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ASK A FORENSIC EXPERT

A Q&A WITH YASSER KORANY, DINU MATEI AND CHRIS PANASIEWICZ

Over the past month, we have been on the road, visiting cities across Canada for our National Training Tour. Along the way, we received a lot of very thoughtful questions. For all those who could not make it out to one of our seminars, we have taken the most popular ones and posed them to some of our experts. We've also asked them what question they get asked most often. Taking part in the discussion are Consulting Forensic Structural Engineer, Yasser Korany, Consulting Forensic Engineer, Dinu Matei, who specializes in metallurgical, materials and mechanical failure analysis, and Consulting Forensic Engineer, Chris Panasiewicz, who specializes in fire and explosions investigations and electrical engineering.

Before we get to the questions from the Tour, I'm curious, what are the most common questions you get from clients?

Dinu: One of them would have to be, is there any chance of subrogation on this file? To which I generally say, in 90-95% of cases, yes, there is an opportunity. However, a successful subrogation action depends on the individual circumstances of a file and assumes that the evidence is available and has not been altered. Also, background information, like the age of the appliance or component, time of installation and knowledge of previous problems is important for any investigation. In an appliance component failure, for example, we would perform our investigation, and based on our analysis of all the evidence, provide an opinion on the most probable cause of the failure. After discussing our findings with the client, they can decide whether they want to proceed with subrogation.



Yasser: As a forensic structural engineer, the most common question I receive would be, is the damage due to the reported cause?

Is that question specific to structural engineering? Can you give us an example?

Yasser: Yes, because in the structural engineering discipline, the cause of the damage often appears to be known. In a roof collapse from a few years ago, the reported damage was said to have been caused by snow loads. However, we were able to determine, through weather data from Environment Canada, that the amount of snow accumulation in the three months leading up to the event did not exceed – or even approach – the design snow loads. The root cause of the failure was the metal plate connections for the trusses which were not installed correctly. The snow was merely the trigger. That distinction saved the client over \$100,000 on the file.

If it's alright, I'm going to jump into some questions that we were asked on the Tour. This first one is actually two questions: How soon can you attend a scene? And, how soon can you send a report?

Chris: Those are actually the two question I get asked most often. Unless we're on another assignment, we typically attend a scene the same day we receive the request. The obvious exception is if the scene is closed, in which case we stay in close contact with the client to find out when we can gain access. As you know, timing is crucial. The longer the scene stays unexamined, the harder it is to conduct a successful examination.



We also know how important it is for our clients to get even preliminary information from us. We try to prepare a formal preliminary report within 24 to 48 hours of completing the scene investigation. And in most cases, we call the client right after we complete the examination, or we send an email with a summary of our findings.

Chris, I think you're probably the best person to answer this one as well: What is the biggest mistake insurers or adjusters make at the onset of a fire loss?

Chris: Well, as I said, the longer a scene goes unexamined, the harder it is for us to investigate. So, one mistake would be not calling a fire investigator right away. Another is not securing the scene. Not too long ago, I arrived at the scene of a burnt house and the owner was carrying some belongings out to his truck.

Under no circumstances should the scene be disturbed prior to an examination by a fire investigator. It may create a situation where we aren't able to find the cause or ignition source because it's been removed by another person.

Thanks, Chris. Here's another two-part question for someone: Can you estimate the cost of a forensic investigation? And can you stay within budget?

Dinu: In short, the answer is yes. There are some variables that we need to take into account when we provide an estimate: Travel time, mileage, time spent on site and, if needed, in the laboratory gathering and analyzing data, and finally, writing the report. Also, very importantly, if there are any other parties involved, as dealings with other parties usually incur additional costs.

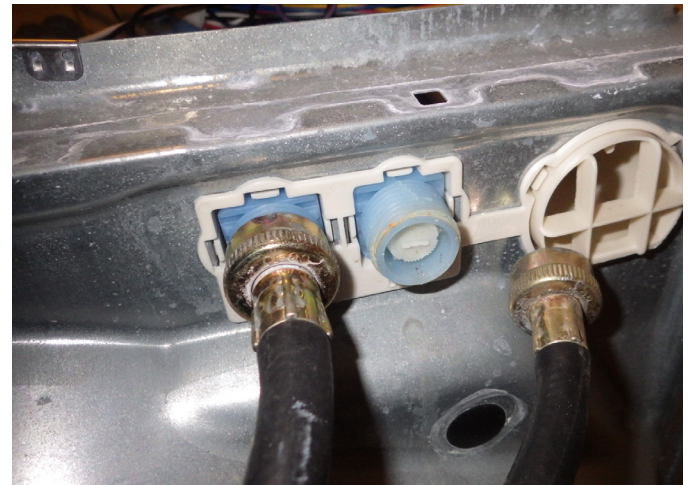
In terms of staying within budget, sometimes it is not possible, mostly for reasons independent of our control. However, if we find ourselves running out of resources, we contact the client, inform them of the evolution of the investigation and the cost, and discuss the best course of action.

