

# Industrial Sheet Metal:

What does it have in common with your morning cup of “jo”?



Your daily routine unfolds each morning, probably with little thought to how routine it is. You shower with your favorite soap, apply your favorite deodorant and brush your teeth with your favorite toothpaste. You head to the kitchen, where you grab the juice or maybe a breakfast bar. You reach into the cabinet to get the daily medications that keep you running smoothly. As you peel out of the driveway, you might be thinking about stopping on the way for that tasty cup of coffee.

But did you stop to think of the modern conveniences you have? Everything you utilized was packaged, hermetically sealed and right at your disposal. Nice, isn't it? Didn't really give a thought to the juice being contaminated with some microorganism or the soap possibly having rust particles in it, did you?

Often taken for granted, the industrial sector of the sheet metal industry enables efficiency, convenience and sanitary production for various manufacturing industries including: pharmaceuticals, personal hygiene/toiletries, food, petroleum, agriculture, chemical and hospital supplies.

John Svetlecic, CEO of Wil-Clair Sheet Metal, LLC, specializes in the industrial sheet metal sector. Svetlecic currently serves his third consecutive year on the SMACNA-KC (Sheet Metal & Air Conditioning Contractors' National Association) Board. Presently, he is an instructor for the National Builders Association. Previously, he taught sheet metal theory and application for twelve years for the Sheet Metal International Local #2. As a sheet metal contractor with SMACNA, he has researched FDA requirement specifications

for 35 years, continuing to specialize in various food and dairy grade criteria.

“As technology continues to develop rapidly, so do the standards and regulations in which the technology takes place,” Svetlecic says. The U.S. government works in conjunction with ASHRAE (American Society Heating & Refrigeration Association of Engineers), ANSI (American National Standards Institute) and SMACNA to research, create and further develop strategies and an advancing course of action to maintain efficiency, effectiveness and quality of life. SMACNA and the Sheet Metal Contractors corroborate the need for an educated workforce that can fabricate and implement the developments that are continually changing.

One component of SMACNA-KC is providing the contractor with educational programs encompassing different specialties. From there, skills are refined through on-the-job training and implementing proce-

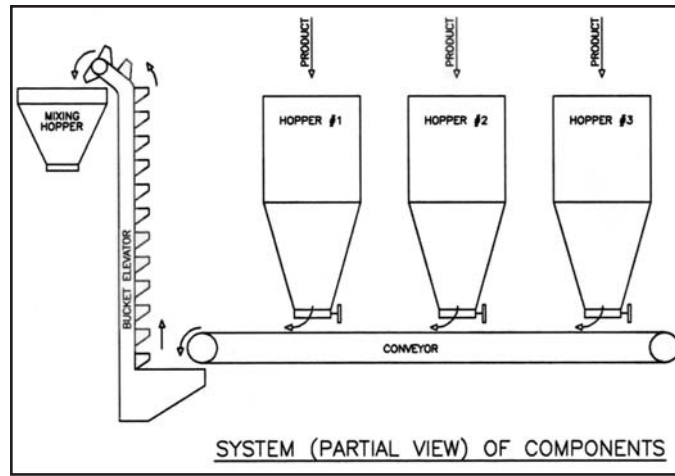


dures with quality control. The SMWIA (Sheet Metal Workers International Association) training facility lays the foundation with the apprenticeship training curriculum. “Our journeymen must come forth with the tools, knowledge and refinement of skills to achieve tomorrow’s standards today,” Svetlecic says.

“The criteria set forth by the U.S. government, ASHRAE and others requires seamless, stellar production on our part to insure safety for its product’s consumer. Any of our welded pieces can be and are often x-rayed (radiography, liquid penetrant and hydrostatic pressure testing). The integrity of the system must be 100 percent. Multi-material systems have many components, such as weight hoppers, screw augers and chutes. All these connective devices bring the various mechanisms together to create a production system that delivers an end product. Sometimes we fabricate and install the connective devices; other times we install the entire production system. Our welders have to become certified in particular metal disciplines in order to facilitate a project. When you are dealing with manufacturing plants that have components of the production system that are ‘wash-down’ areas, these elements are sanitized daily. Therefore, the interior and exterior must be crevice free to ward off contamination. The welding product MUST be flawless.”

Svetlecic further explains, “SMACNA was a major contributor in spearheading the changes in standards from the 1960s to the 1980s, for example. Back in the 60s, carbon steel was an acceptable metal in production. In ‘wash-down’ areas, carbon steel was prone to rusting. The steel was painted, but it still was not a 100 percent guaranteed. One microscopic chip in the paint was enough to catch bacteria, rust and microorganisms, which consequently contaminated the product and began to impact the health of its consumers.

“Today we work with stainless steel. Various types are available, which are compatible with a variety of jobs. The higher the grit number, the finer the cracks and crevices become within the metal, creating a smoother texture. Compare this to the resolution on your television screen. The higher the resolution factor, the more crisp, or smooth, your picture becomes. For example, a soap manufacturing plant needs 316 alloy. The element of concern here is for corrosion. 304 is compatible for food and pharmaceutical production. Some pharmaceutical specifications require 400 grit grade. The finish is extremely smooth, absent of cracks or crevices, and has a mirror sheen to it. Plastic production isn’t quite as critical,



because there is not the breeding ground for bacteria. Since technology is ever-changing, the sheet metal contractor’s standards pursue the need to stay abreast of the up and coming.”

The industrial facet doesn’t stop there. In addition to focusing on consumer safety, the employees within these production plants also are provided with industrial sheet metal expertise.

“With air pollution and air quality a major global concern, our dependence on fossil fuels to satisfy energy demands requires we fabricate and install systems that purify the air of the emissions generated through the manufacturing process,” Svetlecic continues, “I will never forget witnessing first-hand how what we do makes a difference. We returned to the manufacturing plant to put the finishing touches on a dust-control system. This plant manufactured a product that created thick, airborne grindings, which produced a fog-like atmosphere within the plant. The employees wore dust masks, but that wasn’t enough. The fumes and fine particles still were inhaled by the workers. By using inlet velocities of 2,800 ft./min. at each station, all the dust particles were removed before the emissions could escape the wheel. One of the employees came up to me and said, ‘Man, I’ve got thank you. Since you put this in place, these past few days are the very first time I’ve gone home without a nosebleed at the end of a shift for some twenty-plus years.’”

SMACNA and SMWIA continue today with their pilgrimage, which began in the 1930s to create educational programs for its workers that keep up with advancements, as technology has become more fast-paced throughout the decades. Revising the curriculum is one segment that sets the stage for a knowledgeable, skilled workforce able to accomplish pristine standards.

So tonight, as you go from work or play to home, eating dinner and turning in for some nightly rejuvenation, stop and think for just a second how the sheet metal contractors of SMACNA have aided in giving you the best consumer products you can get, by implementing the technology we know today. Conscientiously, we are making your world, and ours, a better place.

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