer material is defined as waste material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose.

Post-industrial (Pre-Consumer) recycled content refers to scraps that are left over during industrial or manufacturing processes and which are subsequently recycled and reused.

| Graham Product | Post-consumer Recycled Content | Pre-consumer Recycled Content* | Total LEED Recycled Content Percentage* |
|-----------------------------|--------------------------------|--------------------------------|---|
| Particleboard Core (PC) | 0 | 55% 45% new wood | 35% |
| Particleboard Core (PC FSC) | 0 | 55% 45% new wood | 20% |
| Agrifiber Core (AP, AF) | 0 | 40% | 20% |

* Based on 1-3/4" X 3'0" X 7'0" Nominal Birch Door

Engineered Composite Core (EC) is 100% new wood and contains no recycled content.

Materials and Resources: Regional Materials

| Program | Checklist | Credit | Requirements |
|------------------------------|-------------------------------|---------------------------------|---|
| LEED-NC LEED-CS LEED-S | Materials and Resources | Regional Materials MR 5.1 | Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% (based on cost) of the total material value. |
| LEED-NC LEED-CS LEED-S | Materials and Resources | Regional Materials MR 5.2 | Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for an additional 10% beyond MR Credit 5.1 (total of 20% based on cost) of the total material value. |

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Materials and Resources: Regional Materials (cont.)

| Graham Product | Regional Material Information |
|---|---|
| Agrifiber Core (AP) FD 45 AP | 70%* of the door is harvested and processed in Mankato, MN. Final assembly is in Mason City, IA |

| Program | Checklist | Credit | Requirements |
|----------------|--------------------------------|----------------------------------|--|
| LEED-CI | Materials and Resources | Regional Materials MR 5.1 | Use a minimum of 20% of the combined value of construction and Division 12 (Furniture) materials and products that are manufactured* regionally within a radius of 500 miles. <i>*Manufactured refers to the final assembly of components</i> |

| Graham Product | Regional Material Information |
|---|-------------------------------------|
| PC, EC, SL, AP, AP45, FD45, FD60, FD90 | Final assembly is in Mason City, IA |

Materials and Resources: Rapidly Renewable Materials

| Program | Checklist | Credit | Requirements |
|---------------------------------------|--------------------------------|---|---|
| LEED-NC LEED-S LEED-CI | Materials and Resources | Rapidly Renewable Materials MR 6 | Use rapidly renewable building materials and products (made from plants that are typically harvested within a ten-year cycle or shorter) for 2.5% of total value of all building materials and products used in the project, based on cost. |

Graham AP and AP45 doors contain 70% Wheat Core.

* Based on 1-3/4" X 3'0" X 7'0" Nominal Birch Door

Materials and Resources: Certified Wood

| Program | Checklist | Credit | Requirements |
|----------------|--------------------------------|----------------------------|---|
| LEED-NC | Materials and Resources | Certified Wood MR 7 | Use a minimum of 50% of wood-based materials and products, which are certified in accordance with the Forest Stewardship Council's (FSC) principles and criteria, for wood building components. These components include, but are not limited to, structural framing and general dimensional framing, flooring, sub-flooring, wood doors, and finishes. |

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Materials and Resources: Certified Wood (cont.)

| Graham Product | Wood Content of Door * | Wood That is FSC Certified | Total LEED Certified Wood Percentage * |
|-------------------------|------------------------|----------------------------|--|
| Particleboard Core (PC) | 100% | 78% | 78% |
| Agrifiber Core (AP, AF) | 21% | 87% | 18% |
| Stave Lumber Core (SL) | 100% | 78% | 78% |
| Mineral Core (FD) | 15% | 82% | 12% |

* Based on 1-3/4" X 3'0" X 7'0" Nominal Door

Indoor Environmental Quality: Low Emitting Materials

| Program | Checklist | Credit | Requirements |
|-------------------------------|------------------------------|-------------------------------|--|
| LEED-NC LEED-CS LEED-CI | Indoor Environmental Quality | Low Emitting Materials EQ 4.4 | Composite wood and Agrifiber products used on the interior of the building shall contain no added urea-formaldehyde resins. Composite wood and Agrifiber products are defined as: particleboard, medium density fiberboard (MDF), plywood, wheat board, strawboard, panel substrates, and door core. |

| Graham Product | Urea Formaldehyde Statement |
|---|--|
| Particleboard Core (PC) Engineered Core (EC) Stave Lumber Core (SL) Agrifiber Core (AP, AF) Mineral Core (FD) | Graham Particleboard Core (PC), Engineered Core (EC), Stave Lumber Core (SL), Agrifiber Core (AP, FD 45 AP and AF) and Mineral Core (FD) doors do not contain any added Urea Formaldehyde ¹ . ¹ With optional Urea Formaldehyde Free Skins; contact Factory for pricing, lead-time, and availability. |