



Berntsen is a family-run company: president Rhonda Rushing (center), with her husband and company vice president Bill Rushing (left) and her father and chairman of the board Phillip Peterson (right).

By Nancy Luse

MONUMENTAL

Berntsen International Celebrates 40 Years of Manufacturing and Marketing Survey Markers

All photos courtesy Berntsen International



Berntsen International supplies monuments for the surveying world, but this year the company marks its own monument as it celebrates 40 years in business and looks to a future of providing even more of its markers around the globe.

The world's largest manufacturer of durable boundary markers had humble beginnings, starting in 1972 in a small garage off of Main Street in Madison, Wisconsin. Known as Berntsen Cast Products, its first effort was the W-1-B magnetic aluminum survey monument. Company founders and inventors Peter

Berntsen and Phillip Peterson marketed this first modern manufactured monument as being lightweight and stable when set. Because it was made from aluminum, it was also long lasting, not unlike the company that has made and sold millions of markers. These can be found around the world, from a housing subdivision in America's heartland to the bottom of the ocean off the Florida Keys to the summit of Mount McKinley and the deserts of the Middle East.

"We are so grateful for this 40-year journey, and it's hard to imagine a more fun way to spend a day at work," said Rhonda Rushing, Berntsen's president since 1990, the year her father, Phillip Peterson, retired and became chairman of the board. Rhonda's husband, Bill Rushing, is company vice president. They employ approximately 20 people, including several part-timers, as well as an engineer and a product development specialist, plus seasonal workers.

"Growing up, I always admired my dad's business sense and salesmanship. His background prior to co-founding Berntsen was sales in heavy construction equipment," Rushing said. "When my parents—my mother was also active for many years—first told us about their new business venture we were excited, and I think this planted a seed for our future involvement. Bill was just finishing his art degree and would soon be working as a magazine art director. Dad quickly asked him to use his skills to produce magazine ads for Berntsen and to do technical drawings. By the late 1970s both Bill and I were working for Berntsen. The company was off to a good start and my dad needed help, as Peter Berntsen had just passed away."



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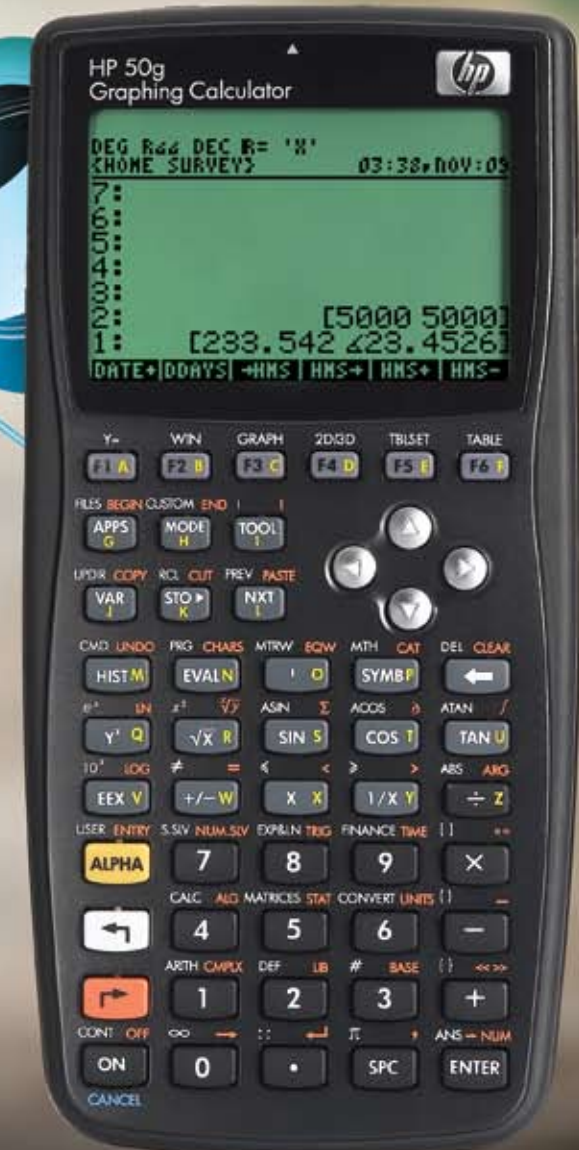
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Disney was one of the first customers to include artwork in their marker.



For the first few years, Rushing worked part-time, later enrolling in business courses and specific training in manufacturing that prepared her for leading the company. "Working together as a family has been very rewarding, and we would like to keep the family business culture in the future," Rushing said.

