

# Portable Sander Finishes the Job for Massachusetts Company

**Case Study by Tom Carroll**  
*President, CS Unitec, Inc.*

**This article is an adaptation of the article published in the September, 2002 issue of The FABRICATOR®**

AAMS Corporation, a miscellaneous-metals fabricator in Taunton, Mass., recently took on a large project for Olin College of Engineering, a new institution of higher learning near Boston. The project called for fabricating about 1,500 feet of 1-1/2 in. stainless steel pipe for handrails and stairway railing at the college (see Figure 1).

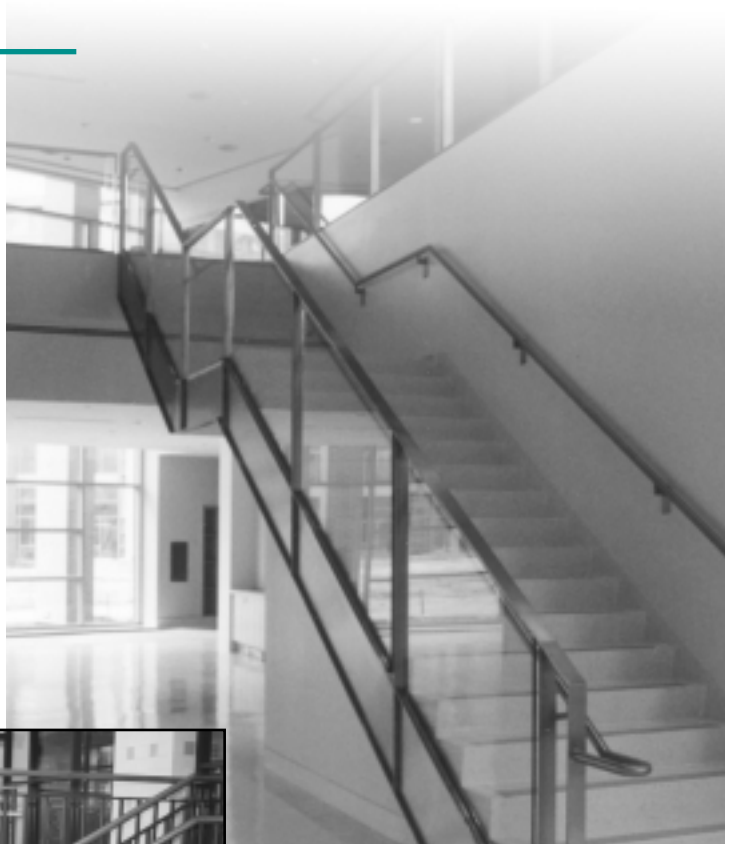
The challenge for AAMS was not so much in the size of the project as in the finish required. A polished look was specified for all components of the job, which involved a large number of 90-degree corners.

At the same time, AAMS also was working on a complex project for a retail-residential building at Uphams Corner in Boston. The company was constructing 400 ft. of railing for handicap entrance ramps. The ramp rails were fabricated from 1-1/4-in. Schedule 40 aluminum pipe with aluminum molding (see Figure 2). After the pipe was welded and ground, the railing also required a polished finish.

AAMS wanted to be very careful with the rail polishing because both customers required it for aesthetic purposes. The company previously had relied on a 4-in. angle grinder for finishing. The angle



**Figure 2**



**Figure 1**

grinder had been used mainly to grind down welds, and AAMS was doubtful that it could produce the highly

polished finish necessary to meet the customers' specifications. Also, when working with 90-degree bends, operators found it difficult to move this type of grinder into the tighter spaces.

It soon became obvious that the finish produced by a conventional grinder would not be acceptable. A swirl pattern rather than a polished finish was the result from this type of grinding (see Figure 3). This was caused by the circular rotation of the grinding disk moving the abrasive against the grain of the pipe. The company could have achieved a uniform grain by hand polishing with steel wool, but the company considered that method too time-consuming, and it required a great deal of manual effort.

*Continued inside*

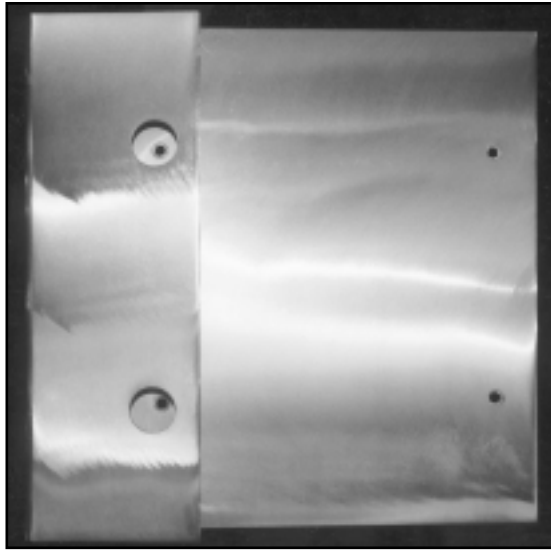


Figure 3

This led to a decision by AAMS to search for an alternative. The company decided it needed a finishing machine specifically designed for tube and pipe.

