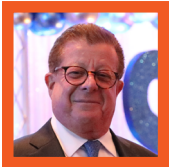


THE BURN

Fall Wrap Up 2024

Reflecting on 2024



Charbel Tagher

President, Specified Technologies Inc.

As I look back at the year 2024, I want to start by thanking our customers, supporters, and of course the STI team, for making this our best year, and quite an exceptional one.

Our significant growth this year can only be explained by the relationships of trust built over the years, and the value added that we bring our customers. As they become more successful, they need to rely on a team that understands firestopping as well as their own businesses in depth. And they need to know that the people they are dealing with will be there for them when they need them.

That's where our STI philosophy of fiercely protecting the jobs of those who do their job pays off over the long term. In our 34-year history, we have not had a single layoff! As a result, the level of knowledge and experience that the STI team has at all levels is unmatched and is a key differentiating competitive factor that becomes bigger every year.



On that subject, we were extremely sad to lose Kelly Mason this past November. Kelly was an amazing person who did wonders for STI and is leaving many fans and friends behind, starting with me. He joined in us 1997 (27 years ago!) and played a significant role at every stage of our growth, particularly over the last 15 years in

the healthcare vertical. He not only became the voice of STI, but, more importantly, a highly knowledgeable and respected expert on firestopping matters and beyond.

Those of us who knew Kelly will also remember him as a man of many talents. His singing was legendary, as were his jokes and teases. His level headedness hid a strong drive to excel and to win – which he did over and over again, as he mentored top teams in and out of STI.

IN THIS ISSUE

- 1 Reflecting on 2024
- 3 Digital Solutions 2024 Recap
- 4 Spotlight on UL Systems
- 5 Creativity Through Sustainability
- 7 How STC is Determined - Part 2
- 10 2024 Company Event Photos
- 11 Upcoming Trade Shows
- 11 Meet the Team - Justin Mentuck

Reflecting on 2024 *(continued)*



Lucian “Kelly” Mason
Dec 26, 1960 - Nov 19, 2024



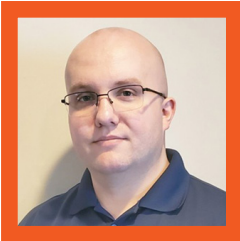
We will miss Kelly a lot, but he leaves behind a strong legacy. We are not only grateful for his contributions to STI, but also for his example and mentorship of so many of our colleagues. His inner strength in the face of repeated adversity helps us keep our own ailments in perspective and appreciate more our loved ones and colleagues. As he said: the biggest mistake we make in life is to think we have time. Wise words to reflect on.

But this sad note should not overshadow the many accomplishments of this year, of which I will cite just a few: a new website with a more powerful search engine; new versions of our Firestop Clash Management (FCM) and Firestop Locator (FSL) software that are nicely integrated and help users plan jobs and document them better; additions to the EZ-Path® family, particularly the 24” cable tray retrofit device; launch of the SpecSeal® Firestop Block, long in the making as we wanted to get a much cleaner formula and a higher performance product than what’s presently available on the market, as well as many small tweaks to products, in response to customer requests. And we have some very exciting new products in the works for next year!

As the thought and technology leader in firestopping, we take seriously our obligation to advance the state of the art as well as the state of knowledge in the firestopping industry and feel it’s our mission to share our knowledge with everyone. As the saying goes: “An educated customer is our best customer”. So, in 2024, we trained over 23,500 people between live training sessions in our offices or in the field, and webinars. The subjects covered were as varied as Compliance in Healthcare Facilities, Mass Timber Construction Firestopping, Interior Finish Firestopping, Perimeter Fire Containment Systems, Firestopping IT Infrastructure, Restoring STC Through Proper Firestopping, What Architects Need to Know, Understanding Firestop Engineering Judgments, and of course, 6 sessions of our FIT2 Trainings. In total we covered in depth 21 different subjects, some more than once. All courses carry CEU’s. We were privileged to train contractors, distributors, facility managers, engineers, architects, inspectors, and, of course, salespeople.

