

Ceramic Front

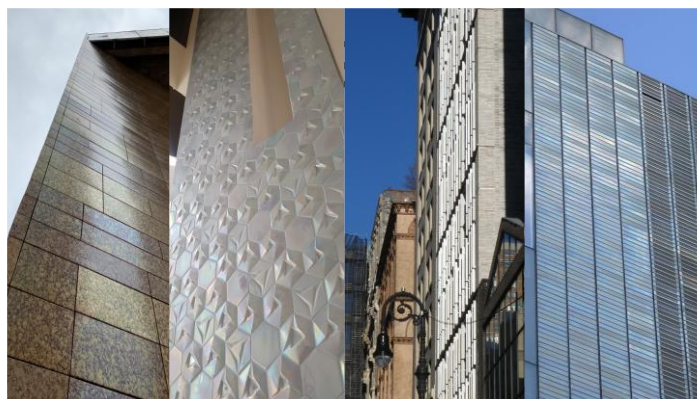
By: Kesem Yahav, Amsterdam

Dutch ceramicist and designer Christine Jetten creates ceramic facades that bring architectural projects to life by combining tradition with innovation, offering a tactile quality and environmental awareness.



On the walls of Christine Jetten's glazing room—which feels more like a lab—shelves are stacked with glazes, minerals, pigments, and other materials she uses to create unique ceramic glazes. The space is filled with ceramic tiles in a range of sizes, colours, and textures. It reflects the story of her life and the creative research she's been conducting for four decades. It's a testament to the deep knowledge and experience she's gained throughout her career, and the extensive potential within the world of ceramic glazes.

Jetten is a Dutch ceramicist, designer, and specialist in ceramic glazes and architectural cladding. She holds a degree in Ceramic Design from the Gerrit Rietveld Academy in Amsterdam and later studied Ceramic Technology in Eindhoven. She's known for her work on modern architecture projects that incorporate distinctive ceramic surfaces, aesthetics, and sustainability, and is considered one of the leading figures in this field in Europe and beyond. She shows how ceramic glazes can breathe new life into buildings, giving them a tactile dimension. I visited her studio in Den Bosch, where she's been working for 25 years, and we talked about the role of ceramics in architectural cladding and sustainability.



What are the advantages of ceramic cladding in architecture compared to traditional materials like stone, glass, and steel?

“The main advantage is better climate control. Ceramic cladding might be more expensive upfront, but it saves energy over time and pays for itself. Ultimately, it means energy efficiency. Also, buildings made mainly from glass, steel, and concrete are starting to look the same everywhere, and the need for a unique identity is growing.

Around the year 2000, architects began to focus on the character of the building, and they started to pay attention to touch and human feel. As the digital world grew and more people moved from villages to cities, urban planners, architects, and municipalities began to ask: how do we make cities more liveable? How do we create inviting urban landscapes where people can meet, sit, live, and shop?

City squares and parks became important elements in urban design. In the late 1990s and early 2000s, ceramic was chosen because it blended well with historic materials like stone and hand-carved facades. Many projects combined ceramics in the heart of historic city centers.”

So back then, sustainability wasn’t really the focus—was it more about craft traditions and aesthetics?

“No, sustainability wasn’t a hot topic yet. I was born in 1955, and I remember the research done in the '70s, especially the book *“The Limits to Growth”* from 1972—it really impacted me. It argued that Earth’s resources couldn’t support unlimited economic and population growth beyond 2100, even with advanced technology. I remember riding our bikes through Dutch cities at night, checking which buildings had their lights on, knocking on doors and reminding people to turn them off. We even put jars filled with sand into toilet tanks to reduce water use.

But in the '90s, with economic policy shifts—Reagan in the U.S., Thatcher in the UK, and similar changes in the Netherlands—people stopped paying attention. Sustainability faded into the background.”

What brought you back to focusing on materials and sustainability? Was there a particular turning point?

“In 2013, I watched a documentary called *Sand Wars* about the global sand mafia and how beaches and islands are disappearing due to sand extraction. That really opened my eyes. I started thinking differently about the materials I use.

We take so many things for granted—but they’re not infinite. We need to rethink our habits.

Even before that, in the late '90s, my studio was already involved in designing building claddings—textures, glazes, surfaces. I was creating sculptures and art exhibitions alongside architectural projects. Every sculpture had its own ‘skin,’ and I focused on the expression and feeling I wanted to evoke through texture and glazing.

