

THE NEXT GENERATION OF LIQUID APPLIED ROOFING

TREMCO INTRODUCES ALPHAGRADE™



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Heidi E.:

Hello. And welcome to another lunch and learn from Roofers Coffee Shop. My name is Heidi Ellsworth. And this lunch and learn series is all about you. All the roofing companies that are out there, all of you watching right now, we want to bring great information to you that's educational and that you can incorporate into your daily work within the roofing industry. Here is what we are going to be talking about, the next generation of liquid applied roofing. I have been able to tour and visit Tremco several times. And I am always amazed at the innovation of this company and of the product managers and what they bring to the table and how they are really changing the face of roofing. And what we are going to talk about today, this new product AlphaGrade is really going to show you the incredible innovation. The learning objectives today for everyone out there is going to be restoration of gravel roofs, self-leveling liquid applied system, and we are going to talk about AlphaGrade, and the importance of innovation. Let's get started.

Josh Poole:

My name is Josh Poole. I'm a product manager for our liquid applied product line here at Tremco Roofing. I have spent time with Tremco as well as with Republic Powdered Metals, who is a sister company, for a number of years. My time within the industry has been solely with those two companies. And I'm about 16 and a half years in now. I didn't think I would be here when I started, but I think that's the case for a lot of people in the industry. They find a home. I live in Ohio. And I have a family here with two young daughters. I'm hoping they don't crash the party here today.

Heidi E.:

Well, if they do, it's okay. It's Roofers Coffee Shop. We invite everybody. This is a community. Josh, there are some challenges around the restoration of gravel roofs. I've worked a number of them and I know how hard it is. Can you talk about what those challenges are for contractors out there today?

Josh Poole:

Sure. Absolutely. And you're 100% correct. It's unlike any other substrate really within the industry. I think it really starts with the ability to clean the roof. It's not like your traditional substrate or a standard pressure wash or a power wash. Usually, it will do the trick. In this case, obviously you have the gravel or aggregate aspect there where you would need to remove the loose gravel. Hydro vac or some type of wet vac is your standard method for cleaning these roofs. They also, because of that aggregate, tend to be a lot more dirtier than, say, your standard membrane.

Along with that aggregate, you also have a surface that retains moisture. Moisture issues and trying to monitor moisture can come into play as well. Typically, these gravel roofs are, we say low slope roofing. These are very low slope roofing. And in a lot of cases, especially with pitched roofs, they are designed to have no slope. Right? Getting proper drainage is something that can come into play as well. As far as the application, a unique challenge, especially so for liquid applied products, is that you have a very uneven surface profile. Even taking off the loose gravel leaves you with a profiled roof that you are going to have a lot of peaks and valleys and a lot of contour to that. And then on top of that, your standard challenges with roofs where you have overall poor conditions, neglect sometimes, all that just factored in and has to be taken a look at on a front end of a project.

Heidi E.:

And the restoration of those gravel roofs, it is so important because it doesn't always have to be torn off. And that saves the environment and time and everything else. But what have contractors traditionally done with gravel roofs?

Josh Poole:

Your standard options are going to be one of three. One would be a tear off and replacement with a new roofing system. Also, if you have just a single gravel surface built-up roof on, you can look at retrofit options where you'd then install a cover board, possibly additional insulation if you need to bring up R-value, things like that. And then some type of a system over the top, whether it's a single ply or multiply system over that. Or you have restoration options, like you said.

From the replacement and retrofit side of things, you have a new roofing system. But with that comes certain obligations or factors that then start to come into play. You have disruption to the facility. It's a lot more disruptive than your standard restoration. You have higher life cycle cost over the course of that time. Limits your future roofing options as well, where at the end of the service life of that roof, you are then limited to tear off or possibly restoring if you are still in a condition where you can do that. You could add weight in the case of retrofit to the existing building structure. There's a lot of things. And you mentioned a landfill. Alterations may need to be made to raise flashing heights, promote more drainage, things like that. There is a lot of things that then come into play with those types of options.

From a restoration standpoint, really I always ask people if they've seen the movie Shawshank Redemption. Do you remember the scene where Andy and his buddies get to go up and get to do the roofing project at the prison there?

Heidi E.:

Yes.

