

Aalborg White showcases its white concrete on the Névée project

In Saint-Herblain (Loire-Atlantique), Léon Grosse has just completed the structural work on the Névée housing complex. Aalborg Portland (Cementir) supplied their Aalborg White CEM I 52,5SR5 CE NF white cement for this project.

One of the open-plan layouts of the 1960s and 70s. The Névée housing complex is aligned with the surrounding streets. We see a return to a logical street layout, breaking away from the previous style that defined the Bellevue district in Saint-Herblain (Loire-Atlantique). The Urbanmakers teams (principal contractor) and THE Architectes wanted a truly urban project. An approach that brings the traditional idea of a town to the forefront in a highly visible way. Sober, light, and mineral, it's a complex that echoes the coherence of the historic town.

The emphasis is on how the buildings are anchored to the ground. The line between building and base is blurred: the buildings stand directly on the earth, punctuated by the ground floor entrance halls that flow directly onto the pavements. The architectural principles are simple and rigorous, and the buildings have a slimline look. The load-bearing structures are clearly visible. The bay windows and large glazed sections are set out following a regular pattern.

The architectural concrete façades are immaculate

with thoughtful use of materials. The concrete represents the central element: a noble, white material. This contemporary stone calls to mind the buildings of Nantes city centre and harks back to the different colours at play there, but also to the mineral tufa stone of the Loire. The buildings are arranged in tiers, reducing the feeling of weight on the pedestrian zones, but also minimising the perception of height. In this way, we have created an impression of "lower town", "mid-town" and "upper town", by playing around with the project's different reference heights.

The Névée complex is divided into four plots arranged on a common, hidden base that houses underground parking on a single level. The total surface area is 7,953m², divided into 130 social and private housing units. The project has been commissioned by Cif Coopérative and Coop Logis. The building structures were created by the Léon Grosse company and are characterised by raw, moulded architectural façades. "We decided to manufacture



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The Urbanmakers teams and THE Architectes wanted a truly urban project for the Névée housing complex in Saint-Herblain (Loire-Atlantique).

all of the concrete in an on-site facility," Serge Favre, Léon Grosse's concrete consultant, told us. The firm has demonstrated its total mastery of concrete, from formulating the mix to removing the moulds, through manufacture and execution. There's no doubt that Léon Grosse has done itself proud with this achievement in architectural white concrete.

The choice of Aalborg White® white cement.

The choice of Aalborg White CEM I 52,5R SR5 CE NF cement, made by Aalborg Portland (Cementir) – well known for its linear quality – is further testament to their expertise. The low percentage of C3A makes this a particularly durable cement (+ 70 MPa at 28 j). This is a raw material that is found locally, transported in from the Rochefort terminal (Charente-Maritime), which is only 175km away. This reduces the carbon footprint associated with road transport. "The cement produces a simple concrete mix that is pleasant to work with," added Serge Favre. "given the fact that white cement is often considered to be a material with 'character'."

For the Saint-Herblain project, the Léon Grosse laboratory quickly settled on a formula that didn't need any special additives to achieve the desired shade and appearance. The addition of the MasterGlenium Sky 841 superplasticizer by Master Builders Solutions France allowed them to obtain a self-compacting concrete in keeping with the cladding requirements. This resulted in a C30/37 with classic 4/20 aggregates from the Blanlœil de la Touche quarry and sand from Saremer (both in Loire-Atlantique). A simple Omya lime filler completed the mix. Some 1,200m³ of self-compacting concrete was produced from the Oru on-site facility: 2m³ per batch.

Stainless steel forms were used for an optimal finish. Energy performance meets the RT 2012–10% standard and all buildings are equipped with thermal breaks on all levels, to ensure a perfect level of internal thermal insulation. The casting of the walls was carried out in the classic way: level by level. *"We worked in sections of 25m maximum,"* explained Manuel Armandio, Project Manager at Léon Grosse. *"We used two wall form sections, each 12.5m long."* Outinord type B 8000 Evo 2 classic wall forms were used, with a stainless-steel-coated exterior and a shortened interior side to allow the placement of Slabe thermal breaks in this case. A ^{third} half-section, in stainless steel only, was also present on site to prepare for the next concrete phase. Stainless steel was chosen due to the use of white concrete, where any trace of rust would be unacceptable. Even a well-maintained classic wall form can result in rust deposits. *"Stainless steel has proven itself time and time again in architectural concrete applications,"* confirmed Manuel Armandio.

Exposed precast concrete. During the initial phase of the project, the architects had opted for a gently retreating panel, creating a raised effect. However, creating this kind of façade would have required a lot of complexity to guarantee an optimal finish. So Léon Grosse suggested a different approach, removing the retreating parts so that perfectly flat wall forms could be cast. But this wasn't so much about bypassing the architectural concept. All of the previously retreating sections would be framed by a hollow, trapezoid join, 3cm wide by 2cm in the groove base and 2cm deep. A rather convincing visual effect! Once the cast concrete was revealed, the façades were essentially finished. Of course, some small areas needed a little finishing (sanding). Nothing unusual for a development on this scale! All that remains before the final delivery of the project in summer 2021 is to apply an anti-graffiti treatment to the ground floor level.

PROJECT ROLES

Client: Project: **Névée housing complex**

Commissioned by: **Cif Coopérative and Coop Logis**

Main contractor: **Urbanmakers (principal) and THE Architectes**

Floor surface area: **7,953m² for 130 housing units**

Total build cost: **€10.2m, of which €5.98m for structural works**

Delivery: **summer 2021**

Structural works: **Léon Grosse**

Concrete: **Manufactured in on-site facility**

White cement: **Aalborg White[®] cement from Aalborg Portland France**

Aggregates: **Sand (Saremer quarry) and gravel (Blanlœil) – Loire-Atlantique.**

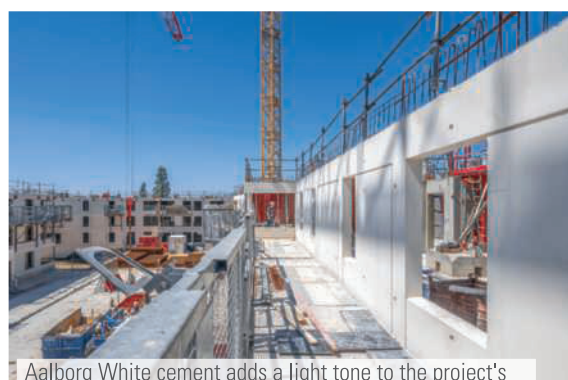
Additives: **Omya lime filler**

Adjuvants: **Master Builders Solutions France MasterGlenium Sky 841**



The load-bearing structures are clearly visible. The bay windows and large glazed sections are set out following a regular pattern.

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Aalborg White cement adds a light tone to the project's architectural concrete.

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The white concrete façades echo the mineral tufa stone of the Loire.

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