In closing, let me thank all of you who are helping STI get more successful every year, and wish you and your loved ones a joyous holiday season and wonderful new year.

With warm regards, Charbel ■



Digital Solutions 2024 Recap

Justin Pine
Senior Manager, Software & Services



2024 has been a busy year for the Digital Solutions team. We started the year off launching our brand-new corporate website, built from the ground up on a new platform using new technologies that improved performance and made our content easier to find. Following on the success of our relaunched website, the team buckled down and released not one but two major updates to [Firestop Clash Management \(FCM\)](#), our native Revit Plugin for finding and recommending firestop systems within a Revit Model. These updates brought FCM up to supporting Revit 2025, introduced the concept of Parallel Tolerance to improve joint detection, as well as integration with Firestop Locator that allowed for the seamless upload of model data and system selections from Revit into a FSL Project.

Not to be outdone, [Firestop Locator \(FSL\)](#) also experienced significant advancements this year with a brand new version of FSL built upon a new code base. This complete rebuild introduced many performance improvements and bug fixes, integration with FCM uploaded models, as well as support for the new Custom Items feature. Custom Items allow FSL users to create completely new items to track on their project with project defined parameters, fields, inspection, and maintenance schedules.

This year we also released an updated version of our System Search & Submittal Builder for [iOS](#) and [Android](#) Apps.

Following on the heels of FCM and FSL’s updates, we released the new [Digital Knowledge Base](#) and [Case Study](#) repositories on our corporate website. Our Digital Knowledge Base is your go to for articles, walkthroughs, and how-to tools for our Digital Solutions. The new Case Study hub is our growing library of Case Studies and Success stories of contractors, facilities teams, owners, and designers partnering with STI.

Our team is proud of all the work that we’ve completed in the past year. We look forward to continuing to improve our tools and technologies that take the pain points out of achieving and maintaining fire life safety compliance. ■

SPOTLIGHT
ON
UL SYSTEMS



David Vail
P.E., Project Manager & Codes/Standards

Insulated PEX Tubing Collar System at 50 Pa!

Nonmetallic penetrants that feature insulation can sometimes present a challenge in terms of finding a tested firestop system since both the combustible penetrant and insulation need to be considered. [C-AJ-5486](#), which is a newly developed listing featuring SpecSeal® SSW1000EX Wrap Strip, is a useful solution for applications where maximum 4 in. diameter PEX tubing is insulated with up to 1 in. thick fiberglass insulation. The layer(s) of wrap strip are installed around the SDR 9 PEX tubing where a small section of insulation has been cut back to allow access to the tubing. The wrap strip is secured around the penetrant with restraining metal forming a collar, which is then secured to the floor or wall assembly. SpecSeal® Series SSS or LCI Sealant are installed flush with the bottom surface of the floor or both surfaces of a wall to complete the firestop. The system provides an F Rating of 2 or 3 Hr and was tested with a 50 Pa pressure differential as required by many Canadian building codes for nonmetallic penetrants.



Firestop Collar Installation (C-AJ-5486)

One-Sided Wall-to-Wall Joint for Shaft Walls!

[WW-S-0098](#) is a one-sided joint installation that compliments other STI systems intended for shaft wall applications where accessibility is limited to the finished side of the wall assembly. This new listing covers gypsum shaft wall assemblies that abut a concrete or block wall in a parallel or perpendicular configuration. The maximum 1 in. joint is first firestopped with sealant at the shaft liner panel. Following the installation of the gypsum board on the finished side of the wall additional sealant is installed between the gypsum wallboard and the concrete wall assembly. This sequence allows all the firestopping to take place on the finished side of the wall, which greatly simplifies the process. The Assembly Rating of WW-S-0098 is dependent on the hourly rating of the wall assemblies with a maximum rating of 2 Hr. SpecSeal® ES, LCI or LC150 Sealant may be used as fill material providing the installer with options depending on what STI sealant materials are on site. Finally, when air leakage is a concern, it is important to note this new listing enjoys an L Rating of less than 1 CFM/Lin ft. ■



Exploring Creativity Through Sustainability: Lessons from the Firestop Webinar

John Zalepka
Senior Manager, Engagement & Programs

When we think about creativity, our minds often wander to art, music, or design. Rarely do we associate creativity with something as technical as firestop products or sustainability. Yet, preparing for my recent webinar on sustainable firestop taught me that the creative process is alive and thriving in these fields—and that it holds the power to transform how we think, design, and build.

