

CONTRACTOR[®]

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Contractor of the Year

L.J. Kruse completely devoted to green cause

BERKELEY, CALIF. — Louis Joseph Kruse would not recognize the plumbing company that he founded in 1916. And that's a good thing.

L.J. Kruse Co. President Dave Kruse and Executive Vice President Andy Kruse have completely remade their grandfather's firm into a 21st century leader in high-efficiency, water-saving and alternative energy products. L.J. Kruse is the contractor to go to in the San Francisco Bay area for modulating condensing boilers, inverter heat pumps, solar collectors, and high-efficiency water closets and urinals or waterless urinals.

But beyond making over his company, Dave Kruse is remaking the mechanical and plumbing industry. During his tenure as 2007 president of the Mechanical Contractors Association of America, Kruse spearheaded the association's foray into green education, training and research, pretty much dragging the entire plumbing, heating and cooling market along with him. Because of Dave Kruse's vision and leadership and because of the outstanding work being done by the rest of the L.J. Kruse team, L.J. Kruse Co. is our Contractor of the Year.





AT A TIME when most mechanical and plumbing contractors didn't understand the implications for them of green and sustainable construction and service, Dave Kruse showed them. When green was a nebulous bunny-hugger concept and USGBC and LEED were just random letters, Kruse organized the Mechanical Contractors Association of America's Green Opportunities Conference in Milwaukee in 2007.

Everything that followed — MCAA's green Web site, www.greencontractors.com, the MCAA's green building Webinars, the sold-out prep classes for the Leadership in Energy and Environmental Design Accredited Professional exams, the United Association-MCAA-Mechanical Service Contractors Association-Plumbing Contractors Association Mobile Green Classroom — all that is here because 2007 MCAA President Dave Kruse pointed the industry in the right direction.

Kruse, president of 102-year-old L.J. Kruse Co. here, walks the walk. He has his LEED-AP credentials, as do Executive Vice President Andy Kruse and

Chief Estimator/Designer Gary Navo. L.J. Kruse also recently completed a green retrofit of its headquarters building and is applying to have it designated by USGBC as LEED Platinum.

Because of Dave Kruse's vision and because of the outstanding team he's assembled around him, L.J. Kruse Co. is CONTRACTOR magazine's Contractor of the Year.

L.J. Kruse's slogan is "Where sustainability meets profitability," meaning that green has to favorably impact a company's bottom line. The contractor looks at the core principles of sustainability: profit, people and the planet. Life-cycle analysis of green buildings

PROFIT, PEOPLE + THE PLANET

L.J. Kruse Co. is our Contractor of the Year **for its vision and leadership** in green and sustainable construction and service

BY ROBERT MADER OF CONTRACTOR'S STAFF



Dave Kruse and Foreman Dave Bunio.



Solar collectors provide up to 39kW.

suggests that installing efficient mechanical and plumbing systems will reduce customers' operating costs.

In the face of climate change, population growth and finite natural resources, the company notes that many of its clients have asked it to help them design and install eco-friendly plumbing and HVAC systems. L.J. Kruse has responded with a broad offering of sustainability services that range from reclaiming rooftop rainwater runoff for re-use in non-potable systems to the installation of high-efficiency HVAC equipment that consumes less energy, costs less to operate and produces fewer CO2 emissions.

L.J. Kruse Co. green building services encompass high-efficiency, low-consumption air and water systems, tankless water heaters, hybrid heat/dual fuel systems, low-flow and dual flush toilets, waterless and low-flow urinals, efficient air and water filtration, and reclaimed water systems including rainwater harvesting and graywater

systems.

When it comes to sustainability, the company is practicing what it preaches. Senior management has become U.S. Green Building Council LEED Accredited Professionals.

Green office retrofit

The firm's new offices in Berkeley, Calif., are aiming for LEED Platinum certification, with the installation of rooftop solar panels, energy efficient pumps, a dual-fuel heat pump and condensing furnace HVAC system, a graywater system and rainwater harvesting to help reduce the contractor's carbon footprint.

Kruse has turned his offices into a showcase of green and sustainable construction. The building is in two sections, with the service operations at one end and the main office and new construction division at the other, separated by warehouse and fabrication space in between. The service division building was retrofitted a couple years ago and, although it's energy and water-efficient, Kruse did not apply for USGBC certification for it. The main offices have just been finished and Kruse is shooting for LEED Platinum.

The L.J. Kruse staff had just moved from office trailers into the building the week that CONTRACTOR visited, so all of the systems had not been fine-tuned or all the furniture delivered. Remarkably, the paint job inside the offices was a mere two days old, but there was no odor from the low VOC paint.

The roof of the building contains photovoltaic panels that will produce 39kW of electricity. They've installed stanchions on the roof that can hold an additional 15kW of capacity if they choose to install it. The roof also holds a Heliodyne solar thermal collector that provides all of the building's domestic hot water.

Most of the building's non-potable water for toilet flushing or irrigation will come from a J.R. Smith Mfg. Co. siphonic roof drain into a holding tank out in the yard. The crew piped the siphonic drain in clear PVC, so they could see it working. Foreman Dave Bunio was testing the roof drain on the day CONTRACTOR visited, and it worked like a charm.

