

# DUSTY JOBS

ISSUE VI

QUARTERLY

JUNE 2018

GOOD LUCK WITH THAT  
ACRONYMS

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ALL NEW  
WEBSITE

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REAL WORLD  
EXPERIENCE

LOCAL VO-TECH STUDENT  
TRAINS AT IMPERIAL

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DO  
AWAY  
WITH  
DUST

ARTICLE FEATURED IN  
**WORLD CEMENT  
MAGAZINE**



THE INTERVIEW WITH  
**RUSS RYLAND**







## A letter from the Vice President

**There is no limit to what a man can do or where he can go if he doesn't mind who gets the credit.**

**- Ronald Reagan**

That can be a very hard concept to accept. However, I am constantly amazed that people who work at Imperial Systems live and breathe this selfless idea without even knowing they are doing it. People focus on the good of the company, the community, fellow individuals, our customers and vendors. They have found when they humbly accept this there is no height they cannot achieve.

I have seen Imperial Systems grow from a small operation to seemingly unachievable heights over the years and it continues to exceed any preconceived ideas or plans we may have dreamed up. There is no doubt that this happens because of the people. When completing our recent move, we have been blessed to retain our great employees while adding many new faces. We have guys in the fabrication shop from local vocational schools learning from our experienced fabricators. We also have amazing interns this summer in our Engineering, Marketing and Software departments, furthering their education while providing much needed support on outstanding new projects Imperial is working to complete.

With this growth there will be obstacles and we will make mistakes as we progress. We will overcome these issues and grow as a result of experiencing them. It is through our people and our attitude that we will work to be the best we can be for each other, for the good of the company and all of those affected by the company.

I ask you to be part of what is going on here. We have a newly updated website describing our company, products and services. Please visit it. I encourage you to call and talk with Imperial employees and representatives to find out what we are all about and get to know some of our family. Please don't just believe my words but come visit us and see for yourself. Our door is always open. <<



**- Chalmer Ritzert, VP**



**CMAXX**  
CM012 with Dropout  
**CYCLONE**  
Twin ISC20

Dual Robot Milling  
Steel & Foam Dust



### 3 ALL NEW WEBSITE

We launched our new website in June and we want to know what you think about it.

### 5 REAL WORLD EXPERIENCE

We learn more about the skills, hobbies, and future of a local Vo-Tech student and about his time training with our welders.

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Charlie speaks on living in a world filled with acronyms and what kind of things can happen as a result of their use.

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Russ tells us about his travels, his time as a Marine, and how he got started with Imperial Systems.



# IMPERIAL SYSTEMS LAUNCHES NEW WEBSITE

We've made our new website easier than ever to navigate, with more streamlined menu options and better navigational tools. Our new website will also offer:

- Updated product descriptions
- More illustrations and images
- Higher quality graphic design
- New format highlighting key features
- Easy-to-use tools at your fingertips

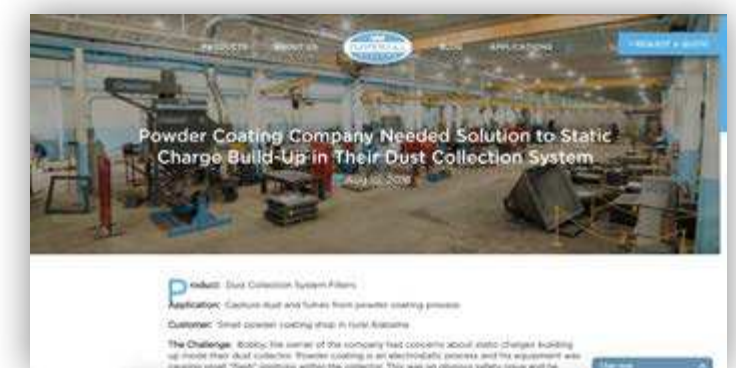
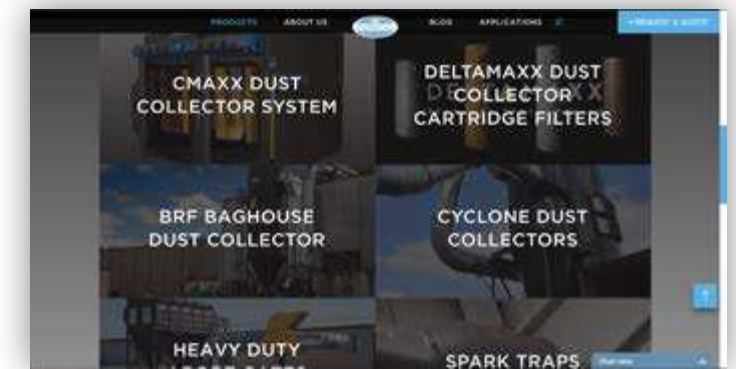
The new website will offer more images, text, and guidance about each of our products, helping you to find the best options for you and answer your questions. It will continue to feature the same great tools, including our airflow calculator.

