

## New Invention Spawned from Old Wishes

James Henning

“It all started because my wife and I wanted a brick floor on our deck. Everyone kept telling me it wasn’t possible. So I invented a product to fix that.”

That’s what Bart Stuchell, CEO of Sare Plastics, says when asked about his patent-pending product SilcaGrate®. And it makes perfect sense. After all, for as long as homeowners have been building decks and other elevated structures such as terraces, porches, bridges, and stairways, they have been incredibly limited by the options available to them. Many wanted choices above and beyond the standard lumber (or relatively recent composite lumber) options, but Stuchell was the first to actually do something about...to create a new product to fill an old desire.

“When you look at photos of high-end homes in today’s magazines,” continues Stuchell, “you inevitably see luxurious patios, pool decks, and sidewalks paved with stone, brick, pavers, slate, or tile. I wanted to have that opulent look on my deck without spending a fortune. When I started designing SilcaGrate, the answer was so obvious.”

That answer was the humble hexagon...the exact shape that honeybees rely on for its strength and durability.

And how did that hexagon make all the difference? SilcaGrate is a 16”x18x1.5” engineered polymer grid which is easily attached to wooden floor joists, providing a super-strong subflooring for virtually any heavy surface materials, including stone, brick, pavers, or tile. Its hexagonal matrix offers support every two inches in all directions. Compare that to bi-laterally supported lumber pieces which span 16 to 24” between joists in traditional deck construction, and it’s easy to see how SilcaGrate offers unprecedented strength which exceeds current commercial building code requirements of 60 pounds per square foot by a factor of more than 6 times. In fact, during repeated testing, when Stuchell loaded just one single hexagon (approximately 7 square inches) with more than 700 pounds for more than 6 weeks, the SilcaGrate grid deflected less than three-eighths of an inch. As he states, “To put that in perspective, imagine putting five average-sized people on an area approximately half the size of a standard playing card, and still, the SilcaGrate only gave 0.375”. It’s all because of that simple hexagon.”

“But it couldn’t just be strong, it had to be easy to use, too,” says Stuchell. And he managed to deliver on that promise by making it easy to cut to form, with installation requiring only 6 screws (and an average of just two minutes) per SilcaGrate grid. Even the most novice DIY homeowners can do it (as well as any experienced contractor or landscaper), and it works just as well for non-elevated surfaces as it does for elevated surfaces.

“It just goes to show that Plato was right...” says Stuchell, “Necessity really is the mother of all invention.”

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