ENVIRONMENTAL PRODUCT DECLARATION

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HONEYCOMB METAL PANELS (HMP)

Prepared by Protean Construction Products

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Protean – Honeycomb Metal Panels (HMP)

Company Information:

Protean Construction Products provides custom manufactured architectural metal wall panel systems tailored to meet your project's needs – both the design concept and the pragmatic needs of construction. With a passion for teaming with our customers to create great buildings that last, Protean is committed to providing products that make your building more sustainable through the use of recycled materials, ability to recycle the metal wall panels at end of use, and other aspects of the product and our manufacturing processes.

Name and location of production site:
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Product Information:

Product Name: Honeycomb Metal Panel (HMP)

Product Identification: HC-200 (Honeycomb Metal Panels-Rainscreen Style), HC-100 (Honeycomb Metal Panels)

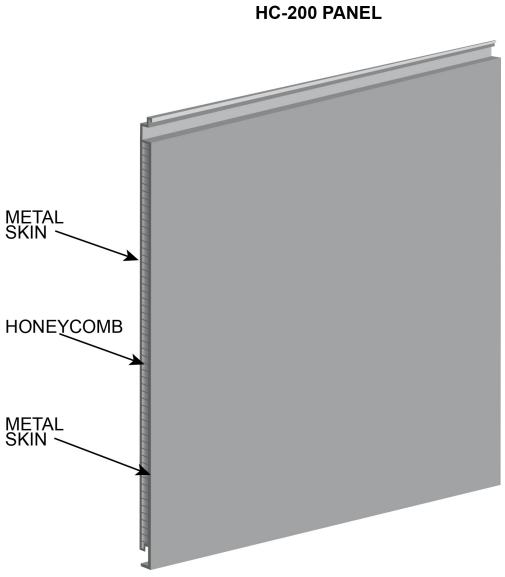
Geographic Scope: USA

Product Description:
The HC-200 Series is a rain screen style system best used when dead flat surfaces are desired. Honeycomb core panels are well suited for projects needing large panels with long, smooth expanses. The rain screen style construction creates a crisp aesthetic with no caulk lines.

The HC-100 Series is a barrier system best used when dead flat surfaces are desired. Honeycomb core panels are well suited for projects needing large panels with long, smooth expanses. The HC-100 system is our most economical option when long service life is desired.

HCP's, when either the HC-200 Standard Construction or the HC-100 Standard Construction is Basis of Design, provide a warranty of 5 Year Workmanship and 20 year finish.

Other codes for product classification: HMP



Content Declaration

Product

Component	Material	Availability	Origin	Mass (%)
Aluminum faces/core	Aluminum (0.040” faces, 0.0025” core)	Fossil resource, limited	North America	100
Aluminum faces/core	Primary Aluminum (including alloy agents)	Fossil resource, limited	North America	40
Aluminum faces/core	Recovered Aluminum from Other Post-Industrial Scrap	Fossil resource, limited	North America	13
Aluminum faces/core	Post-Consumer Scrap	Fossil resource, limited	North America	47

Recycled Material

Provenience of recycled materials (pre-consumer or post-consumer) in the product:
Pre-consumer recycled content: 60%
Post-consumer recycled content: 85%-95%

Environmental Performance

Potential environmental impact

PARAMETER (per metric ton)	UNIT	
Global warming potential (GWP)	kg CO_2-eq.	5,330
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC11-eq.	4.615E-7
Acidification potential (AP)	kg SO_2-eq.	26.69
Eutrophication potential (EP)	kg N-eq.	0.621
Smog formation potential (SFP)	kg O_3-eq.	250
Abiotic Depletion Potential – Elements (ADP-elements)	kg Sb-eq.	2.98E-3
Abiotic Depletion Potential – Fossil Fuels (ADP-fossil fuels)	MJ	61,300

Environmental Performance

Use of resources

PARAMETER (per metric ton)	UNIT	
Primary energy resources – Renewable	MJ, net calorific value	23,400
Primary energy resources – Non-renewable	MJ, net calorific value	61,300
Secondary materials	kg	649
Net use of fresh water	m^3	102,000

Waste production and output flows

Waste production

PARAMETER (per metric ton)	UNIT	
Hazardous waste disposed	kg	1,220
Non-hazardous waste disposed	kg	117
Radioactive waste disposed	kg	4.28
Materials for recycling	kg	1,440

Additional Information:

End of Life Stage:
The HC-200 and HC-100 are composed of 100% recyclable aluminum with the exception of finish and adhesive. Therefore, honeycomb metal panels can be placed directly into a recycling stream.

Release of Dangerous Substances:
There is no release of dangerous substances from honeycomb metal panel systems during the use stage. An exception, however, may be the “off gassing” of caulk sealant for HC-100 panels.

Additional Information:

Installation and Energy Efficiency:
Honeycomb metal panel systems optimize energy consumption by attachment methods to eliminate/minimize thermal bridging. The proper installation of honeycomb metal panels is as follows. Utilizing standard installation details, HC-200 series panels are sequentially installed to the structure with mechanical fasteners with an easy tongue and groove alignment. We recommend use of hat girts and self-tapping screws; however, our panels can be fastened to flat strap furring or direct to 5/8” or heavier plywood. Utilizing standard installation details, HC-100 series panels are sequentially installed to the structure with mechanical fasteners and formed attachment legs. The minimum joint of ½” is sealed with backer rod and sealant compatible with the finish. We recommend use of hat girts and self-tapping screws; however, our panels can be fastened to flat strap furring or direct to 5/8” or heavier plywood.

References

The Alumni Association Environmental Product Declaration for Cold-Rolled Aluminum Manufactured in North America

TRACI 2.0 Bare, J. “TRACI 2.0: the Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts 2.0.” Clean Technologies and Environmental Policy. Volume 13, Number 5, 687-696. 2011.

CML 2001 GuinÈe et al. “An operational guide to the ISO-standards (Centre for Milieukunde (CML), Leiden 2001.” Center for Environmental Sciences (CML) at the University of Leiden, The Netherlands. Last Updated 2010.