ARVOREDO, BRAZIL'S NEW MASS TIMBER RESIDENTIAL CONDOMINIUM, OFFERS A ONE-OF-A-KIND LIVING EXPERIENCE

Source: Noah Tech

CASE STUDY: ARVOREDO

ARVOREDO: THE FIRST MASS TIMBER RESIDENTIAL CONDO IN BRAZIL

PROJECT OWNER: NOAH TECH

PROJECT LOCATION: RUA ARAIOSES, 201, SÃO PAULO, SÃO PAULO, 05442-010

COMPLETION DATE: APRIL 2, 2025

ARCHITECT/DESIGNER: GRUPO SP ARQUITETOS

MASS TIMBER ENGINEER/MANUFACTURER: URBEM

GENERAL CONTRACTOR: NOAH TECH

STRUCTURAL ENGINEER: STAMADE

THE ARVOREDO CONDOMINIUM is an innovative project that represents a significant leap forward in sustainable construction in Brazil, being a pioneer in the use of mass timber for residential developments. Situated in Vila Madalena, one of São Paulo's trendiest neighborhoods, the development comprises 6 units of 4-story townhomes, with areas ranging from 390 square meters to 466 square meters.

The project's standout feature is its hybrid structural design, using concrete in the foundations and leisure areas, while Cross-Laminated Timber (CLT) and glulam form the main structure of

A LIVING ROOM AT ARVOREDO

Source: Noah Tech

the houses, ensuring construction precision and efficiency. This combination was essential for managing the site's challenging topography, and the mass timber method facilitated construction while optimizing space utilization, seamlessly integrating the project with the terrain.

Mass timber, a renewable resource, was selected not only for its environmental benefits but also for its acoustic and thermal insulation properties, ensuring a comfortable and quiet indoor environment for residents. Furthermore, the material contributes to carbon sequestration, storing approximately 600 tons of CO_2 within the structure.

For the Arvoredo townhouses, the choice of fixation system was critical to ensure precision and safety during the assembly of the mass timber structures. All screws for connecting slabs and beams, as well as the fixation plates for the CLT walls, were supplied by Rothoblaas, ensuring high structural performance and ease of assembly. A key innovation was the use of custom-designed 3-in-1 connectors created specifically for the project. These connectors were engineered to lift, lock, and position the columns and beams efficiently, reducing the need for multiple components and streamlining assembly. This efficient construction methodology is driven by the integration of advanced technologies, such as three-dimensional (3D) simulations that optimize assembly schedules and minimize conflicts.

In addition, sunlight and ventilation simulations were conducted to maximize thermal comfort and natural lighting, qualities inherent to mass timber structures. For logistical planning, comprehensive studies were carried out, including route simulations for timber deliveries using Autodesk's Vehicle Tracking, ensuring smooth truck maneuvering despite the site's complex topography.

Developed by Noah Tech, the Arvoredo project was designed to educate and introduce the Brazilian residential market to the benefits of mass timber. Strategic partnerships were essential to the project's success, including collaboration with Urbem, the manufacturer of all its mass timber components; Dexco, responsible for the finishes; and Rothoblaas, provider of the fixation system. Working alongside experts and suppliers ensured that Arvoredo met the highest sustainability standards, offering a one-of-a-kind living experience in Brazil. By blending technological innovation, sophisticated design, and environmental responsibility, Arvoredo illustrates how cutting-edge technology and respect for the environment can reshape urban living in major cities.

This case study has not been fact-checked, but it has been edited for length, clarity, grammar, and style.