

## **PROJECT** PROFILE

Application/Building Type: Office Building

Name: One World Trade Center

Location: New York, NY

Architect: David M. Childs

Designer: Skidmore, Owings and Merrill LLP

General Contractor: Tishman Realty & Construction

Featured Products: USG Sheetrock\* Brand Cavity Shaft Wall System, Mold Tough\* gypsum liner panels Firecode\* C Core gypsum panels

## USG HELPS ULTRA HIGH-RISE CONSTRUCTION SOAR AGAIN.

When the original twin towers of the World Trade Center rose above the New York City skyline in the late 1960s and early 70s, they made history not only for their height, but also for their construction materials. They were the first ultra high-rise buildings designed without any masonry and instead used a gypsum shaft wall system invented by USG Corporation.

From a life safety standpoint, shaft walls are the most important walls in any building.

Richard Ferrara, USG Architectural Service Representative Four decades later, and 10 years after that tragic September 11 day when the towers fell and our hearts sank, ultra highrise construction soars again at the site. Current projects underway— One World Trade Center and Four World Trade Center—include more than seven million square feet of USG Sheetrock® brand Cavity Shaft Wall Systems and products in their core and shell portions.

Designed by David M. Childs of Skidmore, Owings & Merrill, the 105-story One World Trade Center (WTC) will be America's tallest building.

The building extends the long tradition of American ingenuity in high-rise construction with a design solution that is an innovative mix of architecture, structure, urban design, safety and sustainability. One WTC will incorporate advanced life-safety systems that exceed New York City building code requirements. From structural redundancy to dense fireproofing to biochemical filters, it will create a new standard for high-rise buildings. Extra-wide pressurized stairs, multiple backups on emergency lighting and concrete protection for all sprinklers will ensure optimal firefighter access.

Exits are designed to ensure easy evacuation, and all safety systems will be encased in the core wall, with the enhanced elevators.

"From a life safety standpoint, shaft walls are the most important walls in any building," says USG Architectural Service Representative Richard Ferrara, who has worked closely with the design and construction teams for both One WTC and Four WTC. The primary attribute of USG shaft wall systems and their components is fire resistance. "Walls that enclose elevator shafts, stairwells and other vertical shafts are the lifeline of a building. They provide the way out for occupants and the way in for first responders."

As such, they must have the strength to withstand lateral loads and the ability to provide fire protection. The USG Sheetrock® brand Cavity Shaft Wall System provides Walls that enclose elevator shafts, stairwells and other vertical shafts are the lifeline of the building. They provide the way out for occupants and the way in for first responders.

> Richard Ferrara, USG Architectural Service Representative

the materials necessary to develop strong, fire-protected stair, mechanical and elevator shafts. At One WTC this includes USG Sheetrock® Brand Mold Tough® gypsum liner panels and USG Sheetrock® Firecode® C Core gypsum panels. The Mold Tough panels feature a noncombustible, moisture- and mold-resistant gypsum core encased in moisture and mold-resistant, 100 percent recycled face and back papers.

The panels are UL Classified for fire resistance and score a 10 on the ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber. The Firecode® C panels have a specially formulated core to provide enhanced fire protection.

The 72-story Four WTC building, designed by Japanese architect Fumihiko Maki, will also include safety systems designed to exceed New York City building code and Port Authority of New York and New Jersey requirements. Adamson Associates is Four WTC's Architect of Record. Sustainable design is a priority for both One and Four WTC. Both towers plan to pursue U.S. Green Building Council LEED® Gold certification and employ the latest in environmentally-friendly technologies and features. With its recycled content and manufacturing location, USG wallboard will help contribute LEED Materials and Resources credits towards these LEED certifications.

The two buildings are scheduled to open in 2013. Component Assembly Systems is the drywall and acoustics specialty contractor for One WTC and Eurotech Construction serves as Four WTC's drywall contractor.

To learn more about the office towers rising again at the World Trade Center site, click http://www.wtc.com/about/office-towers.

"USG is the undisputed leader among building material manufacturers in providing products and systems designed to keep people safe from fire. Our wall systems undergo an extensive testing and continuous improvement program," explains Richard Ferrara.

"We have the greatest number of UL-tested systems and an unmatched level of technical expertise and information to help architects specify with confidence. Forty years after we invented the shaft wall system, we are still looked to as the experts."

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