

# Veterans find careers as sheet metal workers

By Meg Jones  
Milwaukee Journal Sentinel

MILWAUKEE — Erik McKenna does not gripe when he's working at an unheated construction site in the dead of winter or if it's too hot in the summer.

He has experienced worse. Much worse.

The fourth-year sheet metal apprentice served two tours in Afghanistan in the 173rd Airborne, earning an Army Commendation Medal for Valor when he helped rescue a wounded comrade during a firefight.

The military "helped me prepare for environmental and job stresses. Some days the cookie doesn't crumble the way you want it to," said McKenna, 26. "The military definitely helped me learn how to pick the pieces up and move on."

As baby boomers retire and the number of construction projects continues to grow following the 2008-'09 recession, trade unions are trying to attract more people to apprenticeships, including sheet metal workers. The unions are looking for folks with a strong work ethic, who show up on time, don't mind the physical demands of the job and have good reading and math skills.

They're looking for military veterans.

"Those guys come to work with their boots tied, ready to go. They're not afraid to get their hands dirty, whether it's hot or cold outside," said Josh Frehner, training coordinator for the Milwaukee Area Sheet Metal Training Center. "I don't want to say that's unusual, but sometimes with the newer apprentices, they're not sure of what they're getting into."

The training center, which is operated by the Milwaukee Local 18 Sheet Metal Workers union, has 124 people in the five-year apprenticeship program, including several military veterans.

Sheet metal is one of 15 building trade apprenticeships in which the nonprofit program Helmets to Hardhats helps place veterans seeking careers in the construction industry. Through outreach at veterans career events and job fairs, Helmets to Hardhats connects veterans with unions taking applications for apprenticeship openings or building contractors seeking workers. Currently 1,500 veterans across the United States are creating profiles on the Helmets to Hardhats website each month and uploading their resumes.

"We have 250,000 veterans a year getting out of the military," said Bill Mulcrone, Midwest regional director for Helmets to Hardhats. "Some are already in construction in the military, maybe they're [Navy] Seabees or combat engineers, so they're already trained."

According to the Bureau of Labor Statistics, there were 141,000 sheet metal jobs in the U.S. in 2014. The job outlook is promising — an expected 7 percent increase in the next decade, with roughly 10,000 more sheet metal positions to be created. Median pay is about \$45,070.

Once accepted into an apprenticeship, they go through classroom and on-the-job training under journeymen who have worked in the field



MARK HOFFMAN | Milwaukee Journal Sentinel via TNS

Apprentice Erik McKenna works on installing a ventilation system at a company in Oak Creek, Wisconsin. McKenna, a fourth-year sheet metal apprentice who served two tours in Afghanistan in the Army, works for Total Mechanical Inc.

for years. They're paid while attending classes as well as while they're on the job, earning \$15 to \$20 per hour. Some apprentice programs require people to pay for some classes, but veterans can use G.I. Bill funds to pay for tuition.

"They served our country, and now this is their ticket to the working middle class and they can earn a paycheck while they learn a skilled trade," Mulcrone said.

At Milwaukee's sheet metal training center, a spring class was recently added to keep up with the expected demand for apprentices, said Frehner, because of large building projects.

"I think the next couple of years will be pretty crazy," Frehner said. "The work in Milwaukee could be the best it has been in the last 10 years."

Prospective sheet metal apprentices can either come through Helmets to Hardhats or by filling out an application at Local 18 and taking a test at Milwaukee Area Technical College in reading, arithmetic and basic algebra. Once they pass, they're given a list of contractors seeking apprentices. For the first two years, apprentices go to school one day and work on job sites four days each week while also taking two night school courses. Out-of-pocket costs are

minimal, which means they are not burdened with student loan debt, said Frehner.

After serving 4 1/2 years in the Army, McKenna wasn't sure what he wanted to do for the rest of his working life, but he knew he did not want to sit at a desk and "look out the window at the same view every day." He worked as a laborer digging holes but realized his paycheck was not enough to eventually raise a family.

