



TWV Podcast #056

Efficient Water Pipe Repairs with Krausz USA President Tom Gwynn

Show Notes at <http://thewatervalues.com/pod56>

Intro: Hello and welcome to another session of The Water Values Podcast! As my son Joey said, I'm Dave McGimpsey. Thanks for joining me.

We had a great Spring Break. Went to Arizona. Caught a Mariners spring training game, went for a horseback ride in the Tonto National Forest on which we saw two rattlesnakes, a jackrabbit, and a number of birds and lizards. Our guide even got us an up-close picture of one of the rattlesnakes shaking its rattle. We also went on several hikes in the Sonoran Desert Preserve and the Sedona area. It was great just being with the family on vacation. For those of you who've been on spring break, or any vacation for that matter, hope you had as nice a time as we did on ours.

On today's show, we welcome Tom Gwynn, the President of Krausz USA. He'll talk with us about the state of U.S. infrastructure, how pipe repairs are made and how Krausz's products can help extend the life of our infrastructure.

With that said, let's get on with it. Open the valves, fasten your seatbelts and here we go.

Dave: Well, Tom, thanks very much for taking some of your valuable time to spend with us today on The Water Values Podcast. To start off, could you tell us a little bit about your background and how you got interested in water?

Tom: You know, it's been so long ago that I got involved in water, I'm not sure I remember how that happened. I've worked for a number of different water industry companies over the years. Most of my background is in water metering. Worked for a couple of different water metering companies on a couple of different continents, and I ran a water meter manufacturing company in the United Kingdom in part of my career. But, I'm open to new adventures. The idea of helping, I know how a company makes a decision on water meters and how they need to be installed, but it has become clear to me that there is a need for good products to repair water infrastructure distribution systems. And frankly, I chose to take my career into a different direction, and I'm enjoying every minute of it.

Dave: That's good. So tell us a little bit about what company you're with now.

Tom: The name of the company is Krausz USA. Krausz USA is wholly-owned by Krausz Industries of Tel Aviv, Israel. So, the original technology was not US technology. I'll just say that right at the beginning, and I'm not bashful about that. There's some really creative folks in Tel Aviv that created some new technology that came to this country perhaps twelve years ago.



And they have made such a large splash that their repair products are installed in millions, over a million locations, I don't think it's quite two million yet but over one million locations across the United States because their technology is just that different and that innovative. And I just couldn't resist getting involved with it.

Dave: Ok. So the product we're talking about here is for pipe repair in the distribution system. Let's back up for just a second and talk about the state of US infrastructure. I've had guests on previously, specifically Marshall Davert of MHW Global, where I asked him about the state of US water infrastructure and his thought was the treatment plants, by and large, are in pretty good shape. Obviously, there are going to be some examples where there are treatment plants in disrepair. The big problem is out there in the distribution and collection systems. And so I'm kind of curious, you've obviously been around the industry in the water meter side and now in the pipe repair side, what's your take on the state of water infrastructure in the United States?

Tom: Well, I don't know very people who have the background to view the entire industry, but the resource that I have found real interesting on this subject is the American Society of Civil Engineers. They produce what they call their Infrastructure Report once every four years. The last one they produced was in late 2013, so it's not very old. And they rate not just the water industry but the transportation and everything from airports to rail lines and so forth. They gave the water industry, and they rate all of these infrastructures on a scale from A to F like the simple school grading system. At the end of 2013, they graded the US water industry with a D+, D as in dog, D+. And they said that was an improvement from four years before. As far as the water distribution side goes, they gave that a flat D, again D as in dog, and they said that was an improvement from four years ago.

So what that tells me is that we have an industry that has some very definite challenges. And I want to add here, very quickly, this isn't an indictment about that we've done things wrong in this country. This is just a notification that things are getting old. And I think everybody knows that in our industry so that statement shouldn't shock anybody.

