



## WELL BUILDING

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“Employers spend 90 percent of their annual operating costs on people. This means that even a small impact on productivity, engagement and satisfaction in the workplace can have huge returns on investment.” – excerpt from *The WELL Building Standard*, [wellcertified.com/well](http://wellcertified.com/well)

As the building industry continues to evolve, building owners, users, and designers are starting to place new focus on the comfort and health of building occupants. The WELL Building Standard™ is a relatively new rating system, following a path similar to LEED but with a focus almost entirely on the health, happiness, and well-being of the people who inhabit the built environment.

According to the WELL Building Standard:

*“WELL is a performance-based system for measuring, certifying, and monitoring features of the built environment that impact human health and well-being, through air, water, nourishment, light, fitness, comfort, and mind.”*

*WELL is grounded in a body of medical research that explores the connection between the buildings where we spend more than 90 percent of our time, and the health and wellness impacts on us as occupants. WELL Certified™ spaces can help create a built environment that improves the nutrition, fitness, mood, sleep patterns, and performance of its occupants.”*



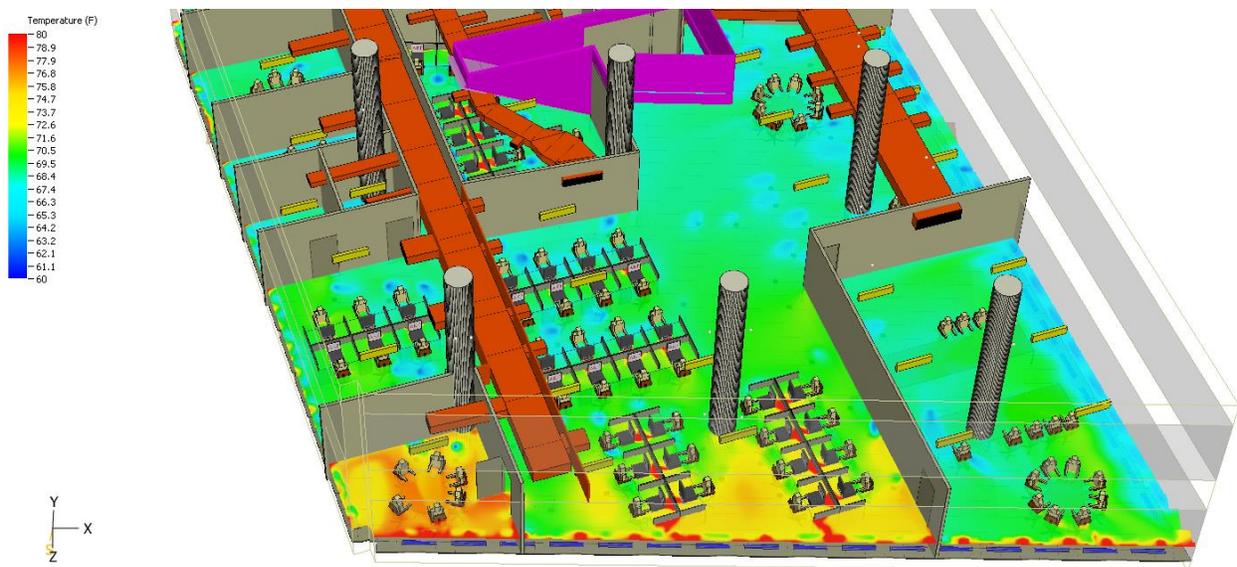
The WELL Standard utilizes seven concepts which concentrate on different areas impacting human health within buildings, specifically air, water, nourishment, light, fitness, comfort, and mind. Each of these concepts has associated preconditions and optimizations that measure and recognize building contribution to occupants’ well-being. As building engineers, several of these concepts (air, water, light, and comfort) are

at the heart of what we do. They connect to the very reason the MEP industry exists, primarily to provide building occupants with comfortable spaces, fresh air, clean water, and pleasing light.

Over the past 10 – 15 years there has been a new concentration on providing quality air, water, light, and comfort in buildings, first from LEED and other rating systems highlighting ASHRAE 62.1 and 55 for ventilation and comfort. Research including the recently released Harvard University study on the effect of additional ventilation air on occupants' well-being and increased productivity has highlighted this further. Specifically, it identifies that increasing ventilation, at the cost of less than \$40 per person per year can result in increased worker performance of up to 8%, equating to \$6,500 in annual productivity per worker. <http://www.mdpi.com/1660-4601/12/11/14709/html>

Air, water, comfort, and light really are at the heart of any job we do at AKF and the WELL Building Standard is taking them to another level, bringing them to the forefront in a new and exciting way, measuring the results, and highlighting the true benefit to the occupants.

AKF recently completed our first design to conform to the WELL Building Standard, providing MEP design services for the new offices of Delos, located on the 4th and 5th floors of 860 Washington Street in New York City. Delos is the creator of the WELL Building Standard, and as expected, the project is pursuing a WELL Platinum Certification, as well as LEED Clv4 Gold Certification.



Above: Delos Living CFD Model of space conditions performed to vet and verify proper diffuser placement and system design in accordance with air and comfort in space.

AKF's MEP design focused on the WELL Building Standard concepts most relevant to our work: **air**, **water**, **light**, and **comfort**. The specific design strategies included use of an underfloor air distribution system which promotes **air** by supplying highly effective ventilation air, and **comfort** by providing flexible thermal controls for individual occupants, assuring thermal comfort for all. In addition, AKF performed a detailed CFD analysis using the Six Sigma software to validate our underfloor design and configuration. This analysis allowed us to provide the most effective system possible, furthering **air** quality and human **comfort** strategies and complying with the WELL Building Standard – Air Optimization 21.

In addition to the underfloor air system, the MEP design incorporated the following strategies to enhance the LEED and WELL Building Certification:

**AIR:** additional air filtration and increased ventilation air

**WATER:** drinking water filtration

**COMFORT:** individual comfort controls and allowance for open office “thermal gradients”

**LIGHT:** Circadian lighting control



Jeff Rios is a senior mechanical engineer with In Posse, AKF's in-house high performance building lab. Jeff specializes in increasing energy efficiency within new and existing buildings and is highly valued for his expertise in energy modeling platforms. He has shared his expertise at Build Boston on carbon modeling tools; at SB08 in Melbourne on CO2 measurement, and as a continuing lecturer at Cooper Union.

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