The space is conditioned with three Carrier heat pumps with an 18.2 SEER and 9.5 HSPF along with a Fujitsu Hal-

Service Manager **Steve Bergendahl** is a founding member and on the board of directors of the Green Chamber of Commerce.



Steve Bergendahl

tilation at 30%, then dialing it down until the system's CO2 detector tells him the right level.

And offices have other green touches that don't have anything to do with mechanical systems, such as generous use of skylights for daylighting and stairs that are made from wood that's sustainably harvested. The carpenters also told Kruse that they liked the certified lumber used in the remodeling, saying it was better quality than what they usually encounter. The front counter at the receptionist's window is made from recycled glass.

The team

Any company really has more to do with people than the building they work out of, and Kruse has assembled an outstanding team.

Dave Kruse graduated from the University of California at Berkeley in 1973 with a Bachelor of Arts degree in psychology, a degree that he's discovered has much more application in running a contracting business than he ever thought it would. His ties to the school remain close, and L.J. Kruse is currently performing contracts at the school. In addition, the U.C. Berkeley Institute for Research on Labor and Employment asked Dave to sit on its advisory board in September 2008. The Institute focuses on employment relating to climate change issues.

Kruse is also on the Board of Directors of MCAA subgroup Plumbing Contractors of America, and is a member of the International Association of Plumbing & Mechanical officials and American Society of Plumbing Engineers.

Executive Vice President Andy Kruse is also a LEED AP. Andy is the reason why Dave could take most of a year off to be president of MCAA. As is typical of many "little brothers," he's taller than Dave. He graduated from U.C. Berkeley in 1978 and joined the company in 1984. He serves on the Board of Directors for the Northern California Mechanical Contractors Association and the Board of Trustees for the Mechanical Contracting Education and

Research Foundation. Andy oversees estimating, project management, accounting, chairs the safety committee, manages the plumbing design/build division, and negotiates and procures major contract work in his spare time.

Dave's daughter, Vice President Janell Yates, joined the company in 2001. She earned her Bachelor of Arts degree in 1996 from San Francisco State University. Yates oversees Service Division operations, including accounting, dispatch and customer service. She is also responsible for the firm's marketing.

Chief Estimator/Designer Gary Navo is emblematic of the type of people who work for Kruse. A LEED-AP, Navo has been with the contractor since 1979. He's a third generation plumber who earned a Bachelor of Science degree in 1977 from the University of San Francisco and then did two years of post-graduate education at Berkeley. The boys call him "Einstein" behind his back, Dave Kruse notes. Navo served his UA apprenticeship, is a member of Local 342, and served as a field foreman from 1984-1990. He's a member of the American Society of Plumbing Engineers and earned his Certified in Plumbing Engineering (C.I.P.E.) credentials from ASPE in 1999.

Controller Diana Whitehead has been with the company for three years. She worked for general contractors and met Dave Kruse through the Mechanical Contractors Association of Northern California. She's had 30 years experience in accounting, including 10 years in construction.

Whitehead is proud of her involvement with the Green Chamber of Commerce, a two-year-old group for which she serves as treasurer. She also spearheaded the contractor's participation in the Alameda County Green Business Program certification, a process that took two years to complete. The certification included inspections by water purveyor East Bay Municipal Utility District, Pacific Gas & Electric and by the City of Berkeley. L.J. Kruse is the first contractor to win the certification. The certification requires her to

Key staffers are (clockwise from top right) Project Manager Dan Delariva with a waterless urinal, CAD/Detailing Manager Randy Schacht showing the firm's BIM capability, Chief Estimator Gary Navo and Executive Vice President Andy Kruse in the bid room, HVAC General Manager Jeff Brown, and Controller Diana Whitehead.



cyon inverter heat pump with a 16.5 SEER and 9.0 HSPF. The heat pumps feed into ductwork in the warehouse space where they are backed up by three Carrier Infinity 96 three-speed, gas-fired, condensing furnaces. HVAC Manager Jeff Brown is still working on the crossover point for the furnaces and heat pumps. Brown also plans on starting the outside air setting for ven-

buy a certain type of soap for the office, use recycled paper products, buy a new vacuum cleaner that doesn't produce a lot of dust and to distribute a requisite number of recycling bins around the office.

She has also instituted greener billing, with almost all invoices being sent via e-mail (a couple old-fashioned customers are still holding out) and many payments received electronically. She also oversees payables, collections for the service department and payroll.

Founded in 1916

Founded by Louis Joseph Kruse in 1916, L.J. Kruse Co. has been family owned and operated for more than a century. Second generation Edward H. Kruse ran the operation from 1948-1985. Today, third generation brothers David and Andy Kruse hold the positions of president and executive vice president respectively, while fourth generation Janell Kruse Yates serves as vice president.