While scouring the Internet to find a tool that would help them achieve the required finishes, AAMS considered several pipe sanders. It chose the CS Unitec pipe sander, model LBR 1506 VR. According to Brendan Pequita, AAMS's layout specialist, the pipe sander was lightweight, making it easy to use, and it was also affordable.

In addition, it met another of the company's requirements by being portable enough to be used both in the shop and in the field (see Figure 4). The sanding machine was suitable for 3/8- to 10-in. pipe, and



Figure 4

the belt tightened continuously for different pipe diameters.

AAMS continued to use the 4-in. angle grinder to bring down the welds on both projects, but to achieve the final finish it put the pipe sander to the test. The operator placed the sander over the pipe, which fit into a contour on the machine, and then walked it along the length of the pipe while an abrasive belt rotated around it. Because the sanding belt moved around the circumference of the pipe, the sanding was done in one direction, enabling it to meet the polishing specifications.

The operators went through several steps with the pipe sander to get the polish that was needed. They began using it with coarser 36-grit abrasive belts to remove gouges or imperfections in the milled pipe. Next they went to a medium 80 grit, which smoothed out the pipe, removed any marks left by the coarser grit, and produced a matte finish in preparation for final polishing. The

final polish was made using a fine 120 grit, which gave the pipe the specified decorative look (see Figure 5).

AAMS estimates that finishing the two jobs with the pipe sander took half the time hand polishing would have taken. The tool proved to be adaptable to every surface of the rails for both projects. It was easily

maneuvered around corners, fitting right into the 90-degree angles. In addition, Pequita said, "Because the machine did all the work, there was much less physical stress for the operators."

The pipe sander not only helped AAMS to finish these two projects as prescribed in a reasonable time frame, but it also gave this fabrication company new capabilities that can help it expand its customer base. Pequita predicted that "Now that we have the pipe sander, we will be much more likely to take on other finishing work in the future."



Figure 5

---

## Model LBR 1506 VR Electric\* Portable Pipe Sander

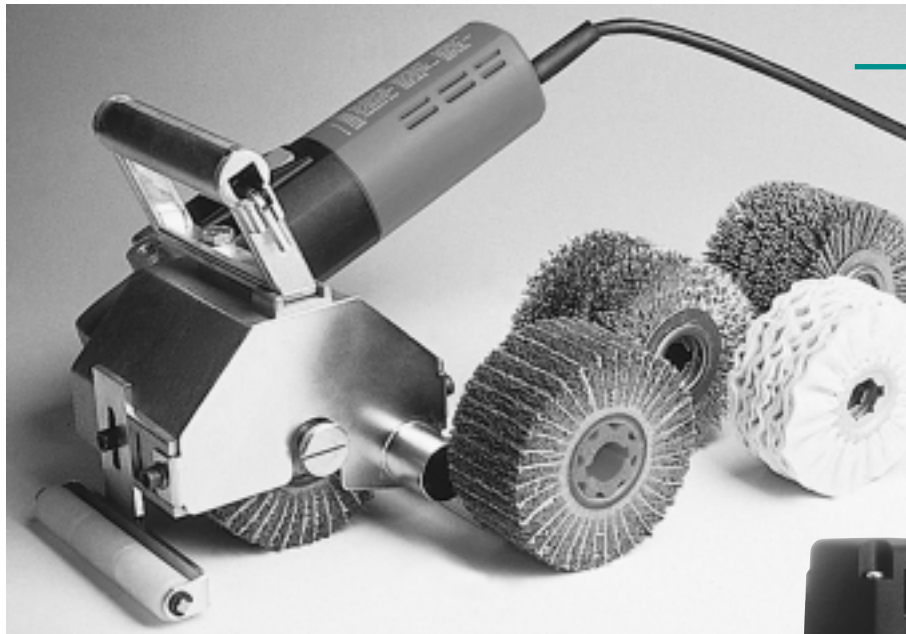
### Product Features

- Continuous sanding belt speed adjustment, from 33 to 100 ft./sec.
- Full-wave electronic control with overload protection and smooth start
- 11 Amp variable-speed electric motor provides high torque
- Shut-off carbon brushes
- Continuous belt tightening adjustment
- Ergonomic design and lightweight construction reduce operator fatigue
- Wide assortment of sanding belts, including polishing fleece for stainless steel