You'll have easier access to all of our case studies, so you'll be able to find out more about companies using a process or solving a problem similar to yours and see how the CMAXX or BRF became a key part of our customers' businesses. You'll also have easier access to all of our blog posts, where you can find information about everything from filters to ductwork to trouble-shooting and even company events and stories. Don't forget to read through our Imperial Systems Quarterly Newsletters to stay up to date on the most exciting and important events happening with the company!

With lots more images, a streamlined design, and a new, cleaner look, we hope you'll find the new website everything you'd expect from Imperial Systems. From the company that makes the sharpest and cleanest-looking dust collector on the market, you'd expect a website that looks just as good.

Please enjoy our new website and contact us with any questions or comments. We will be working out any bugs during the website's debut, so please don't hesitate to let us know if you find anything we need to improve upon! <<

[www.IMPERIALSYSTEMSINC.com](http://www.IMPERIALSYSTEMSINC.com)



At Imperial Systems we're very proud of our products and our company, and now they're finally going to have the website they deserve! The new Imperial Systems website launched in June, and we think you'll find many benefits to the new design.





# REAL WORLD EXPERIENCE

## LOCAL VO-TECH TRADE SCHOOL STUDENT TRAINS AT IMPERIAL

Like many companies in the USA, Imperial Systems wouldn't exist without our skilled tradespeople. Making a quality product comes from training and experience, and right now we're lucky enough to have a young man who has come here for both of those things. Garrett is a student at our local Mercer High School and participates in the Mercer County Career Center Vo-Tech program. Every morning he comes to work at Imperial Systems, welding CMAXX and BRF's, learning from our experienced team and getting great real-world experience. Garrett knew about Imperial Systems from a friend who works here in the summer, and he chose us for his Vo-Tech

worksite. He told us about how much he'd learned already, and the difference between welding in school and working from blueprints, working on projects that are actually going out to customers and having them be done right. Fortunately, he is eager to learn and enthusiastic about his work. He's also enthusiastic about welding in general, as shown by his artwork (see above) he created for a Vo-Tech skilled trades art show. He's taken his work as far as the state competition in Hershey, PA. In school, he plays football, wrestles, and participates in show choir. While show choir might seem like an unexpected hobby for a welding student, Garrett is an intelligent and well-rounded person, and our conversation ranged from his project on World War II propaganda to the deficit of skilled tradespeople and the over-abundance of college



Welding Artwork shown at the state competition in Hershey, PA

graduates with useless degrees. He has clearly thought a lot about his future and has a good understanding of the need for welders in the workforce and how it has affected his career choices. He can also tell you from first-hand experience how under-funded trade schools struggle to attract and support students. The demand for skilled tradespeople dwarfs the budget that trade schools have to bring in and train these people. As a result, a future shortage of welders and similar skilled tradespeople looms, and trade schools continue to be neglected as a source of solid, well-paying careers for many young people who don't see college (or the accompanying debt) in their future. The school year is almost over, and Garrett has plans for his future in the skilled trades: he has enlisted in the army and plans to work in one of their metalworking divisions. He's not sure whether he'll stay in the military as a career, but he knows we have several veterans working here now, so he'd be in good company if he decides to come back. ‹‹







## GOOD LUCK WITH THAT!

Acronyms! They are the new language. With the explosion of social media and cell phone texting, an old guy like me really needs to consult a dictionary to see what it all means. I'm a NOOB (newbie) and I easily get confused with all the Instant Message and texting shortcuts. I did not grow up with cell phones and being a self-proclaimed curmudgeon, I find this new language a bit 2F4M (too fast for me). Unfortunately, the written word keeps evolving, and soon our spoken language will depreciate to nothing but a bunch of letters and numbers that only one generation removed would not comprehend. There are even numbers and symbols representing words 4COL (for crying out loud). For instance, \*\$ means "Starbucks". MMA\*\$ means "meet me at Starbucks". But \*\*// means "wink-wink, nudge-nudge." I've not discovered what three asterisks in a row means yet. 404, I haven't a clue! Yes, 404 does stand for "haven't a clue", but I 404 why. And there is an AAAAA (American Association Against Acronym Abuse). That one had me ROTFL (rolling on the floor laughing). There are even acronyms I've used my entire life and didn't know their true meaning. RSVP has been used on invitations and memos long before texting was around. I knew it meant "Please Respond". But I did not realize it's the French equivalent and translates to "Repondez S'il Vous Plait." Maybe the French were more progressive with their acronyms than we were.

