

CASE STUDY - AMSTERDAM VALLEY

PRODUCT SFS Framing

SECTOR Residential

ARCHITECT MVRDV

SUPPLY CHAIN PARTNER MTJ Builders

» 9,500m² of voestalpine Metsec SFS supplied

» Designed and delivered using BIM-led collaboration

» Steel framing chosen over traditional timber solutions



In a departure from the more common local habit of using timber, Dutch developers have used SFS steel framing systems from UK-based Metsec to provide infill for the varied shapes, sizes and profiles of a major new development in Amsterdam.

Rising from the flat landscape of Amsterdam's Zuidas central business district is Amsterdam Valley, a striking 100-metre high structure which presents an eye-catching jagged façade of stone terraces, bay windows and balconies, covered in dense greenery.

More redolent of a three-peaked mountain than a building, Amsterdam Valley is an innovative and sustainable mixed-use development commissioned by EDGE Technologies and designed by architects, MVRDV. Providing panoramic views over the iconic city of Amsterdam, the Valley's 75,000 square metres of space accommodates 200 apartments, seven storeys of office space, a three-storey underground car park with space for 375 cars and 1,850 bicycles, and a variety of retail, leisure and cultural facilities, including bars, restaurants, gym, swimming pool and museum.

The project's bold design is matched by the courage of the construction consortium (Boele & van Eesteren and G&S Bouw) in selecting Metsec's lightweight steel framing system, rather than opting for the more usual Dutch solution of timber, to provide infill throughout the building.

Appointed to design, supply and install the SFS, British specialists, MTJ Builders were involved at the early stages of the Amsterdam Valley project, working with the project's design and construction teams to develop a scheme which would accommodate the building's striking outline as well as deliver the performance and efficiency for which SFS is renowned.

Kulwinder Lall of MTJ Builders comments, "The contractors needed an infill system which would support the bracketry for the natural stone cladding panels which had pretty much been cut by the time we were consulted. SFS provided a verSatile and flexible solution which would also assure rapid progress when delivered to site.



SOME 9,500 SQUARE METRES OF METSEC SFS WAS SUPPLIED TO AMSTERDAM VALLEY

“A full-sized working mock-up of one of the Valley's cells, using SFS as infill, convinced the development team of the system's efficacy. Working with Metsec's design team, we produced designs and 3D models of the installation before manufacture, delivery and installation.”

Produced to BIM standards, the SFS design was created to precisely match the architects' setting-out information, which determined the wall and opening locations. Each floor required between eighty and one hundred SFS panel section drawings, with the entire project requiring in excess of 5,000 drawings.

To assist with co-ordination between the 3D models and site a bespoke SFS track Revit family was created with additional offset nodes, facilitating a mainly digital collaborative environment, with some hard copy drawings produced to assist installation.

As a BIM project, the location of each specific stud needed to be exact, as other parties would be reliant on the SFS model for subsequent installation of their own products and systems. This required each stud to be dimensioned from a datum to allow the SFS installation teams to

position each stud precisely in its designated location. Some 9,500 square metres of Metsec SFS was supplied to Amsterdam Valley, with a mixture of 90mm, 150mm, 240mm and 270mm stud sizes used according to requirements.

Compared to timber or blockwork walls, SFS provides a lightweight solution which can be adapted on site to accommodate any variances in the main steel or concrete structural frame, ensuring a seamless fit at each stud location which proved invaluable in coping with the Valley's many and varied angles.

Lall concludes, “With the untimely intervention of Coronavirus during the SFS installation phases, Amsterdam Valley posed a few challenges. Fortunately, the digital environment created by Metsec's design team assured close co-operation between ourselves, Metsec and the contractors. The project went as smoothly as the pandemic would allow, with SFS proving its worth and justifying the Dutch development team's courage.”

“The building's design was out of the ordinary and, for the Dutch construction industry, so was the SFS solution!”

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