\* Pneumatic model also available



# Also available from CS Unitec...



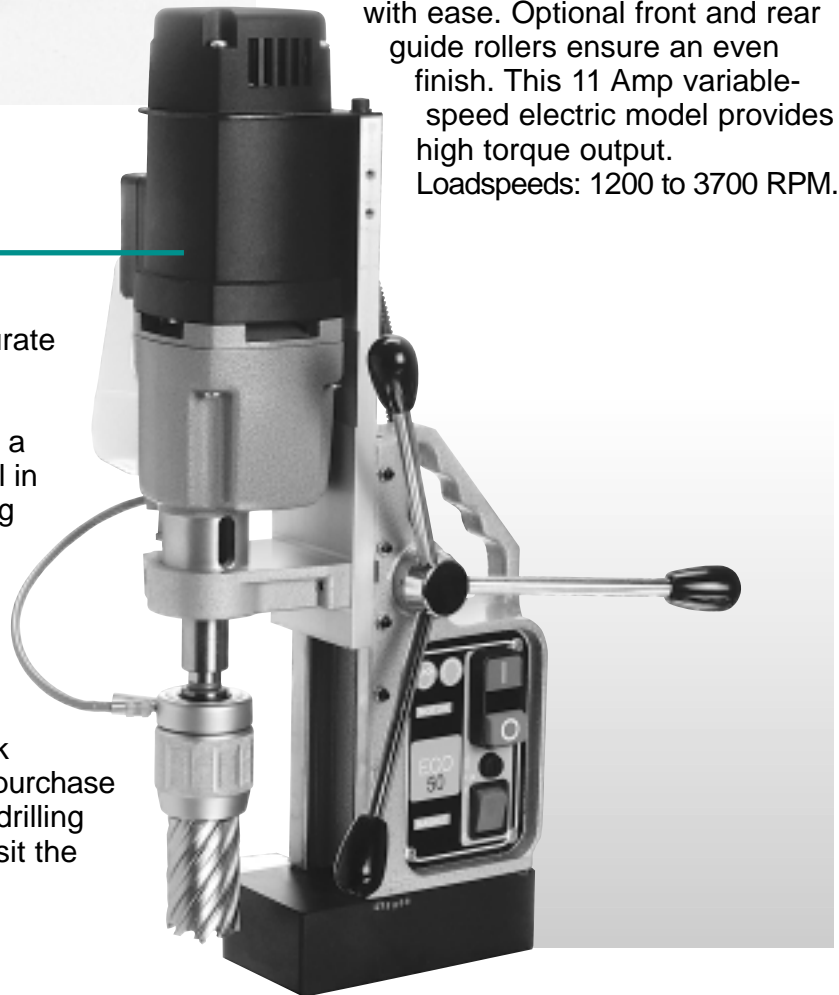
## Surface Finisher

### Model LP 1503 VR (Electric)

CS Unitec's Portable Surface Finisher works on steel, stainless steel, aluminum and all other metals, as well as wood and plastics. It is the perfect industrial machine for polishing, blending, cleaning welds, graining, dulling, brushing, deburring and other surface sanding and polishing applications. This electric Surface Finisher with 4"-wide face produces shadow-free, uniform surfaces with ease. Optional front and rear guide rollers ensure an even finish. This 11 Amp variable-speed electric model provides high torque output. Loadspeeds: 1200 to 3700 RPM.

## ECO-50 Magnetic Drill

CS Unitec offers a full range of compact and powerful Magnetic Drills designed for fast, accurate hole cutting, on the job site or in the shop. The ECO-50 (shown right) is a lightweight (29 lbs.), two-speed high-performance drill. It is built with a compact height of only 16<sup>1</sup>/<sub>2</sub>", so it is easy to drill in small spaces. The ECO-50 also features a strong 10.5 Amp motor, 2-speed gearbox and an HD dual-coil magnet with a holding strength of 3740 lbs. It is capable of drilling up to 2"-diameter holes with Annular Cutters; and, with a <sup>5</sup>/<sub>8</sub>" chuck (Part No. IBK-19), the ECO-50 can easily convert to a standard drill press. CS Unitec also includes a standard Easy Quick-Lock Cutter Holder and a one-year warranty with the purchase of this drill. To find complete specifications and drilling capabilities for any CS Unitec Magnetic Drill, visit the company's Web site: [www.csunitec.com](http://www.csunitec.com)



### CS UNITEC, Inc.

22 Harbor Avenue, Norwalk, CT 06850  
800-700-5919 • 203-853-9522 • Fax 203-853-9921  
Email [info@csunitec.com](mailto:info@csunitec.com) • [www.csunitec.com](http://www.csunitec.com)