But there are some acronyms that are not wise to use, and I learned the hard way to avoid them. Back in the early years of my career, things were not so different than they are today. Clients would wait until the last minute to place orders or had emergencies because they forgot to order something. Then delivery became critical. They'd say they needed their widget ASAP. So, I enter the order with a deliver date ASAP. And because of the customer's critical time requirement, I also hand carried the order out and personally give it to the shop foreman, assured this action stressed the critical importance of a rush delivery. When the foreman asked me about the delivery date I said "ASAP." He said "fine." That is when I learned ASAP had different connotation depending on your viewpoint. Everyone knows ASAP means "as soon as possible" and, in my NOOB naivety, I assumed the foreman would rush it through the shop that very day. A few weeks went by and B4UKI (before you knew it) my client is calling about the delivery for his widgets. Being a little surprised he had not received them yet, I made another visit out to the foreman to inquire about the order. The foreman starts shuffling through a large pile of paperwork on his desk. Near the bottom of the stack he pulls out my order and says, "Here it is." A little exasperated by this I ask, "They've not even been fabricated yet?" The foreman calmly replies that my delivery was "ASAP." I said, "Exactly. Why hasn't the order shipped yet?" His answer was simple. All the other orders in the stack had an actual delivery date. He had to

meet those dates first before it was "possible" to get my order out. But he assured me he would do it ASAP. That was the last time I put ASAP as a date on a rush order. I still have clients who put ASAP on their orders and I cringe whenever I see it. ASAP also has a few cousins to avoid. AFAP (as fast as possible), NIY (need it yesterday), and ALAP (as late as possible). There is one more danger to avoid. A real word can sometimes be made into an acronym. In my discussion with the foreman I assumed he

knew ASAP meant I needed the order rushed through. He said, "ASSUME makes an ass of you and me."

If you are as confused as I am with this new acronym language, or if you want to get a handle on the secret code your kids are texting (did you know PIR means "parent in room"), you're in luck. There are many

acronym dictionaries on the internet free to download. That is where I got all the acronyms used in this short essay. But if you think this old curmudgeon is going to start texting acronyms to everyone I know, well, GLWT! ⬅

They've not even been fabricated yet?

Your delivery date was ASAP

Exactly, why hasn't the order shipped yet?



# DO AWAY WITH DUST

featured in the June 2018 Issue of World Cement



## Jeremiah Wann, Imperial Systems, discusses the benefits of Spot Filters when dealing with dust at cement plants.

### SPOT FILTERS: ALL-PURPOSE CEMENT DUST SOLUTIONS

There are many opportunities when working with cement for dust to start accumulating. Anywhere that the material is moved around, dust is produced. With companies facing new and stricter OSHA silica exposure laws, there is a tremendous need for filters in cement applications. Respirators may not be able to handle the high levels of dust produced, and even if they can, they are uncomfortable and often not used correctly.

OSHA's hierarchy of hazard management considers the first line of defense as eliminating the hazard. Since it's probably impossible for you to eliminate all the processes in your facility that produce dust, it makes sense to move to the next step, which is to use engineering controls to manage the hazard. A dust collector is an engineering control because it manages the hazard without the employees needing to actively do anything (like wear PPE) to be protected.

### BAGHOUSE VS. CARTRIDGE COLLECTOR

While baghouses have dominated the cement industry in the past, they have many disadvantages. A major one is that very high airflow needs to be maintained to move dust-laden air from the various points of capture to the baghouse, requiring high energy usage and large fans. Also, baghouses often have a huge number of bags, which are very difficult and messy to change. A confined space procedure may be required to get into the air plenum where the filters are accessed. The bags often have to be pulled onto metal cages and there are a variety of complicated mechanisms for attaching them to the tube sheet.

Cartridge collectors are appropriate for almost all types of fine dust, as long as it is dry, and they are more efficient and much easier to change than bags in a baghouse. Cartridge filters are pleated, which allows them to have a much higher surface area than a bag and

pack a lot more media into a smaller space. The ease of changing filters and overall maintenance is often a major factor in choosing a cartridge collector over a baghouse. Baghouses may still be preferred for certain applications; a systems engineer can help determine which will work best. High temperature applications, for example, often require a baghouse because the bag material can handle extreme temperatures better. Systems engineers are experts in system design and should always be consulted on a dust collection project.