There was one AWWA study for example, that said that if you look at all the pipes in the ground in this country, since the Civil War or let's just say, just before the beginning of the twentieth century, that the technologies installed have different lives. If you look at when the end of that life is going to occur for each of these different types of pipes, they're all in the early twenty-first century. Which means we're living in an age, right now, when a lot of our infrastructure is going to approach it's rated life. Some of it is even past it. And I'll just add one more comment here, even the American Society of Civil Engineers in their report, by the way, that's called The Report Card for America's Infrastructure, have warned us that the frequency of water main failures is going to increase rather than decrease in the immediate future.

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Dave: Right. And as we record this, we're in the tail-end of winter here. But it seems to have been a bad winter in terms of the freeze-thaw cycle. And we see that manifesting itself in terms of the age of the water distribution systems with all the main breaks we've had.

Tom: Sure.

Dave: It seems you can't pick up a paper without seeing that there's a main break somewhere in the system. Well, I think that really explains, at least it provides, some background, I think, as to why you chose to get involved with the company you're with now because of the age of the infrastructure and continuing breaks. Why don't you tell us a little about what you see as the opportunity here to help with all these main breaks that are occurring? What does Krausz USA do?

Tom: Well, first and foremost, there's one source that indicates, based on past experience as well as their projections for the future, that it's not unusual for the United States to have over two hundred-forty thousand water main breaks each year in the US. That's two hundred-forty thousand. You know, it won't be long before that's a quarter of a million. So you ask about the opportunity for Krausz, there it is. If you look at the watermainbreakclock, that's a website, I think and this changes, but the last time I looked at it, they said, there's eight hundred-fifty water main breaks everyday in this country. Now, I haven't done the math to figure out if that equals two hundred-forty thousand because that's two different sources. So Krausz has operated under a very expressed mission. To them, their goal is very clear. And that is to make the repair of these water main failures as easy and fast and safe as possible.

Now, that sounds like a bit of a panacea I suppose. Everybody wants to do that. But Krausz more than anybody else, has a track record of having been able to accomplish that. About twelve years ago, for example, the common way of repairing a pipe break was with a compression style coupling, still sold by virtually everybody today. A compression style coupling, requiring lots of bolts, a lot of time to tighten each of the bolts correctly. And Krausz came to market with, and they created this, there's a couple of, and I'm going to be controversial here, there's a couple of copies out there now, but Krausz was the first to come to market with a patented product that allows you to repair a pipe break by tightening two bolts. Sounds like a little thing but when you're down in the ditch, standing to your knees in mud and it's twenty degrees outside and all you have to do is tighten two bolts, that makes a big difference. Krausz is very proud of the fact that they can repair a break faster and safer because you're in the ditch for a much shorter period of time, that's where the injuries occur, than anybody else in the industry.

Dave: Ok. And so, tell us a little bit about what exactly does this product look like. You've indicated there's only two bolts, so how does this product actually work? I'm just trying to wrap my head around how someone would go about repairing a main break.

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Tom: Very tough to describe without a picture, but I'll do my best. The current technology has lateral bolts that are running parallel to the pipe, a whole series of them all the way around the pipe. And as you tighten these, it compresses a rubber gasket. It actually compresses it against the pipes to seal it. In Krausz's technology, they use a patented gasket that is tightened circumferentially, if that's a word, radially around the pipe so it's squeezing the gasket with, if you will, a circular band. And you can clamp with literally one bolt on each side of the coupling that way.

But there's also one other piece of magic that I cannot resist mentioning in this conversation and that is that this gasket is also what we call hydraulically assisted which means that it fills with water and as you pressurize the pipe, it actually inflates the gasket and the higher the water pressure inside the pipe, the higher the sealing force is around that pipe. So in a case where you get water hammer or higher pressures, those unusual places that have 180 psi or above, which isn't typical, you don't have to worry about the pipe leaking because it's actually increasing its sealing forces when that happens.

Dave: How big is it? What kind of length are we talking? In terms of when a main ruptures or when a main breaks, you kind of alluded to it, you'll dig the little trench and you'll be knee deep in mud while you're trying to get this thing fixed. But I'd like to hear a little more about what the process is when a main actually breaks.