Changing Technology

As the company moved from a garage to an old army barracks and finally into its current modern building on the edge of Madison, the technology both for the company and the surveying profession also has changed. "Orders that had custom logos in the early years took 30 to 60 days to process," Rushing recalled, pointing out that this was in the years before email and the internet. "Today, with modern communication and our forging process, that lead time may be as little as one to ten days for most orders."

William Whimple, PLS, of Clough Harbour and Associates, Albany, New York, has worked with Berntsen for 22 years and attests to their promptness. "They have a very fast turnaround and go out of their way to have the product to us on time," he said, recalling his company's recent overseas project that required all the materials to ship at the same time and how Berntsen worked to make it happen.

Mike Mills, PLS, of Glenn Associates, Jenkinsville, South Carolina, said he appreciated discussions between his company and Berntsen to find solutions to unique problems the surveyors have encountered, such as coming up with a monument that will work in South Carolina's soft and sandy terrain. "The monument that we were using ... required digging a hole to install, and in wet soils the hole would sometimes fill with water before it could be backfilled. The monument would actually float out of the hole," Mills said. "They suggested using their drivable monument [instead]. This model worked very well for this application and in dry soils also.

"They've been very responsive and listen to what we have to say," he said of his 16-year history with Berntsen, with them going so far as "sending us samples a time or two to try out and see if they'll work."

Although he has worked with Berntsen for only a few years, John Mattingly, PLS, senior projects manager with T. Baker Smith, Houma, Louisiana, also said he appreciates the company's ability to listen to his needs and to turn on a dime. He's currently working on a government contract to stake out easements in a project to restore wetlands.

"Sometimes we're told to start in a week," he said, and Berntsen will accommodate the short deadline by rushing

Rushing said the constant change and challenges inside and outside of their business are viewed "as an opportunity rather than a threat. We want to make sure we do all we can to help surveyors and engineers do their work and serve their clients." To this end, Berntsen makes sure its employees receive continuing education classes, and at least five times a year the Rushings personally attend conventions and meetings to directly hear their customers' needs.

As to new technology, the company has recently introduced the InfraMarker (patent pending), a radio-frequency identification (RFID) infrastructure marking system. "This is a GIS point-finding system that allows digital information to be placed in the field," Rushing said. "InfraMarker 'marries' standard RFID technology with pinpoint magnetic relocation of underground assets. Ruggedized RFID tags contain a perma-



In 2010 Berntsen began using a paperless order system in their plant; here a training session for the system is underway.

the needed monuments directly to the motel where the crew is staying so they can start working without delay. Mattingly also appreciated the longevity of the company, something that resonates with him as his own company gets ready to celebrate 100 years in 2013.

ment magnet so the marker can be located and read very quickly. The end user defines the tag data in the InfraMarker software by using their own common spreadsheet format that they define."

As vice president for research and development, Bill Rushing has taken the

OPPORTUNITIES

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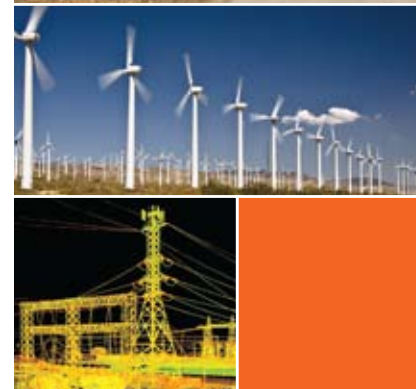
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lead on this technology. “Because of his training and work in the U.S. Navy in avionics and electronics, he started with a good working knowledge for developing magnetic RFID-enabled underground markers,” Rhonda Rushing said. “Response to this system has been positive, even being described as game-changing technology.”



Above: At a 1970s-era convention, salesman Bill Garrett (black tie) and Phil Peterson (white tie) show potential costumers the early product line.

Producing Monuments

In the early 1970s, Berntsen originated the concept of the metallurgically matched survey monument, meaning the materials are compatible and maintain their structural integrity.

“We have always believed that the best survey monuments begin with the best practices for material and metal selection,” Rushing said. “This has required research, testing, and consultation with metallurgists.”

Rushing said that the markers “are carefully designed to be as durable as possible in the sometimes-harsh environments that they encounter. Berntsen is still the only manufacturer to make aluminum pipe monuments, both pipe and cap, from strong, tough 6,000-series

Right: While vacationing, Rhonda and Bill Rushing often visit and photograph monuments, even historic markers made before Berntsen’s time, such as this one at the Grand Canyon.



“We have always believed that the best survey monuments begin with the best practices for material and metal selection.”

aluminum alloy, also used in our rod monuments. We also have developed many innovative processes and use the best in automatic and computer controlled machines.”

