

Project Report

Amager Resource Center (ARC)

Copenhagen, Denmark



Architecture: Bjarke Ingels Group



Photography: Christoffer Regild
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KALWALL®

high performance translucent building systems

KALWALL SPECIFICATION:

Panel: 2.75" | 70mm

Grid core: shoji

Exterior FRP: Crystal

Interior FRP: White

System finish: Aluminum #79

U-Value: 0.23 | 1.25 Wm²K

Solar Heat Gain Coefficient: 0.28

Visible Light Transmission: 20%

WHAT IS KALWALL?

A translucent, structural sandwich panel that provides:

Glare-free, balanced daylighting

Superior thermal performance

Energy + electricity saving

Low maintenance life cycle requirements

Safety + security through visual privacy

Durability + graffiti / vandal-resistance

Hurricane, explosion venting + blast rated options



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For the best thermal performance available in any translucent daylighting technology consider specifying **Kalwall** with **CABOT's Lumira™** aerogel insulation. Available in panels up to: 5'-0" W x 12'-0" L | 2.75" D
1500mm W x 6m L | 70mm D

Amager Resource Center, Copenhagen, Denmark

SHEDDING LIGHT ON A NEW TYPE OF PROJECT

Copenhagen's Amager Bakke is a visionary project in Denmark that doubles as a recreational playground and a waste-to-energy plant.

The towering structure is over 280 feet high, has an estimated cost of \$670 million and is a part Copenhagen's commitment to become the world's first carbon-neutral capital by 2025. Part of the facility is already on line.

The waste-to-energy plant, a giant incinerator that burns household garbage to generate heat for approximately 160,000 households and electricity for 62,500 homes, began operating in March. The recreational component is still under construction.

Kalwall® translucent sandwich panels provided a critical solution in this truly global project, with their aesthetic beauty, energy efficiency and, most importantly, their best-in-class explosion-venting properties.

Kalwall panels are used in areas of the building where a potentially volatile event could occur. The panels work to vent pressure out of the building, allowing it to withstand an explosion without collapsing roofs or floors. The panels are designed to release from their mounting system, but remain attached to the side of the building to avoid becoming falling debris. The interior of the panels are shatterproof and include a Fiber-Reinforced Polymer (FRP) face sheet that can be customized to withstand 230 ft-lbs (312J) of impact.

Staying close to the project's mission of being environmentally conscious, Kalwall panels provide dramatic savings in energy consumption through exceptional thermal and daylighting performance that reduces heating costs and artificial light usage.

Working through Sipral, a leading supplier of external building envelopes based out of Prague, the panels were delivered on schedule and required no on-site modifications.

Amager Baake was designed by the highly-acclaimed architecture firm Bjarke Ingels Group (BIG) and has the world watching as it merges two completely different applications. BIG founder Bjarke Ingels hopes that Amager Bakke will "change public perceptions of what a public utility should be" by providing a social and physical infrastructure.

When completed, Amager Bakke will provide Copenhagen with a rooftop ski slope that is comprised of 1,600 feet of trails, as well as 10 running and walking trails. There is also a 260-foot climbing wall along the facade.

Ingels said the concept of a structure that brings together two diverse interests can be lasting.

"If you make a building that remains relevant to the people living around it, and using it and inhabiting it, it can last forever," Ingels said in an interview with CNN Style.

Awards:

2015 P/A Progressive Architecture Awards Citation

2012 AR MIPIM Future Projects Awards Special Award



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