Tom: Well, ok. Keep in mind that Krausz provides the products to repair that break, but everybody has their own magic when it comes to repairing a broken pipe. But in general, the first thing you have to do is dig it up. You have to expose the place where the pipe failed, and there's no quick way around that. Everybody, it doesn't matter whose repair products you use, you have to do it the same way.

Then, depending on how the pipe is broken, let's just divide it into three simple categories. Either it is cracked laterally down the pipe, or it has blown a hole in the pipe, or the pipe is completely broken like a shear break. Each of those repairs can be done with a single product, but if you're willing to use multiple products, there's ways to repair each of those three that may be quicker than others.

Let's take the most common is you cut the damaged portion of the pipe out. That length might be two feet or it might be ten feet. It's whatever the people doing the repairs want to do. Then they insert a new piece of pipe. It might be a ductile iron pipe in the ground and you want to insert a piece of PVC in between the two. By the way, I'm mentioning that because that's another place where our product performs better than everybody else. But you insert a piece of repair pipe and you put a coupling at each end to join that pipe to the original pipe that's in the ground. Once that's done, you cover it over and you go home. There's the big difference. Are you able to go down into the trench, make the repair and climb out minutes later or hours later. And I can

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promise you that if you talk to the guys in the ditch, they want to spend as little time down there as possible.

Dave: Right. I've been around utilities where there's been injuries like that and a pall just comes over the room when there's been an accident in the trench. And so that's very good to understand the process the utility, or what they're seeing down there. They're going to cut a section of the pipe out and replace it. Then they use, I would assume, two of the coupling that you're talking about, one on each area.

Tom: Yes. In this example, yes that's exactly right.

Dave: What are some of the other, I assume you have, I've been on the website and I know you have more than one product. It seemed there were three main lines of product. So, could you identify what those three lines are and then indicate what situations each type of product would be deployed in?

Tom: Sure. Well, the name that I think is recognized nationwide, and I'm sure there are because this country has fifty thousand, more or less, water purveyors across the country, nobody knows, I can't expect that everybody's heard our name. Our name is very common and very recognized under the Hymax brand. Hymax is the coupling that I was just describing, but there are two other products that have some of the same advantages. One of them is a product called Versa, which is short for versatile. It's also a coupling. It is stainless steel rather than ductile iron. It avoids inevitable corrosion for a longer period of time. It's completely rubber-lined so it can be used in lots and lots of applications, even in corrosive environments or sewerage applications.

And the thing that makes the difference, it's the only coupling in the industry that can also be split like a clamp and wrapped around a crack or a hole which are the other two failure modes I just mentioned. Now you can repair the problem with one device without cutting the pipe. Now that's huge. I don't know that I've talked to anybody who does repairs that if I said, "If I showed you a way to fix this without having to cut the pipe permanently, not temporarily, but permanently, would that have value?" The answer is always "huge", always "huge". If you allow me to I'll give you one more example.

Dave: Love to hear it.

Tom: You know, there are places in this country where a lot of "AC", asbestos cement, pipe were used. In Texas, for example, is one of those but there are lots of others. Today, if you have a water main break, if you have to cut the AC pipe, it becomes a hazardous material site. Now all of a sudden the repair of that pipe has become a huge problem because now you have paperwork. You have samples that have to be bagged. Things have to be submitted to EPA and so forth. And

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the repair of that is an absolute headache. Having this stainless steel coupling that you can just wrap around an AC pipe, now you haven't had to cut the pipe and all that hazardous material problem goes away. So having a coupling that can also be wrapped when you want it to be, by the way, the two terms are, it's either a stab-on device or it's a wrap device. What I'm talking about here is a product that will do either one.

Now, many listening to this podcast might say, "Sounds to me like a clamp." It's really not a traditional clamp because it still has the hydraulically assisted gasket and it still operates just like a coupling. And one of the other things that are patented, by the way, Krausz has one hundred-fifty patents on repair devices, one of the things that also makes us different, and I think unique, is that we warranty our products against dynamic movement of the pipe. The pipe doesn't have to aligned when you put it on, that's true of everybody. But once you cover it up with dirt and the ground moves again and the pipe now dynamically flexes, will it start to leak? With our product, we warranty that it will not. That also makes us different, and that's also true of this stainless steel coupling. So as you can see, we're not just another repair device in town.