As someone deeply embedded in training and education, I thrive on simplifying complex topics and delivering information in a way that resonates with diverse audiences. However, developing this webinar challenged me in new ways. It wasn't just about conveying technical knowledge; it was about crafting a story that connected firestop products with the broader, urgent mission of sustainability. Here's what I learned along the way.

Research as a Catalyst for Creativity

Sustainability is a vast, multifaceted topic. To prepare for this presentation, I dove into topics ranging from LEED and Living Building Challenge certifications to innovations like Cross Laminated Timber (CLT) and the role of firestop in green building design. What struck me was the interconnectedness of these concepts—how a single firestop solution could align with multiple sustainability goals, from reducing VOC emissions to supporting renewable materials.

The research process became a journey of discovery, revealing opportunities to position firestop as more than a safety solution, but as a key component in the pursuit of greener, healthier buildings. This perspective not only shaped the content of my webinar but also deepened my appreciation for the role our industry plays in advancing environmental stewardship.



Turning Complexity into Clarity

One of the most rewarding parts of this process was figuring out how to take something as detailed as sustainability certifications and firestop standards and make it engaging and relatable. Creativity came into play as I looked for ways to illustrate these ideas. For example, highlighting the partnership with Harvard's Science and Engineering Complex brought the topic to life, demonstrating how firestop products contribute to achieving ambitious sustainability goals.

By focusing on real-world examples, visual storytelling, and clear language, I aimed to show the audience that sustainability isn't an abstract ideal. It's tangible, actionable, and something we can contribute to with every project.

The Power of Alignment

A major takeaway from this experience is the importance of aligning technical expertise with a larger purpose. Whether through designing eco-friendly products or collaborating on green building certifications, our work isn't just about meeting codes or standards—it's about creating solutions that have a meaningful impact on people and the planet. This alignment gave my presentation a sense of purpose that resonated not only with the audience but also with me personally.

Exploring Creativity Through Sustainability *(continued)*



Reflections on the Creative Process

In many ways, the process of developing this webinar mirrored the act of building itself. It started with a foundation of research, evolved through careful design and iteration, and culminated in a finished product that I hope inspires others. Along the way, I discovered that creativity isn't limited to the arts—it's an essential skill for problem-solving, storytelling, and driving innovation in any field.

As I reflect on this experience, I'm reminded that every training, presentation, or project is an opportunity to think differently, connect ideas, and push boundaries. The creative process is not just a tool for delivering knowledge; it's a way of reimagining what's possible.

What's next? I'm excited to carry these lessons forward, not just into future training sessions but into how I approach my role in helping other subject matter experts develop their content.

To everyone reading this, I encourage you to embrace the creative process in your own work. Dive into the details, ask questions, and find ways to connect your expertise to a larger purpose. Together, we can build a future that's as innovative as it is sustainable. ■

[Click here to enroll in the Sustainable Firestop webinar](#) on STI's Firestop University (Access STI account required).



Sound Advice from an Old Firestop Guy – Part 2
How STC is Determined

Tim Mattox
Senior Manager of Systems & Testing Development

In [Part 1](#) of this series which appeared in the last issue of The Burn, we learned how ASTM E90 is used to measure sound transmission loss across a barrier and how the range of data gathered from testing is converted to a single number rating we call Sound Transmission Class (STC) which represents the sound transmission performance of a barrier. But have you ever stopped and contemplated what sound is? Are you curious how sound is affected by different barriers? Have you ever considered the answer to that philosophical question, does a tree falling in the woods make a sound if nobody is there to hear it? Today is your lucky day because we are going to take a closer look at sound, what it is, what measures can be taken to reduce sound transmission across a barrier, and how proper firestopping plays a major role. We might even answer that question about the tree.