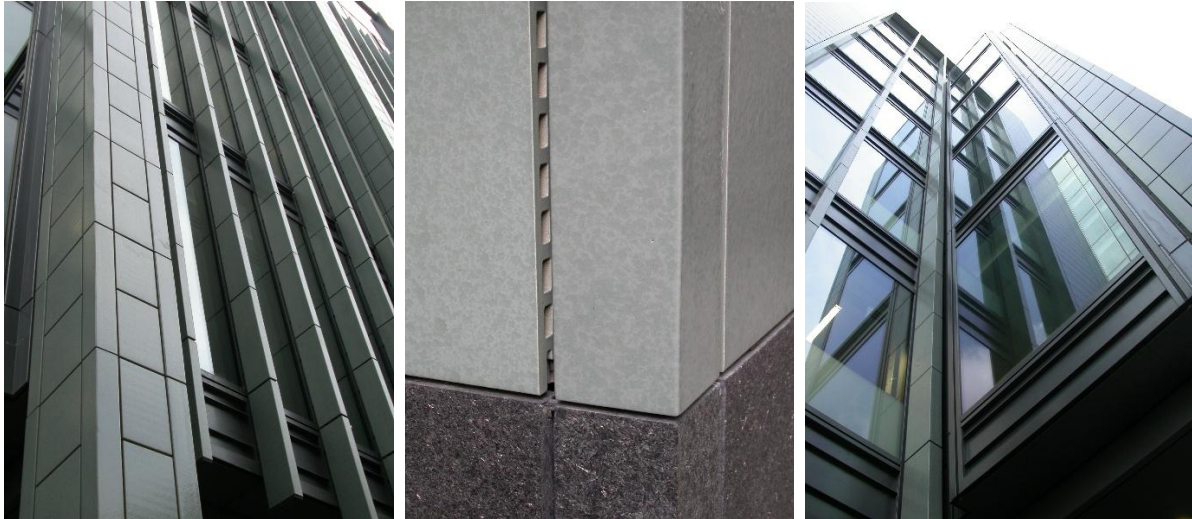
Over time, sculpture took a back seat due to lack of time, and collaborations with architects became my focus. These architects were at the forefront of ceramic cladding development, and I found myself in a truly fascinating position.”

And that’s how you began designing building surfaces?

“Yes. One of the first buildings I worked on was in London for an American company in the late '90s. It was one of my first industrial projects.

At that time, architectural glazes were standardized—they used RAL and Pantone colour references, and architects chose from a catalogue. The industry could produce 20,000 m² of flat, monochrome colours. That was impressive, but I introduced a new approach.

I explored textures and the so-called ‘flaws’ in glazes. These irregularities are usually seen as defects, but I viewed them as artistic expression. At the time, this approach was new and revolutionary—it was custom-made and outside the mainstream palette.



Though ceramic is a very old material, I presented it in a new way. My sculptures were always about stimulating the senses. In a world becoming more digital and less tactile, I felt my mission was to preserve sensory engagement. My art background helped me collaborate with architects in a way industry professionals—often trained in chemistry—couldn’t. I bridged the gap between architecture and industry.

Eventually, I studied ceramic technology in Eindhoven, where I gained a deep understanding of what’s needed to produce industrial ceramic building envelopes.”

How can architects use ceramics in a more environmentally friendly way, and how do you guide them and the industry to use the material responsibly?

“There are two main aspects. First, choosing the right material. If you look at the environmental impact of building materials —aluminum is at the top of the list as the most harmful, while clay and wood are at the bottom, meaning they’re more sustainable.

Of course, there are nuances—whether the material is raw or fired, and if fired, whether it’s done with gas or electricity. But generally, I advocate for ceramics. In the beginning, there was hesitation whether ceramics could match the precision of metal or glass. Architects and engineers rely on exact measurements, and ceramics shrink during firing. That unpredictability is seen as a drawback.

I began giving lectures in architecture offices and universities, educating architects about ceramic’s advantages and unique properties. Since the early 2000s, I’ve been giving lectures and masterclasses to promote ceramic in architecture.

A major advantage is that ceramic cleans itself, and its colours don't fade over time. It's more cost-effective and durable than concrete. But it does require adjustments, and architects must rethink their designs—it's still a challenge."

What are the main challenges in convincing architects to use ceramics?

"The time it takes for research and development. Architects often prefer off-the-shelf materials because they're predictable. With ceramics, dimensions can change due to firing. Engineers working with exact measurements can find this frustrating, so I've had to guide architects on how to explain to clients why ceramic is a safe choice. Another challenge is transportation. Before 2008, we worked with American architects and produced elements in China and Germany. A six-week shipment was standard, and clients were willing to take more risks before the financial crisis. After 2008, things changed—decisions became more cautious.

Today, material choices are made at the beginning of a project, often with a risk averse approach. The freedom to explore and innovate has never fully returned."

What do you enjoy most about designing architectural surfaces?

"I really enjoy the early conversations with architects at the start of a project. When I first worked with them, they were amazed they could design any colour, texture, or form they wanted. A whole new world opened to them. That was in the late '90s and early 2000s—and it's still inspiring today.



Another thing I love is the customization. Every design is created for a specific place and purpose. I visit the site, consider its features, and that shapes my design. I also love the experimentation and research. People often assume my work is all chemistry and formulas—and of course, that's part of it—but it starts with experimentation. There's a conceptual design phase where I play with materials, textures, and ideas. Then I refine, stabilize the results, and prepare for industrial production. I really enjoy that process."

