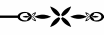


Anvers, Belgium – Single House



Completion date: 2025



Antwerpen-Noord Residence: *A Sculptural Roof Reimagined*



A contemporary single-family residence where a complex pyramidal roof becomes both the defining architectural element and an integrated source of renewable energy.



Designing a Distinctive Roofscape

Designed around a distinctive pyramidal roof geometry, the project transforms one of the home's greatest architectural challenges into its defining strength.

Instead of interrupting the roof with conventional photovoltaic panels, building-integrated photovoltaic technology is seamlessly incorporated into the standing seam metal envelope, preserving the purity of the architectural form while generating renewable energy.

Despite the roof's complex geometry, the design successfully integrates 13 roof windows and delivers a total installed capacity of 9 kWp across 225 m² of roof surface.



integrating complexity

The project's greatest challenge was preserving the architectural integrity of an unconventional pyramidal roof while incorporating renewable energy generation. Multiple roof planes, changing geometries and the integration of thirteen roof windows required every photovoltaic element to become part of the architectural composition rather than a separate technical layer.



architectural solution

The standing seam roof functions simultaneously as weather protection, architectural expression and an energy-generating building envelope. Rather than adding photovoltaic panels onto the roof, photovoltaic technology is integrated directly into the metal surface, creating a continuous architectural language that reinforces the building's sculptural character.



sustainability

Generating 9 kWp of renewable energy through a fully integrated building envelope, the residence reduces operational energy demand while maintaining a clean architectural expression. The project illustrates how building-integrated photovoltaics can contribute to more sustainable housing without sacrificing design quality.

The project demonstrates that renewable energy systems can enhance rather than compromise residential architecture. By integrating photovoltaics into a highly complex roof geometry, it preserves the visual clarity of the design while delivering high energy performance without additional rooftop equipment.

ENERGY IS NOT ADDED TO
THE ARCHITECTURE,
IT IS EMBEDDED WITHIN IT.



The Antwerpen-Noord Residence demonstrates that renewable energy and architectural quality are not competing priorities. Through the seamless integration of photovoltaic technology into a complex roof geometry, the project proves that sustainability can strengthen architectural identity rather than compromise it.