In the Art of War, Sun Tzu states "If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle." When we talk about reducing sound transmission, we should treat sound as the enemy we aim to defeat. We should know our enemy which is the purpose of this article. Hopefully, you already know yourself and, if what Sun Tzu says is true, we should be well on the way to defeating the enemy.

Sound is all around us. It always exists, and it affects us in many different ways. The textbook definition of sound is that it is a vibration that propagates as an acoustic wave through a transmission medium such as a gas, liquid, or solid. Acoustics is a very technical subject, but if you think about it, we all intuitively know quite a bit about sound. Sound can be soft or loud, high-pitched, low-pitched, annoying, or pleasant. Because sound is a series of pressure pulses, you sometimes can actually feel it. Ludwig Van Beethoven, who famously wrote his 9th and final symphony well after he was fully deaf, was said to sit at the piano holding a pencil in his teeth, touching the other end to the soundboard so he could feel the vibration of the note. Sound truly is a multi-sensual phenomenon.

Many descriptive terms are used to define unique sounds, including amplitude, frequency, pitch, tone, quality, color, and timbre, to name a few. We are going to focus on the first two of these terms, amplitude, and frequency, because these are the two characteristics we use when measuring sound transmission loss. The other terms address the uniqueness of a sound. For example, you can play the same note (frequency) on a trumpet and a saxophone at the same volume (amplitude), but they sound different, even though the frequency and amplitude are the same. That is because the instruments mold the sound differently and the shapes of the sound waves vary depending on the instrument, and even because of the person playing the instrument.

All waves, not just sound waves, have an amplitude and frequency. For sound waves, changes in amplitude register to us as a change in volume which is measured in decibels. A decibel is one tenth of a bel, named in honor of Alexander Graham Bell, and in sound measurement it is 10 times the logarithm of the measured sound pressure divided by a referenced sound pressure. In the case of sound pressure decibels, the reference sound pressure is 20 µPa which is the typical human limit for hearing a 1000 Hz frequency. When the measured sound pressure is the same as the reference sound pressure, the sound level is calculated to be 0 decibels. In other words, a 0 dB signal represents the quietest sound a human can detect. Frequencies register to us as pitch, so the lower the frequency the lower the pitch, and vice versa. Frequencies are measured in Hertz. Very simply, Hertz is an indication of how many full cycle pulses occur in 1 second of time. So, a 100 Hertz frequency indicates that 100 wave pulses occur in 1 second.

When looking at a visual image of a wave pattern, we are most familiar with a transverse wave which is the type of wave we visually see when we are at the beach watching the waves roll in until they break at the beachfront. However, sound waves do not travel as transverse waves but rather as longitudinal waves. To illustrate this, in a longitudinal wave, the motion of the wave is in the same direction the wave is traveling, whereas, in a transverse

Sound Advice from an Old Firestop Guy – Part 2 How STC is Determined *(continued)*

wave, the wave motion is perpendicular to the direction the wave is traveling. Within this article, we will use transverse waves to illustrate how sound waves behave when confronted by a barrier as they are easier to visualize.

Below are two charts to further explain what is happening to a wave when we talk about changes in amplitude and frequency. Figure 1 shows the difference in wave pattern when a change in amplitude occurs, but the frequency remains the same. You can see that the peaks and valleys occur at the same time, but there is a change to the wave vertically. The sound represented by the orange wave would have the same pitch as the blue wave but would register as a louder sound. In other words, the orange wave has a higher energy level than the blue wave. Figure 2 shows the difference in wave pattern when the amplitude stays the same, but the frequency changes. In this particular case, the frequency is doubled from the blue wave to the orange wave. As you can see, the orange wave has four full cycles that occur in the same time period where the blue wave has two full cycles. If the chart represents 1 second of time, the blue wave would have a frequency of 2 Hz and the orange wave would have a frequency of 4 Hz.