For more than 100 years, L.J. Kruse Co. has contributed to the growth of the Bay Area. In 1916 the firm opened its doors installing residential plumbing and heating in Berkeley and Oakland. As the Bay Area grew, L.J. Kruse responded by adding services and ex-



Carrier, Fujitsu and Heliodyne units on L.J. Kruse's rooftop.

union tradition. That tradition also means that steam and hot water heating predominate.

Kruse's United Association-trained craftsmen, most of them represented by UA Plumbers-Steamfitters Local 342 in Concord, Calif., pride themselves on their ability to handle complex jobs.

The San Francisco Bay region has been a stronghold for steam and hot water heating systems, and L.J. Kruse provides the high quality and high-tech steam heating and hot water systems, both residential and commercial. Most heating equipment in the region is gas-fired, and Kruse installs and services systems using radiant walls and floors, fan coils and fin-tubes. L.J. Kruse boiler services include boiler service and maintenance, boiler replacements, boiler control upgrades, new installations, high-efficiency upgrades, radiant heat leak repairs, radiant floor heating, European-style panel radiators, baseboard heating, hot water fan coils, steam, pumps, troubleshooting

2001. Brown is an instructor with the American Society of Home Inspectors, a member of the firm's Safety Committee, and Kruse's member/representative of Sheet Metal & Air Conditioning Contractors National Association. Brown's operation interfaces with both the construction and service divisions.

HVAC services include heating and cooling installations, duct system design and installation, air filtration and humidity control, zoning for consistent temperature control, exhaust and ventilation systems, server room cooling systems, planned maintenance and service, safety inspections, emergency repairs and wine cellar temperature control. The contractor is a Carrier Authorized Dealer.

Mostly construction

Approximately 70% of L.J. Kruse's volume is new construction, referred to internally as the Contract Division, notes Project Manager Rob Harper, and 30% is service. They pursue hospitals, medical office buildings and do a lot of medical building remodels, says Harper, a 30-year veteran of the plumbing industry. Ninety percent of the firm's work comes from core customers, mostly general contractors. Kruse has expertise in high purity piping and has done a lot of laboratory work, including a new lab facility under construction at U.C. Berkeley.

About 85% of the company's work is estimated by Chief Estimator Navo, Harper says and the work is doled out to four project managers. Each of the PMs typically oversee about 15 or more projects at a time, with many of those being small jobs, such as a remodeling contract.

Kruse maintains a pretty tight core group of tradesman, Harper says. The contractor works in five to six counties and has always traveled, but the volume per county has been steadily increasing, he says.

"We find ourselves doing unique jobs, like the Fox Theater renovation in Oakland," Harper says.

Kruse is doing the plumbing work at the City of Oakland project that's turning the landmark 1928 building into a performing arts center with a \$68 million renovation, along with an attached high school, the Oakland

School for the Arts.

The contractor is pushing green construction, Harper says, but the trend has to be embraced by GCs and clients. Kruse offers green technology suggestions as part of design/build contracts and when it's performing design-assist.

One notable green job is the complete renovation of the City of Richmond, Calif., municipal complex that includes city hall, police headquarters and a large auditorium. Kruse is doing the plumbing work for the extensively daylight building that will derive a significant portion of its electrical needs from photovoltaic panels on the roof. The building incorporates waterless urinals and a shower for those workers who bike to work.

Green service

Kruse's Service Division is heavily into water and energy saving. About 60% of the department's work is residential and 40% commercial, reports Service Manager Steve Bergendahl. Bergendahl is a 30-year veteran of the industry and is a founding member and on the board of directors of the Green Chamber of Commerce.

Kruse has long had a reputation for residential service work and just started advertising 10 years ago. Much of the service operations work is in hydronics, steam, HVAC and water jetting.

Bergendahl often uses a Triangle Tube wall-hung condensing boiler for residential work and has even done school retrofits that use multiple wall-hung units. The division runs many specials for high-efficiency toilets. Toto is their preferred brand. Bergendahl has also installed some solar hot water, using Heliodyne collectors. Commercial service tends to be office buildings, frequently involving change-outs of urinals and toilets. A 1.28-GPF HET will qualify for a rebate from the East Bay Municipal Utility District, Bergendahl notes.

The total package

Dave Kruse and his staff have put together the total green package. It's not just grand announcements or a mission statement — it's all those myriad green details, like the skylights used to daylight the office, the paperless invoicing, the hybrid company car with the Kruse logo on the door, or the fact that Bergendahl was one of the founders of the Green Chamber of Commerce. Green and sustainability permeates everything that L.J. Kruse is and does. That's why they are our Contractor of the Year. **G**



The siphonic roof drain.

Most of the building's non-potable water for toilet flushing or irrigation will come from a **siphonic roof drain** into a holding tank out in the yard.

pertise to meet the needs of commercial clients, including the booming biotech industry, universities, hospitals and office parks. The company likes to pursue hospital and medical office building work because it requires a high level of expertise.

As one of the older cities on the West Coast, San Francisco has had a strong

and inspections.

The company also knows forced air systems and has a strong HVAC Division under the leadership of General Manager Jeff Brown. Brown, who apprenticed at Sheet Metal Workers Local 104, has more than 27 years experience in HVAC design, installation and project management. He joined Kruse in