Many applications, particularly those handling large amounts of bulk solids, have had excellent results with cartridge collectors. Grain and silica industries are two examples of applications where cartridge collectors are often in use. Especially where silica dust is involved, cartridge collectors are becoming increasingly popular because of the extremely high efficiency of the filter media, which helps companies make sure they are meeting OSHA's new silica dust regulations.

Some companies have questioned whether cartridge filters are durable enough to handle tough applications like silica or cement dust. The answer is that yes, with a properly designed system they can definitely handle this material. Options such as overbags can help protect the filters if the dust stream contains some larger particles in addition to smaller ones. A cartridge collector will also have baffles that cause the air to slow down and larger material to drop out of the air stream before it reaches the filters, protecting them from damage.

### SPOT FILTERS

Another issue may pop up with a central system. Whether it uses bags or cartridges, there may be very long runs of ductwork to access all of the points of dust capture. It may not be practical to run duct all the way down a very long conveyor, for example, or to a machine that's a long way from the collector. You may even need dust collection on a mobile piece of equipment like a cement dust transport truck that moves material around the site. For all of these situations, spot filters are a great option to consider.





A spot filter is a small cartridge collector that is placed directly at the location where dust is being produced. Examples of good locations for spot filters include:

- Drying areas
- Conveyor belts
- Transfer points
- Dump pits
- Roller mills
- Blenders and mixers
- Bucket elevators
- Hammer mills
- Transport trucks
- Vents and openings in storage areas
- Material loading and unloading

Spot filters usually have two or four cartridges. Because of the pleated material, cartridge filters are perfect for applications where the collector needs to be small and compact. They are also

self-contained, which means they do not need any ductwork run to them. They have their own fan and run independently, so you can put one a long way from your central dust collection system, or use them if you don't have a central dust collection system. Spot filters sit directly at the point where the dust is generated, allowing them to capture the maximum amount of dust and prevent any of it from getting out into the air of your facility or exposing your workers to silica-containing dust.

An advantage of spot filters is also that they are very easy to maintain. In a well-designed collector, cartridges slide out easily on rails and new ones slide back in. This only applies to vertical collectors where the cartridges hang from a tube sheet at the top of the collector; horizontal



collectors where the filters are inserted horizontally on a supporting yoke are much more difficult to change. The filters do not need to be cleaned; they clean themselves with compressed air according to their scheduled settings and maintain efficiency by pulsing excess dust off the filter surfaces.

Spot filters are perfect for those areas in a facility where fugitive dust escapes into the environment. This dust can accumulate around the area and cause a health and safety hazard. Certain pieces of equipment may be inconvenient or nearly impossible to reach with ductwork or attach to a central collection system. For these, spot filters can capture that fugitive dust before it gets loose to build up around the area.

A patented version of a spot cartridge collector is specifically designed to be mounted on trucks transporting and unloading bulk dust. Specifically designed for sand

on hydraulic fracturing sites, these collectors are able to be mounted directly on a truck that's used to load and unload cement dust. This is a complete plug-and-play system. It can be mounted on sand transport trucks, at the points where material is being moved onto and off of transport belts, and over mixers and other

equipment. The fans and airlocks are operated with hydraulics powered by the vehicle, and the compressed air is powered by a generator.

### OSHA SILICA REGULATIONS

Because of the silica content of cement dust, new OSHA silica laws taking effect in 2018 will impact health and safety in the cement industry. These new laws strongly endorse engineering controls such as dust collection

systems to prevent exposure to silica dust in the air.

In many places, we've seen a central baghouse removing dust from several main points of dust production. However, a lot of these places also have a number of other sites where fugitive dust is escaping and contaminating the area, accumulating around the facility. This dust can be easily stirred up and inhaled.

Health risks of inhaling silica dust include silicosis, a chronic lung disease where inhaled silica dust, such as the kind that is a component of cement, damages and scars the small air sacs of the lungs. This results in difficulty breathing and getting enough oxygen to the rest of the body. Exposure can also cause an acute form of silicosis where the damage causes the lungs to swell and fill with fluid. This type of silicosis is uncommon but very dangerous.

Chronic silicosis is very common among people exposed to silica dust. The scarring can progress to a condition called progressive massive fibrosis, where the lungs become stiff and full of scar tissue. When the disease is severe, people may need oxygen support to be able to breathe. Silicosis can cause death.

The health risks of silica include other deadly conditions. Silica is a known carcinogen, meaning it causes lung cancer. It also makes you more likely to get lung diseases like emphysema, tuberculosis or bronchitis. Because the cement industry has been targeted as one in which the dust includes silica, OSHA is likely to be very vigilant about dust management in cement handling applications.