Sound waves initiate from a vibration, which can come from any source that produces vibrations, such as a speaker cone or vocal cords or maybe a vacuum cleaner or a car speeding down a street, for example. They can also come from something impacting a surface. However, when we are talking about STC performance, we are only addressing airborne sounds or those sounds that impact a surface after traveling through air. The vibration creates pressure pulses that travel until they reach an object that receives the wave, such as our ears, and the sound wave is interpreted as noise. As they travel, sound waves will lose energy through various means, producing a reduction in amplitude over distance traveled. This is especially impacted when there is a barrier, such as a wall or floor, where the wave will undergo changes in energy level in a significant way. That loss of energy from one side of a barrier to another is called sound transmission loss.

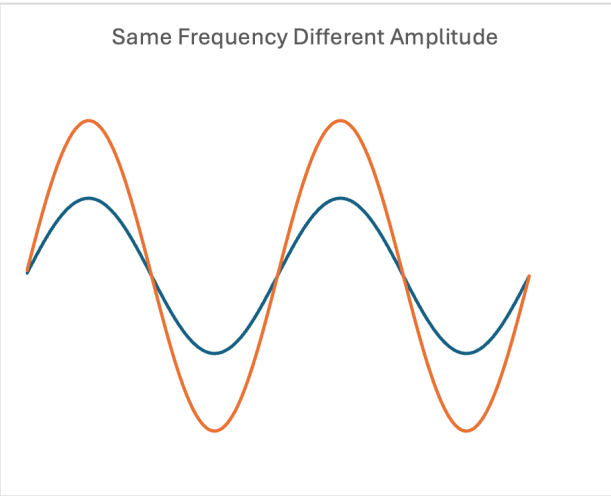


Figure 1 – Different Amplitude

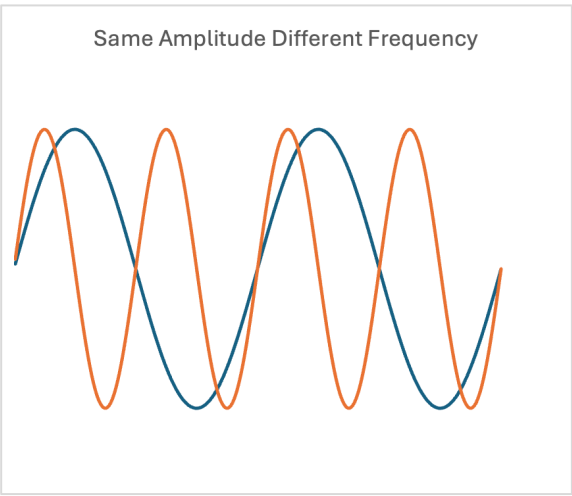


Figure 2 – Different Frequency

The image below (Figure 3) shows what happens to sound waves when they reach a barrier, such as a wall. Earlier, I mentioned that sound waves lose energy as they travel, but actually, that is not really the case. What is actually occurring is an energy balance. Newton's First Law of Thermodynamics tells us that energy cannot be created nor destroyed, that it can only be converted from one form to another. Take a look at the image in Figure 3 while I explain.

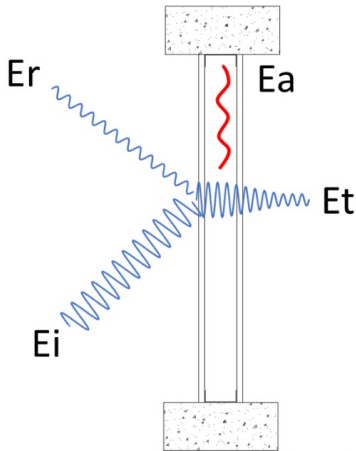


Figure 3 – Energy balance for sound waves impacting a wall

A sound wave with a known decibel level will travel freely in air with virtually no energy loss until it impacts something such as a sound barrier. The initial energy the wave has that impacts the barrier is called the Incident Energy, and is represented by the wave labeled Ei. Some of the wave energy will reflect off the wall and some energy will transfer through the wall. These energies are represented by the labels Er and Et respectfully. You will notice that the amplitude of the Et wave reduces as it penetrates through the wall, but we know from the 1st Law that energy cannot be created nor destroyed, so where does the energy go? That energy is spent causing the vibration of the materials, and that vibration causes friction to occur. We know instinctively, when we rub our hands together on a cold day, that friction produces heat. It is no different here. The energy loss due to friction is actually energy that is transformed into heat energy which dissipates into the air. In actuality, the incident energy (Ei) equals the sum of the Reflected Energy (Er) plus the Energy Transmitted (Et) plus the Energy absorbed or transformed into heat (Ea). The energy is balanced. Sir Isaac Newton was correct.