Josh Poole:

That's actually them doing a reset on an old built-up roof system. And to be honest, the restoration options for these products or these types of roofs haven't really changed a whole lot since then. There have been some things here or there over the course of the years, but really you are looking at flood and then reapplication of gravel or some type of aggregate. Typically, these products, a lot of them are either asphalt-based emulsions or you have resets that have gone by the wayside, but there's still a few out there. But at the end of the day, those options don't eliminate the gravel. They have limited performance life. They are not really a long-term solution that can then be added onto and potentially maintained and extended beyond that.

There was a need for some type of a long-term restoration option for these gravel surface built-up roofs. They are a very good roof system. But like any roof system, at the end of the day, it gets to a point where something needs to be done to continue on the performance that you need there. We needed to try to target something that can offer a long-term performance life, and then also offer future options for restoring re-coat options that you can then maintain and continue to extend that application further out. We looked at a lot of different technologies. And ultimately, we set our goals on developing a high performing urethane option. We have a three coat system with our AlphaGrade that consists of an AlphaGrade leveling coat, a base coat and a top coat option after that. And really the three step system is

in line with the redundant roofing aspect of the built-up roofing that we are applying this to. Multiple layers of waterproofing that offer you added performance over time.

The other goal that we wanted to achieve was the ability to lock in the gravel. Loose gravel on aggregate can become an issue as far as becoming wind-borne and potentially cause problems, especially along coastal areas. Gravel surface roofs are still in those areas, although they are being phased out. But this offers an option that they can go in and be able to restore that and eliminate that as a potential issue. And along with that, something that would offer all of our restoration benefits of maximizing the service life of the existing roof, lowering life cycle cost, offering sustainable options that are sustainable in the actual formulation and design of the product.

Heidi E.:

That is the future. Building owners are asking for it. They are really looking for these solutions that help to maintain and extend the life of the roof. And I just think it's so important. One of the big parts obviously of this is that first level which is self-leveling. Can you talk to us a little bit about the importance of this self-leveling aspect as you are restoring these roofs?

Josh Poole:

Absolutely. You have an uneven profile where you have some aggregate or gravel that's left embedded, some that's been removed. In some cases, you have areas of almost a smooth surface. In other areas, you have embedded gravel that could have peaks upwards of even a half an inch at times or more. We really wanted to have a product or develop a product that would allow the waterproofing to seep into all of the nooks and crannies of that uneven profile. I hope Thomas English Muffins doesn't get upset that I used their nooks and crannies line. But you really need to have a consistent and uniform application of that waterproofing layer, and also allows you to lock in that embedded gravel.

Heidi E.:

When you think about all the different levels that's going to go and the curing and everything, I mean, that's pretty amazing. For those out there who may be wondering where did the gravel go? Why are there some smooth areas and there is some gravel in there? Can you talk a little bit about the prep of the roof before the leveling base goes on?

Josh Poole:

Absolutely. Let's start at how these gravel surface built-up roofs are installed. You have your three or four multiply system that's installed with an inter-ply adhesive or hot asphalt, something along those lines. It's an asphalt-based product or system. You can't just leave it exposed. At that point, you can either coat it with a reflective coating that would protect that. Or you can then install flood coat and gravel layer. And that gravel provides the UV protection, environmental protection for the underlying asphalt. However, over time, you start to lose mill build of that leveling coat, you start to just wither that surface away. And with that, the embedment of the gravel then becomes lost as well. As you are losing the flood coat, you are losing the embedment of that gravel and you start to have areas of loose gravel. The preparation, by doing a wet vac, you are not only cleaning the surface, but you are also removing any of that unembedded or loose gravel from the substrate.

Heidi E.:

Once the wet vac or the vacuum cleans the roof, then that's when the base level comes in. Talk a little bit about the technology behind all three coats. Right? You're leveling your base, your top coat. There is some special technology I know behind that and really how Tremco has developed their coatings that are just pretty spectacular. I'd love for you to share some of that.

Josh Poole:

Absolutely. All three of these products are based on a two component bio-based polyurethane technology, a type of technology that we have used in other product lines within Tremco. Obviously this is a unique situation, a unique application and substrate. The two component aspect of that product is going to allow for a more reliable. And in the case, especially so of the leveling coat, a faster cure. When you are applying a product at very heavy application rates that the curing process and time becomes a major factor with the elements and application obviously. And also having something that's going to be a reliable cure as well, that may not have solvent entrapment and things along those lines is going to come into play. That was a key feature that was needed probably more so on the application side of things.