### CONCLUSION

Spot filters may be exactly the solution you are looking for if you have equipment such as conveyor transfer points, mixers, elevators, or other places where dust has a tendency to escape. If you don't have a current dust collection system, or if it's not practical to attach these pieces of equipment to the current system, a spot filter can be a very efficient solution. It sits directly on the area where dust is produced, captures it before there is any opportunity for it to get out into the air in the facility, and contains it safely. <<

# CMAXX

## SPOT FILTER SYSTEM



The CMAXX Spot Filter is designed to work in small spaces. It is a true work horse that handles high air flow and bulk solids.

-  FOOD
-  SILICA
-  GRAIN
-  AGGREGATE
-  SEED
-  CEMENT
-  FEED MILL







**THE  
INTERVIEW  
WITH  
RUSS  
RYLAND**

Russ has seen it all when it comes to dust collectors. If you have a question that no one else can answer, then you go to Russ. Chances are he knows. Russ has been with the company nearly since the beginning. He now leads the Service and Installation side of the company. Usually when you need Russ the most, you can find him on the other side of the country working on a system. When he is not out on business, Russ likes to spend his time with his wife and three daughters. Before Imperial Systems, Russ also served for his country as a Marine.

**Q: You were one of Imperial Systems first employees, right?**

Jeremiah started the company in March of 2003. He had about 4 or 5 people working for him. I came on in September and now all of the original people are no longer with Imperial Systems. So I'm the longest standing employee.

**Q: How many different titles have you had while working here?**

Fabricator, welder, painting, plasma programmer and operator, drafting, shop superintendent, service technician and Support Services Manager now. A little bit of everything.

**Q: How did you get into doing the installs?**

When I got into the service side, at the time I was the plant manager but it became evident that we needed someone to do the service who was knowledgeable with the product and I was the only one qualified. So Jeremiah and Chalmer approached me and asked me if I would be willing to move into the service management position to where I can over see and conduct the service and maintenance on our equipment.

**Q: You have been all over the country doing installs, where has your favorite place to visit been?**

I guess the nicest places to see are out west. Oregon is pretty. Its nice to see out there and how its a lot different than here. When you get out to other areas the scenery is a lot different than what we're used to. Its neat to see.

**Q: Not only have you been all over the country for work but you have been all over the world while you were in the Marines. What countries have you been to?**

When I was in the Marine Corps I did a Mediterranean Sea float, so I went to Spain, France, Portugal, Italy, Greece, and Indonesia. I also spent six months in Okinawa, and during that time we spent almost a month in South Korea.

**Q: What made you want to be a Marine?**

It was just something I always wanted to do when I was a kid. I just decided that being in the Marine Corps Infantry was just something that I wanted to do. I always liked guns and shooting stuff so I thought it would be kind of fun. So I did it, and it was an interesting job. I wanted to do the Marine Corps to be the best. A friend of mine had been talking about going into the Marine Corps at the time, so I think he kind of convinced me as well.

**Q: What was your job as a Marine?**

I was a rifleman and worked in the infantry companies as a soldier. We did various jobs on the side. I was an ammo driver and drove humvees, but the main job revolved around infantry.

**Q: You knew Jeremiah even before you were a Marine, right?**

Yes. When I was about fifteen years old one of my close friends moved to Grove City, and when he started school in Grove City he became friends with Jeremiah and thats how I became friends with Jeremiah.

**Q: Do you have a lot of childhood memories or shenanigans?**

Yeah. We did a few shenanigans over the years.

**Q: Tell me the history of how you got hired.**

At the time I was working for CCX as a driver and I was also going to school at night for mechanical engineering. They had a meeting to discuss changes that involved the loss of my bid start times. It would have interfered with my school schedule. So I called Jeremiah and told him that he needed to hire me and I was ready to start for him in two weeks. And he went with it.

**Q: What other hobbies do you have outside of work?**

These day mostly revolve around my kids. I have three daughters and they take up most of my time and energy. They are six, four, and three. If I ever get free time I do some shooting and hunting.

**Q: What do you think about how the company's has been growth since you've been here? You've seen the whole thing, right?**

Just a couple guys in a small shop to where we are now is amazing. The company has evolved so much over the years. It was in like a garage when I first started and now its a well established facility. Its been really neat to see the evolution. When we started at the shop in Grove City, it had wood floors and the weld shop portion of that building was tiny. Some of our components had to be built on the road because they were too big to fit through the doors. <<





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