He was hired by area firm Total Mechanical Inc. and has worked on numerous jobs.

"I took a \$5 [per hour] pay cut to make the switch to sheet metal, which hurt at first. I think the salary is roughly double once I finish the apprenticeship. Though it hurt for a couple of years, I knew in the long run it would be better," said McKenna, who is engaged.

People with military experience often bring good mechanical skills to the job, noted Ron Soczka, McKenna's supervisor.

"Erik has been a great find for us," said Soczka, building automation systems manager. "It was a plus knowing he was in the military. He already has that work ethic and cares about what he does."

Shannon Buhler, 24, is a combat medic in the Wisconsin Army National Guard who

applied for a sheet metal apprenticeship on the advice of an uncle, a union painter in Minnesota. She did not know that sheet metal workers are needed in heating, ventilation and air conditioning work, in welding and industrial jobs, in air flow installation in commercial buildings and computer-aided 3-D drawing, as well as in construction and remodeling jobs.

Once she looked into it, Buhler discovered sheet metal jobs pay pretty well. Now a second-year apprentice, Buhler has worked on construction of a new hospital transplant center, handling duct work installation and other tasks.

Though her military and civilian jobs are dissimilar, Buhler said her four years in the National Guard's 135th Medical Co. have given her valuable training that's paying dividends.

"The military helps you with discipline, it helps you to follow orders correctly. A lot of traits that the military gives you can help in the real world," said Buhler.

# Virtual reality brings architect's plans to life

By Jackie Crosby  
Star Tribune (Minneapolis)

MINNEAPOLIS — Construction on the building, a ReMax Results facility in the suburbs here, won't begin until spring, but already Douglas J. Boser has walked through rooms and turned on light switches.

Sitting in a comfortable chair in the Minneapolis office of design firm LHB Corp., Boser strapped on an Oculus Rift headset, and toured the two-story office building in living, virtual-reality color.

"This brings a whole other level of depth and detail to anything we've been using," said Boser, a real estate developer. "You can stand in the middle of the lobby and say, we've got to bring that sun shading out 6 inches. And you can literally see the shading change inside the model."

Virtual reality used to be the domain of fantastical video games or frontier-pushing researchers in multimillion dollar labs. But relatively inexpensive new tools like the Rift and Google Cardboard viewers have made the 3-D experiences more accessible.

LHB has become one of the nation's first design firms to incorporate virtual reality, or VR, across the sweep of its in-house teams of architects, planners, engineers and landscapers. In the inherently complex world of construction, the firm's leaders say virtual reality can streamline the cumbersome process of creating plans, reduce costly on-site mistakes and changes, and save money in the process.

"The future is where soft-

ware and tools are merging," said LHB senior vice president and architect Mike Fischer, who predicts an explosion in virtual reality in the field of architecture in the coming years. "The owner can see what they're getting and the contractor can see what they're building."

Virtual reality simulations are a step above animations and fly-throughs now used by some architects. With VR, drawings come to life before workers raise the first hammer.

Users experience the space at eye level — with the flexibility to change the view from that of a 6-foot man to an 8-year-old child. Look up, and you might notice that the ceiling lights are hung too low. Look down, and you might rethink that shag carpet. You can test whether the morning sun will cast a glare on your computer screen or whether putting a window in front of that giant evergreen will wreck a million-dollar view.

Beyond aesthetics, contractors can walk down a flight of stairs, and make sure the headroom is within code. A virtual tour of a manufacturing plant can verify that eye-washing stations conform to OSHA standards.

"With VR, you can inhabit the space in full scale," said Aaron Westre, a researcher at the University of Minnesota's Virtual Reality Design Lab, which uses a large-scale motion-capture system in a 5,000-square-foot courtyard. "You get a far more physical sense of what that space is going to be."



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