These products are 100% solids. Whatever you apply wet, you are going to get that same thickness or mill build in dry waterproofing. You are not losing anything due to evaporation during the curing process. The products are also virtually odorless. It's a very huge feature for accounts and building facilities where you can't shut down operations. Right? Hospitals, operating rooms, occupied facilities, manufacturing, where they run 24/7 and cannot shut down operations, things like that. Schools typically have events happening even year-round these days. It's really ideal for those types of accounts, where that becomes a very important feature during the application process. And then the sustainable features of these products are really unique, I think. The bio-based technology offers a rapidly renewable type of product where we aren't relying on petroleum-based products that are mined from the ground or minerals that are mined from the ground. We are using plant-based technology to develop these products that can be planted and harvested every year.

And the coverage rate is going to have a bit of a range there for this system. But for our average types of coverage rates, you are looking at about a 55% bio content for the entire system. And that carries through all the components. It's a very high content. When you look at the USDA BioPreferred Program for roof coating or this type of product would require a 20% level to achieve their certification. We're more than double that, which is I think a huge undertaking and achievement here.

Another sustainable feature is that the leveling coat itself has a post-consumer crumb rubber. There is a recycle content of about 30%. And then like many of our other liquid applied products, we offer a highly reflective white top coat that's going to help with energy usage and cool down rooftop temperatures. And the reflectivity on that is going to be in the mid 80s and an SRI value of about 105 to 106. It's pretty good numbers on the reflectivity front.

Heidi E.:

And that can be maintained and cleaned and re-coated years down the road. And so you now have this extended life of a roof just that is incredible.

Josh Poole:

Our innovation process begins at the customer and contractor level. Our company has always been problem solvers. We really look to drive our new product initiatives, our services initiatives at how can we develop product that's going to make life easier and better for the customer, for the contractor that's installing our products?

Heidi E.:

I would love to hear a little bit of the feedback you are hearing from customers, especially around the innovation and the sustainability. I think it's incredibly important to our customers, our building owners, like you said, hospitals and schools. But what are you hearing?

Josh Poole:

I would 100% agree. In my time, I've seen at least one or two waves of sustainability come through the industry. And in the past, it seemed like there would be a huge groundswell or interest in sustainable options and driving that. And then a few years later, it settled down and went back to more traditional methods. But here, recently, I think it really seems to be something that's taking hold. And I think not only building owners are asking for it or calling for it, but other people within the industry, whether it's manufacturers, the design community. There is a lot of demand for sustainable options, options that are going to be responsible for all of us environmentally moving forward. Not just at the install, not just after it, but in years moving forward, how can you do this the right way and maintain and reduce landfill, do all those good things for a long-term period?

Heidi E.:

Sure. And it needs to happen. It needs to happen for our environment. But I think also as we look forward to the millennial generation that is coming up, they are demanding it. As you see more purchasing agents, more leadership in these businesses, for contractors out there, for all these companies, as we're thinking about this, these are the type of innovations you need to be talking about to your customer base.

Josh Poole:

Absolutely. I would 100% agree. It's gone from we would like this to we need this. Right?

Heidi E.:

Right.

Josh Poole:

Absolutely.

Heidi E.:

And it's not too far down the road, we demand this. Right?

Josh Poole:

Yes.

Heidi E.:

And you guys are already there. You are ahead of it. And I think as we talk about why this is important to the roofing industry overall too, is that it really puts us into a place of respect within our customer base. And the innovations that you and your team and all of Tremco and CPG are bringing to the forefront, I feel raises the respect level and the professionalism of the industry.

Josh Poole:

Well, thank you. I think absolutely. We set our goals on being trendsetters and trying to lead. I'm hoping that we are doing that and what we are doing day in and day out here.

Heidi E.:

And I have to say congratulations on the launch. You just are launching this now. As this lunch and learn comes out, the product will have just been launched. Congratulations on that.

Josh Poole:

Thank you very much. It's been a process, as I think a lot of these development projects are. You learn a lot. And it's been good. And we are all very excited that we've reached this point and we're getting out into the field with this product and system here officially. We're definitely excited and looking forward to the rest of the roofing season here to see how we do.

Heidi E.:

Congratulations. And thank you so much for being here and sharing all of your wisdom and knowledge on this lunch and learn. And thank you all for listening. Be sure that you're filling out your discussion sheet. Lots of great information, some really great nuggets today. And be sure you're taking that picture of your group and sending it to us so that we can possibly buy you and your team lunch next time. On this lunch and learn, the learning objectives, as I said, can be downloaded with the video. And we appreciate having all of you every month on the Roofers Coffee Shop Lunch & Learn. We'll see you next month.