Dave: Got it. So, I've heard the two different types of couplings, the Versa and the previous one you just discussed. What's the third product line?

Tom: Yeah. The two were Versa and Hymax. The third one is a product called EasyMax. Of course, it rhymes with Hymax. EasyMax is a clamp, which means you clamp it around the pipe. And in a lot of ways, it's like everybody else's clamp. But like everything Krausz makes, we do not believe in making commodity products. And the EasyMax is no different because the EasyMax will accommodate a diameter range twice as large as anybody else's. Meaning that you have pipes, you have, depending on the material and the manufacturer of the pipe, has different outside diameters. And it's not unusual, for example, to stock a product, three different six inch products, depending on what kind of six inch pipe you have in the ground and then you have to be sure and use the right one on the application at hand. The products that we manufacture are wider in range. That's a general statement, not true in all sizes. But as a general statement, we offer wider ranges, which allows a water utility to stock less product. Now forget about the engineering advantages, now we're talking about the financial advantage of less working capital, and the city has to keep less of its money sitting in products that are setting on a shelf.

Dave: Got it. You've said a couple of interesting things there. First is the diameter range. I think most of the audience understands the typical diameters for a water pipe, but just in case they don't, what are the typical diameters for a water pipe and of the diameters, that you're seeing in these pipes, does Krausz manufacture products that can essentially fix all of them?

Tom: The short answer is yes. Next question...No, but I think your probably asking me to mention some sizes for you?

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Dave: Exactly. You know, eight inch main, sixteen, twenty-four. Those are the most common ones I've been around up to thirty-six. I've even seen some forty-eights but are those the..so you manufacture products that can fix a forty-eight inch water main?

Tom: Absolutely. We start at 1 1/2 inch.

Dave: So, that would be like a service lateral?

Tom: Yeah. But there are also 1 1/2 inch water mains. And we stock, that means, I'm gonna give you the punch line here, and then I'll finish the statement. That means that in 2014 over 99% of the products ordered from us shipped within twenty-four hours. We keep these products on the shelf so that when somebody asks for it, they get them immediately. We stock from 1 1/2 inch through forty-eight inches. We also build couplings through sixty inches, and we even have a few, that's five foot, by the way, we even have a few five foot diameter couplings in stock right now. So there's certain sizes we like to tell people are guaranteed to be available, immediately, if they need them, and we also stock larger sizes.

Dave: Ok. And then, the other thing that comes to mind here is in terms of, you mentioned the warranty earlier and that just got me thinking, what's the length of the warranty? How are these solutions perceived by the utilities? I'd like your guess as to that. Are they looked at like a band-aid or are they a long-term solution? Just a band-aid until they can get the main actually replaced? Because as we talked about earlier, some of this infrastructure is, it's reached the end of its useful life. And so, do you think your customers are seeing this as a band-aid or is it really and truly a long-term solution that's going to make that pipe last another twenty years of something like that?

Tom: Well, if it is a coupling, people consider it permanent. Doesn't matter who you buy it from, if it's a coupling, it's permanent. If it's a clamp, it depends on who you talk to. Because of the nature of the clamp, and it also depends on part of the country based on my experience so far, some organizations consider the clamps they use to be permanent. And others call them temporary, but at the same time, they hope that they last as long as the pipe will. But there are definitely water end users or water purveyors out there that are out repairing pipes where they have to take a clamp that they put on years ago, and remove it and put another one on. Because the clamps, and if you go to the websites of all the people providing clamps, I have found, so far, no one that calls them permanent. But they certainly want customers to believe that they are. I personally do not believe clamps are permanent. Couplings are permanent.

Dave: Terrific. Tom, you've been absolutely fantastic walking us through all the issues surrounding these pipe repairs and the abilities of the products that Krausz USA manufactures. For those folks who want to find out more about Krausz USA, where can they go to find that information out?

