

# Haute Concrete

With his first building in New York, the architect Tadao Ando takes the material to new heights.

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**W**hile architects once considered concrete a building's underwear—an essential but hidden layer—Tadao Ando's **1** structures display their concrete with pride. There's a story (which Ando's team declined to confirm) that's used to illustrate how seriously Ando takes the material: When the architect, a former boxer, saw a construction



worker ash a cigarette into the concrete mixture for one of Ando's buildings, he reportedly slugged the man.

Over the course of his nearly 50-year career, Ando has helped transform the gritty, gray material often associated with driveways and median strips into an artistic medium. "Every architect I know who wants to do something in



concrete always refers to him as the ideal in concrete design,” says Reg Hough, a concrete consultant who has for decades worked closely with top architects, including Ando, I. M. Pei, and Richard Meier. Having left his mark on cities from Tokyo to Fort Worth to Milan, Ando is now overseeing construction of a seven-unit, concrete-and-glass condominium building, 152 Elizabeth **2** **3**, his first stand-alone structure in New York City.

Ando is hardly the first architect to embrace concrete; he cites the brutalist architect Le Corbusier, an earlier concrete virtuoso, as an influence. But while Le Corbusier and his peers used concrete in ways that suggested a heavy ruggedness—Prince Charles ungenerously described Owen Luder’s brutalist Tricorn Centre as a “mildewed lump of elephant droppings”—Ando’s concrete, which is smooth to the touch, seems more like cashmere. To architecture buffs, his walls are as recognizable as Bottega Veneta’s woven leather is to fashionistas: They bear a consistent gridlike pattern, and are dotted with



depressions **4** (It’s even possible to buy premade paneling that knocks off the Ando look.) When 152 Elizabeth is completed later this year, its apartments will feature Ando’s concrete both inside and out, where it will do double duty as structure and surface.

Making Ando-caliber concrete is not for the faint of heart. “It’s been a bit of a war,” says Amit Khurana, a co-founder of Sumaida + Khurana, which is developing 152 Elizabeth. “Getting architectural concrete right is like a fight because it’s so hard to do.” Because the concrete will remain exposed, any imperfection will be visible. Khurana’s team practiced pouring concrete for 18 months before starting work at the site **5**. Even

so, nine inspectors oversee most pours to ensure that every protocol is followed. The crew has lugged in heaters, because concrete is hypersensitive to temperature shifts. And Khurana says they’ve rejected “several trucks” of mixed





concrete for failing to meet the project's stringent specifications.

But it is the process, more than the ingredients, that distinguishes Ando's concrete. Like most architectural concrete, it is made of water, cement, sand, and small rocks blended with chemicals and slag, a by-product of steelmaking that lends the final result its creamy finish. The material is trucked to the site, where it is pumped into a formwork—essentially a mold made of large wooden panels. Other architects might use bare panels of oak or fir, but those woods typically transfer their grain to the concrete as it dries. To avoid this, Ando has since the 1970s used plywood coated in plastic, which imparts a smooth surface. These panels are painstakingly connected so that the edges fit together tightly **6**. Each mold is also pierced through with a series of steel rods, called form ties, which keep its two sides together **7**. The form ties are in turn held in place by blue-plastic cones, which protrude into the wet concrete **8**. When the formwork is removed, the seams between the wood panels



leave behind Ando's iconic lines, while the plastic cones produce his trademark holes, which are partially plugged with mortar.

Khurana predicts that this will be his last project involving exposed architectural concrete. "I don't think I'll have the energy to ever do something like this again,"

he told me. "This is my jewel." Ando, however, seems drawn to concrete precisely because of the challenge involved in making a pedestrian substance appear extraordinary. In his hands, the material takes on a counterintuitive grace—his designs **9** direct light, air, and people's movement in ways that recall works by artists like James Turrell or Richard Serra. "I want to create a space which no one has created before with a very common material which anyone is familiar with and has access to," Ando has said of 152 Elizabeth. "Concrete can be made anywhere on Earth."

