

## Adena Corp., Mansfield

**Intervention key words:** Grout-delivery system

**Industry:** Construction, masonry

**Risk factor(s):** Manual handling – pushing/pulling; manual handling–lifting/carrying; awkward posture – back deviations; awkward posture – shoulder deviations

**Situation:**

The method that places concrete grout into the cores of a block wall is labor intensive. The process shown below includes:

1. The concrete grout is placed in a mortar tub.
2. The laborer then dips a five-gallon bucket into the tub and fills the bucket half full with 50 pounds of concrete grout.
3. The laborer then hands the bucket to a mason who dumps the grout into a block wall.



**Solution:**

By purchasing two grout-delivery systems, the company eliminated the need to lift buckets. Adena paid \$15,400 for the two new systems that changed their work processes. Here is how the system works:

1. The grout-delivery system is a hopper that attaches to the front of a forklift.
2. The hopper has an auger in the bottom that is driven by a gasoline engine.
3. Concrete grout materials are placed in the hopper and lifted to the top of the block wall by a forklift.
4. The laborer then turns the auger on and off by remote control.
5. When the auger is on, the grout flows out of the hopper into the block wall.

**Results:**

- The incident rate is standardized for 200,000 hours worked by the company's employees. Two years before the intervention, Adena's incident rate was 5.1. After the intervention, the rate decreased to zero for a 100-percent improvement, according to a BWC study.
- The National Safety Council reports the average cost of a claim is \$19,382. The company's return on investment is 1.6 years.
- Compared to the bucket method, the company's job-cost tracking systems shows a 25 to 30 percent increase in productivity. For the last year, Adena worked more than 137,500 hours without any related injuries from grouting operations.