So why is all of this important? Because this is all part of knowing your enemy. If you know what causes your enemy to lose energy, you know what to concentrate on to defeat the enemy. Here is where firestopping emerges as a critical strategy for improving sound transmission loss. The first thing to realize is that where air freely travels from one compartment to the next, sound waves will also travel freely as there is nothing there to combat the sound wave and reduce the energy. Sealing against the free travel of air is the primary target on which to focus because it will have the greatest effect on the reduction of sound transmission, weakening the enemy. In proper firestopping, we install materials that effectively stop fire and smoke from moving from one compartment to another. From a sound transmission perspective, it is the smoke control that makes firestopping an excellent weapon used to defeat the enemy. So, if you have a fire-resistance-rated barrier that requires a firestop for joints and penetrations, look for systems that include low L ratings, as these will be the best choice, not only for smoke control but also for sound control.

Now for the big question, does a tree falling in the forest make a sound when nobody is there to hear it? Maybe you picked up on this earlier in the article, but a sound wave is just a sound wave until it is received by a listener and interpreted as noise. So as the tree falls and impacts the ground, it will produce a sound wave because the action of impacting the ground will create pressure pulses. Whether it produces a noise or not depends on the presence of someone there to interpret the sound.

To be continued.... Next topic, what firestop materials are the best sound performers. ■

2024 Company Event Photos!



Take Your Child to Work Day



Labor Day Bocce Ball Tournament Winners



Halloween Costume Parade



Thanksgiving Potluck



Christmas Luncheon /
White Elephant Gift Exchange

Merry Christmas
from  Specified Technologies Inc.

Upcoming Trade Shows

HISHE Life Safety Symposium
1/17/25, Honolulu, Hawaii

Facades+ San Francisco
1/23/25, San Francisco, California

Grainger Sales Meeting
1/29/25 - 1/30/25, Nashville, Tennessee

NEMRA Annual Conference
2/2/25 - 2/5/25, Orlando, Florida

BICSI Winter 2025 Conference
2/2/25 - 2/6/25, Kissimmee, Florida
Booth #523

BEC Conference 2025
3/2/25 - 3/4/25, Las Vegas, Nevada

ASHE PDC Summit
3/9/25 - 3/12/25, Atlanta, Georgia
Booth #815

Facades+ Washington DC
3/12/25, Washington, DC

MEET THE TEAM



Justin Mentuck
Product Manager

What is your role at Specified Technologies Inc. and how long have you been here?

I am a Product Manager, and I joined STI in September of 2024.

What is one bucket list item of yours?

I want to travel to Africa and take a safari tour.

What project have you worked on in your career that you are most proud to have been a part of?

So far, the main project I've been involved with hasn't launched yet. *(editor's note: but it will be an exciting launch!)* I'm proud to be part of a company that prioritizes serving its customers with well-designed, quality products and services rather than rushing to compete. It's inspiring to be part of an organization that values thoughtfulness and integrity in its offerings.

What is your favorite part about working in the firestop industry?

Working in the firestop industry is rewarding because it allows us to promote life safety across various environments—from hospitals and schools to factories and office buildings. Each setting has unique challenges, but they all benefit from effective firestopping. Knowing that our work protects people and critical infrastructure makes it meaningful and satisfying.

What is one fun fact about yourself?

I love anything that involves exploring, discovery, and adventure. Whether it's climbing untouched, snow-covered backcountry for snowboarding, going miles offshore to fish, or hiking deep into the woods to find a secluded campsite—it's all thrilling to me.