So ceramic experimentation and creating “living” surfaces that engage the senses is your passion?

“Yes, absolutely. It’s about searching, discovering, and integrating intangible elements like light, shadow, and depth. Sensory stimulation is a big part of my designs.



Once, for an apartment building in London, I designed a glaze with layered effects. When I went to photograph the building, a new resident who didn’t know I was the designer was admiring the materials—stone, bronze, and especially the glaze. She told me how much she loved touching it and said the glaze “touches back.” That moment made me think, “Mission accomplished.”

In another project, I worked with Gabriella, a blind woman, designing surfaces that aid orientation through touch. This gave me a whole new perspective. Before meeting her, I was experimenting with glaze textures mainly for their visual effect. Then, during an open studio, she touched the materials and said something that completely changed my thinking: “Every glaze sounds different.” That insight moved me deeply. Now, I’m exploring how glazes and textures can also create sound cues. We don’t yet know exactly how to implement it, but it’s an exciting direction.”

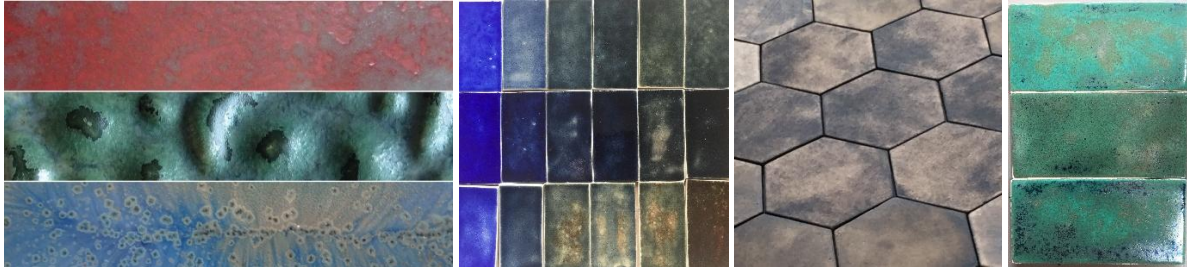
Can you tell us about the recycled dust project, *Clean-Air-City-Ceramics*?

“ENS Clean Air developed air purification machines based on scientific research that started in 2012. These machines were installed in schools, subway stations, and industrial areas to improve air quality. Research in Eindhoven, completed in 2021–2022, found they clean up to 60–70% of the air in parking garages.

Unlike traditional air purifiers that use disposable filters, this system captures fine dust without filters. The dust contains cobalt, iron, manganese, and nickel. Since ceramic glazes are based on metals, I realized I could incorporate the dust into glaze production.

I initiated this collaboration, which led to a tile collection using glazes made from dust waste. I tested various glazes—some didn’t react, others gave neutral brown tones that architects might not find appealing. I explored different recipes and found combinations with fascinating results.

I also tested dust from different sources—garage dust had rubber residues and a bad smell, but dust from heavy metal industries worked better. The process was scientifically studied and proven to purify air by 70%—a significant achievement.”



This whole process ties into your sustainability philosophy.

“Yes, awareness around sustainability is growing, and I hope more companies and individuals will support it. Private clients already are, but in larger projects, cost and risk factors are still challenges. There are glazes using waste, but broad adoption requires further research and safety approvals.

In the 1980s, only standard materials were used, with no awareness of responsible mining. Today, the industry tries to reduce gas use by lowering firing temperatures— but that can hurt durability, so it’s a balance.

Concrete is currently one of the most environmentally damaging materials. Maybe its era is coming to an end—or at least I hope so. The problem is that industry resists change due to economic interests. Architects are frustrated because developers and investors control the process.

But research alone isn’t enough—only by integrating findings into industry can real change happen. So, action at government and corporate levels is essential for real impact.”

What advice would you give today’s designers, and what do you see in ceramics’ future in architecture?

“Choose materials wisely and design responsibly—that’s how the results will be much more sustainable. We also need to educate clients and convince the industry to accept these changes.

Material choices affect every part of design. Sustainability needs to be integrated into education so future designers understand the impact of their decisions. Some design academies now teach that recycling isn’t always the best solution—and that local sourcing matters more.

Our dependency on China for rare earth materials is a problem. These materials exist in Europe, but in the 1970s we outsourced production to China. Now countries like Norway are rebuilding their mining industries, but politics and economics still slow things down.”

Jetten serves as an unofficial ambassador of the material, giving it a place of honour in the world of architecture. With deep knowledge, curiosity, and research, she develops innovative

claddings that enrich building facades, giving them a natural, tactile quality and combining warm materiality with concrete and steel.

As sustainability becomes more important in design, the future of ceramic cladding depends on the industry's ability to adapt. The potential is clear—but is the industry ready for change as new approaches challenge the status quo?

“If we use the material responsibly, it can remain sustainable. I can't predict the future, but I believe ceramics will always be relevant—it's available, durable, local, and versatile, both in its fired and unfired forms.”

Kesem Yahav for Ceramic Front