Great. Dinu, you touched on subrogation earlier, so maybe you can field this question: What should adjusters do to protect the evidence if they feel there is a chance for subrogation?

Dinu: That's an excellent question. Unfortunately, there is no simple answer as it varies from case to case. However, my first piece of advice is document, document, document. Document the evidence from all angles, including the surrounding components and their relationship. For example, how they were connected; the distance between them; and what was in the background. When you have an appliance, also document the manufacturing label. It contains significant information such as model number, serial number, and other codes that can help us determine the manufacturing date. Most importantly, do not let anybody tamper with the evidence. Preserve it in as-found condition.

I'll give an example to underline the importance of preserving the evidence. In one case involving a dishwasher, we were told that water leaked from the dishwasher itself. Luckily, when the dishwasher was sent to us, they included the water supply line. Functionality testing showed that the water discharged from the water supply line and not from the appliance. If the appliance had been shipped to us without the water supply line, we would not have been able to provide an opinion.

One last point on subrogation – and I'll continue using another water loss as an example – it's important not to let the plumber who did the installation do the repair.



That's a really good point, and that would apply to any kind of contractor, technician, or tradesman.

Dinu: Exactly. It's basically a conflict of interest. In the event of a roof collapse, you wouldn't hire the original builder to do the repair.

On that note, here's our next question: When are building permits required?

Yasser: This depends on the jurisdiction. From my experience, different provinces have different policies and requirements. I can't cover all of them here but I'll talk about Ontario and Alberta.

In Ontario, any repair work would require a permit. Not only a building permit but also a demolition permit. The only exception that I can think of right now is a backyard deck. If it's less than 2 feet in height and not covered, you don't need a permit to build it or repair it.

There are also requirements that have to do with the size and dollar value of the repair work. In my experience, in Alberta, minor repairs don't require a permit. Minor being defined as less than 9 square meters. However, different jurisdictions place a different dollar value on what they consider a minor repair. Anything other than that would require a building permit. Your safest course of action is to contact the building department to see whether a permit is required on a particular file, something even I still have to do on occasion despite years of practice and experience.

I know you guys are all very busy, so I don't want to take up any more of your time. Thank you for sitting down and helping shed some light on these questions.

YASSER KORANY, Ph.D., P.Eng., LEED® AP STRUCTURAL ENGINEER

Yasser specializes in structural forensic investigation and has performed more than 400 investigations to date. Throughout his career, Yasser has applied his unique combination of laboratory and field experience to identify the cause of structural distress and failures for institutional and commercial facilities, residential buildings and parking garages. His engineering practice spans more than 25 years, and he is a licensed professional engineer in Ontario, Alberta and the State of Michigan. An expert on green building, Yasser is a LEED® Accredited Professional. Prior to joining Origin and Cause, Yasser taught structural analysis and design courses at the University of Alberta as an associate professor, and provided forensic engineering consultancy services in Alberta.

DINU MATEI, M.Sc., P.Eng. CONSULTING FORENSIC ENGINEER

Dinu is a licensed professional engineer and designated consulting engineer, specializing in metallurgical, materials and mechanical failure analysis. With more than 20 years of industry experience, Dinu has been involved in over 1,000 failure investigations of various metallic and non-metallic components, 23 projects leading to the development of new materials and processes, and is a qualified expert witness in Manitoba civil court.

CHRIS K. PANASIEWICZ, M.Sc., P.Eng., CFEI CONSULTING FORENSIC ENGINEER

Specializing in fire and explosions investigations and electrical engineering, Chris is qualified as an expert witness in the Ontario Superior Court of Justice and has investigated over 1000 forensic incidents to date. In addition to over 10 years of fire and explosions experience, Chris has over 20 years' experience working as an electrical engineer in the field of high and low voltage motors, generators, transformers and electrical equipment failure mode investigations and analysis, including electrical components design, repair and testing methods.



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