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Tom: I'll be glad to leave that with you. Have we got the time for me to leave one more comment?

Dave: Oh, certainly.

Tom: I would like to end this on as positive note as possible. Talking about all the pipes that are breaking, of course, is more scary than it is optimistic, but I really believe that in order to make the infrastructure that we have last as long as possible, part of using the Krausz products means that when you repair a pipe it now allows the pipe to continue to move and flex in the ground and it will not re-break, almost unique to us, almost. But when you put a static wrap on a pipe, that has no flexibility and that pipe moves again, something has to give somewhere. It's not in the clamp, it will be a little further down the pipe. And I really believe that by installing Krausz products and allowing that pipe to behave in a more dynamic environment, that you extend the life of the pipe that's in there and perhaps even reduce the number of future breaks. To me that is a huge advantage.

Right now there's over a million miles of pipe installed underground in the United States in water mains only. And out of that million miles of pipe, we are replacing, very round number here, five to seven thousand miles a year. Do the math. You're not going to replace a million miles of pipe overnight. So we really need to be looking at how do we make what we have last longer? That is what Krausz is about.

Our website is Krauszusa.com. They can find us there and look at all the good stuff we make. And I will mention that our belief is that the day of the restraint type coupling has arrived. Not only do you attach two pieces of pipe together, but you attach yourself to the pipe so that it can't pull out, can't slip and it stays put. I mentioned Hymax a moment ago. Anybody who has been impressed by these comments needs also to look at Hymax grip because it also grips the pipe.

Dave: Got it. Well, Tom, thanks again and for those of you who are driving or running or something like that, we'll make sure that the website finds its way into the Show Notes. So just go into thewatervalues.com and you can find all the information there, all the links and things like that that Tom mentioned earlier. Tom, again, thanks so much for your time, really appreciate it and we'll talk to you soon.

Tom: It's been my pleasure.

Dave: Thanks, Tom.

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Dave: Hope you liked that interview with Tom Gwynn, President of Krausz USA.

Just a couple quick takeaways this week. First, is that by only replacing 5,000 to 7,000 miles of pipe in water distribution systems out of 1 million miles in the ground, the rate of main breaks is sure to increase. That means more water for which time and money has been spent to treat it will leak away and more homes and business will have interrupted water supplies. From the sewer collection system standpoint, that means more sewage leaking into the ground and possibly creating environmental problems. Products like those Krausz offers provide a solution to extend the life of our distribution and collection system infrastructure.

The other takeaway is safety. I thought it was very significant that the Hymax product Tom described installs so quickly with only the two bolts. As I indicated during the interview, I've been around utilities where there have been trench accidents, and that's a terrible tragedy. Getting the crew in and out of the trench as quickly as possible is a tremendous safety advantage, and I'm all for that.

You can check the Show Notes out for this session at <http://thewatervalues.com/pod56>. Leave a comment on the Show Notes or email me at david@thewatervalues.com. You can also tweet at me @DTM1993, and you can tweet about the podcast using #WaterValues. And don't forget to rate and please review the podcast on iTunes, Stitcher, TuneIn and other podcast directories. And please don't forget to tell your friends and colleagues about the podcast, to sign up for The Water Values Newsletter, and to take the listener survey, which can be done at <http://thewatervalues.com>.

In closing, please remember to keep the core message of The Water Values Podcast in mind as you go about your daily business. Water is our most valuable resource. So please join me by going out into the world and acting like it.

Outro: You've been listening to The Water Values Podcast. Thank you for spending some of your day with my dad and me.

Dave: Thank you for tuning in to the disclaimer. I'm a lawyer licensed in Colorado and Indiana. And nothing in this podcast should be taken as providing legal advice or as establishing an attorney-client relationship with you or with anyone else. Additionally, nothing in this podcast should be considered a solicitation for professional employment. I'm just a lawyer that finds water issues interesting and that believes greater public education is needed about water issues. And that includes enhancing my own education about water issues because no one knows everything about water.

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