The leading computer-controlled machines used by Berntsen are two Swiss-made 2,000-ton, orbital, cold-forging presses designed to make net shape, high-precision parts. “In addition, we use computer-controlled engraving, milling, turning, cutting, and other automatic machines custom-designed to make Berntsen monuments,” Rushing said. “We have a complete shop and make our own custom tooling. It’s a big change from the early days when we were in half of a two-car garage with a drill press and a pipe cutter for power tools.”

Although the company most often deals with large orders, Rushing says that, “some of the most interesting markers we have made, however, have been a quantity of one. For instance, we made single markers for such interesting places as the summit of Mount McKinley, underwater at the Molasses Reef in the Florida Keys (this is believed to be the first high-precision geodetic marker placed underwater anywhere in the world), the Four Corners monument (Colorado, Utah, Arizona, and New Mexico), and the Colorado State Capitol steps to mark the ‘mile high’ point. More recently we made a marker for the 2010 U.S. Census Center of Population at Plato, Missouri.”

Another interesting order came not from a surveyor but from a dentist. Sever-

al years ago, Dr. Bruce Gouin, of Charlestown, Rhode Island, bought property to build a house along the coast and discovered that the land had a benchmark and two reference points. “They were established in the 1940s during the war,” he said. With a mission to hike to the tops of the highest points in all 50 states (he’s done at least 20 so far) he was especially excited about having his state’s highest coastal point on his property.

Except, one of the monuments was missing, taken by the previous owner as a keepsake. “I called him and he agreed to let me borrow it,” Gouin said. So he shot several photos and made an impression, just as he would for a tooth, and sent everything to Berntsen for them to duplicate. “They did a fantastic job,” he said. “I reset the monument in the exact place where it had been. It meant a lot to me.”

The Rushings often visit their creations as well as other markers. “No trip or vacation would be complete without benchmark hunting,” she said. “Even when we vow to get away from it all, our best-laid plans are doomed if we see a survey marker. We have to check it out. I

have taken lots of photos with my camera aimed at the pavement, which gets funny looks at places like Disney World. One time we took a picture of one of our markers at the Cape Hatteras lighthouse. A family came over out of curiosity to ask what ‘that thing’ was we were photographing. They were interested in hearing about land surveying and why these markers are important.”

Rushing’s passion for the company’s work spilled over to producing a book, *Lasting Impressions*, published in 2006. “It’s a picture book of stories largely written by surveyors—stories that only they can tell,” she said. “I was fortunate to be able to pull it all together with the help of some very talented people. I could see from my years at Berntsen how important the work of land surveyors is and I wanted to capture that—the legacy of the work of land surveyors and its importance to the history of our nation—and I think that came through.” (The book can be purchased on PSM’s and Berntsen’s website.)

Outreach to the Profession

Rushing said it’s important to give back to the profession that has provided

a living for her family. For many years, for instance, Berntsen has donated education kits to universities and technical colleges with surveying courses. The kits include actual examples of all the types of markers, pipe monuments, nails, washers, rods, underground magnets, etc., that students may use in the future. “This has been well received by teachers as an excellent teaching tool,” Rushing said.

Berntsen has been giving scholarships through the American Congress on Surveying and Mapping (ACSM) and the Wisconsin Society of Land Surveyors. More than \$75,000 has been given through these scholarships so far. The company also partners with the National Society of Professional Surveyors to sell “final point” grave markers for \$100, with \$25 going into the National Society of Professional Surveyors (NSPS) Foundation and \$50 to the Berntsen NSPS Scholarship Fund.

Additionally, the company donates books and hats around the country to be used as auction items for state society fundraisers. “We were told that one of our books was auctioned off for \$175 at one state convention, so we know that

surveyors get in the spirit and bid high for the cause,” Rushing said.

Looking back on the company he helped to create, Phillip Peterson quickly recalled their first product, the magnetic aluminum survey marker, and how it went through three revisions until they were finally satisfied. He and Peter Berntsen “threw the monument into the trunk of [their] car” and attended their first Wisconsin Society of Land Surveyors Annual Institute. Peterson said that “feedback ranged from ‘there’s a market for this—sales will be difficult but not impossible’ to ‘what are you going to do with THAT?’” Peterson’s entrepreneurial spirit kicked in and he said he replied, “I’m going to market it!”

The business partners later rented a booth at the 1973 ACSM convention in Washington, D.C., which gave the venture an added push as they heard positive feedback from surveyors. “Everybody was looking for a better idea,” Peterson said simply, a concept that laid the groundwork for a successful company that has 40 years to its credit and a presence seen around the world. ↓

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