

ALPOLIC®

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RE: ALPOLIC Panels support of LEED point qualification

LEED NC 2001 is broken down into six categories:

1. Sustainable Sites
2. Water Efficiency
3. Energy and Atmosphere
4. Materials and Resources
5. Environmental Quality
6. Innovation and Design Process

In the LEED program projects are evaluated and certified. Individual building products can support that certification but can not themselves be certified. There are four levels of LEED certification. The six categories have a total of 69 possible points to achieve each level of certification the following number of points needs to be earned:

CERTIFICATION LEVEL	POINTS REQUIRED
Certified	26-32
Silver	33-38
Gold	39-51
Platinum	52-69

The incorporation of ALPOLIC MCM panels into a building's design can contribute towards earning points in categories 4 (Materials and Resources) and 6 (Innovation and Design Process).

Category 4 Materials and Resources

MR 4.1 and 4.2 Recycled Content (two possible points)

The ALPOLIC panels, manufactured both in Chesapeake, Virginia and in Japan are composed of two skins of 3105 Aluminum and an LDPE or mineral filled LDPE (FR) core. Attached is a copy of a report from a major coil supplier in the United States and our coil supplier in Japan noting the % post consumer and % post industrial (Secondary) recycled content for a typical 3105 coil.

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The core materials are 100% virgin. Using this information we can calculate the % post consumer recycle content for the LDPE core panels as 23.79% and the % post industrial recycle as 23.66. The virgin content for our LDPE panels is therefore 52.55%. The mineral filled LDPE core (FR) is heavier than the LDPE core and the post consumer % is a little higher in the Japanese supplied coils. Therefore the % post consumer recycle content for the FR panels is 18.45% and % post industrial recycle is 13.56 %

For the purpose of the LEED credits the % recycled is determined as the % post consumer recycle plus one half the % post consumer recycle. The LDPE core % recycle is calculated to be 35.62 and the FR panels are 25.2. MR 4.1 requires a total of 5% and MR 4.2 requires a total of 10%.

Both types of ALPOLIC panels can strongly contribute to meeting the requirements for these credits. Since the % recycle of the ALPOLIC panels is significantly higher than the requirement there also can be a contribution to points for innovative design which will be discussed later in this paper.

MR 5.1 Regional Materials:

Under MR 5.1 one point can be earned if 20% of the building materials are manufactured within a 500 mile radius of the project

Category 6 Innovation and Design Process:

ID 1.1 through 1.4 Innovation in Design:

Under this section four points can be earned for innovations in the project design. Innovations can include exceptional performance in areas already addressed by other credits. For example if the recycle content of the building materials greatly exceeds the 10% required to qualify for credit MR4.2, i.e. a 20% recycle content, there is the possibility to earn a point for Innovation in Design.

ALPOLIC's fluoropolymer coatings provide exceptional durability performance. If this performance is incorporated into an overall project focus on long life and low maintenance materials, a point could be requested based on the life cycle analysis of the materials selected for use.

Depending on the location of the installation of the ALPOLIC panels and the paint color selected the total solar reflectance value of paint finish could contribute to the reduction of energy requirements for the building and possibly support the reduction of the heat island effect.

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Summary:

Mitsubishi Chemical FP America, Inc. is a member of the U.S. Green Building Council and actively supports environmental responsibility. The raw materials used in the ALPOLIC panel products have been selected to maximize the use of recycled content, both post consumer and post industrial. The coating and laminating lines are designed to make the most efficient use of energy and to comply with all regulations and codes relating to environmental quality.

As noted above The ALPOLIC panels can be an integral part of a project design aimed at attaining LEED certification. If you have specific questions regarding the use of ALPOLIC to meet the requirements of the LEED standard, please contact Technical Services.


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Patrick W. McCabe

DIRECTOR, MATERIALS PLANNING

Date: February 25, 2005

Alloy Description	Producing Facility	Postconsumer Material (Percent)	Secondary Material (Percent)	Virgin Material (Percent)	Total Material (Percent)
3105	Lewisport, KY	48.09%	47.84%	4.07%	100%

Main Suppliers:

- GLENCORE
- RUSAL AMERICA CORPORATION
- GERALD METALS INC
- HUNTER DOUGLAS METALS, INC.
- SMELTER SERVICE CORP.
- WIMCO METALS
- SERVICE ALUMINUM CORPORATION
- METAL EXCHANGE CORPORATION
- SHELMET CORPORATION
- DAVID J. JOSEPH COMPANY
- NEWCO METALS, INC.
- PECHINEY
- METALSCO, INC.
- METAL MANAGEMENT, CHICAGO IL
- INTEGRIS METALS
- RAZNOIMPORT TRADING
- ISA (INDUSTRIAL SERVICES OF AM
- HYDRO ALUMINUM ROCKLEDGE, INC.
- ALCAN ROLLED PRODUCTS COMPANY
- MIDWEST METALS CORPORATION

I certify that the above information is true. I further certify that these environmental claims for recycled content regarding these products are consistent with the Federal Trade Commission's Environmental Marketing Guidelines in accordance with PCC 12404. These guidelines are available at: <http://www.ftc.gov/bcp/gmrule/guides980427.htm>.

Postconsumer material comes from products that were bought by consumers, used, and recycled.

Secondary material consists of fragments of finished products of a manufacturing process.

Virgin material is that portion of the product made from new or non-recycled material. The material is neither secondary nor postconsumer.

Mitsubishi Chemical Functional Products, Inc.

July 12, 2005

Mitsubishi Aluminum Co.,Ltd.
Fuji Plant
E. Kushima



Alloy Description	Producing Facility	Postconsumer Material (%)	Secondary Material (%)	Virgin Material (%)	Total Material (%)
3105	Mitsubishi Aluminum Co.,Ltd. Fuji Plant	52.1	38.9	9.0	100

Postconsumer Material comes from products that were bought by consumers, used, and recycled.

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Virgin Material is that portion of the product made from new or non- recycled material.
The material is neither secondary nor postconsumer.