

Understanding Engineered Wood Fiber Playground Surfaces.

By: Roger Williams

September 19, 2006

Ask any playground inspector what their choice for a playground surface material would be and chances are that Engineered Wood Fiber (EWF) will be at or near the top. This is because EWF, when installed and maintained properly, consistently produces excellent results on impact attenuation testing at seemingly any height the play equipment industry can throw at it. Add this to its' accessibility characteristics, great aesthetics, low maintenance and reasonable price and you've got a winner, right? Why then are there still sporadic apprehensions out there that this type of surface can pose problems? The reasons could be a lack of understanding of the product and a history of poor installation practices.

When it comes to EWF, composting is a word that seems to strike fear in the minds of some. The truth is that composting is the nature of the beast and once people understand the process, they feel a lot better about the product. The idea is that after installation and over time, the material closer to the bottom of the system will start to compost down. As it does, the owner/operator is to top-up the surface back to the original depth with new material. This "composting down / topping-up cycle" will take place 2 or more times during the life of the surface with the first application occurring typically after the second year (provided enough material was installed initially). All of this is normal and expected. The beauty of it all is that the composted down portion of the system seems to be as good as or even better at absorbing impact than new material. That's why you sometimes hear that the product gets better with age. This maintenance procedure coupled with proper installation can see systems lasting 15 years or longer (typically the expected life of the playground equipment it serves).

The issue is that anybody can buy this product and anybody can install it. Many times, during my travels, I have seen poor installations where I just know that problems are going to arise. When they do arise, the product is instantly suspect and the rumors start... Recently I was asked to inspect an EWF surface in a municipal setting that had developed a mushroom problem. Mushroom infestations are rare but without seeing the site, I could have described it exactly. The beautiful little Tot Lot was covered by an approximate 90% canopy of deciduous trees. 2006 had a particularly wet spring and summer and this play surface was wet. The lack of sunlight and low air circulation meant that this surface could never really dry out and thus an ideal environment for mushroom growth had been created. Adding fuel to the fire was the hardwood make-up of the surface material. Mushrooms just love maple and ash and the airborne mushroom spores landed and flourished in their dream world. What went wrong here? The owner/operator got some bad advice or lacked some good advice. Like all surface materials, there are instances where an EWF surface is not appropriate. It should never have been installed there. The problem is that sand and pea gravel would also be inappropriate in that setting as the abundance of falling leaves would quickly contaminate those surfaces also. The answer for this Tot Lot: go with synthetics or relocate.

continued,

On another recent municipal site in eastern Ontario, the town had excavated a pit in clay soil. When the EWF was delivered, there was no filter cloth used and no aggregate or drainage supplied. When the installer was questioned on it, the response was” ***dump it in anyway, site prep was the town’s responsibility***”. What had just happened? A bowl was excavated and filled with EWF. Since rain, ground water and melting snow have nowhere to go, the bowl will fill up with water and they can expect problems. Again, this will look bad on the product when it is not at fault. Surprisingly, this “***not my responsibility, dump it anyway***” mentality is quite common.

At another municipal installation, a pit had been excavated and strip drain was laid out at 6’ foot centres on the subsoil. The area was covered with geotextile and then the EWF. What went wrong here? The strip drain wasn’t attached to any type of a tile drain system. Also the strip drain was undulating across the top of the uneven subsoil. Water will not go uphill.

All of these problems are related to poor installations where the channeling of water away from the surface has not been addressed. Problems will manifest themselves in accelerated decay and mould formation.

What then is the owner/operator to do to ensure a problem-free EWF surface? Most manufacturer’s warranties only cover the performance of the product as it relates to impact attenuation. They do not cover anything else. How can they? In most cases, they only supplied the product (often drop shipped through a third party rep) and they have no idea if it was installed properly. The rep who sold it to you probably subbed it out to a contractor and never saw the site. That sub might be working for a general who might be doing a portion of the work. This is all a recipe for disaster. One option is to have your system supplied and installed by the manufacturer, just like you would with a synthetic surface. “***One source, one responsibility***”. Tell your manufacturer that you want them to make sure that the system is installed properly and that you expect them to correct any problems that might occur related to the product and it’s performance. Not just impact attenuation! Get it in writing that they will stand behind their product and quickly respond to any issues that arise. When everything is done right, you’ll have the beautiful, problem-free and high performance surface you expect.

Roger is a member of the CSA Z614 Technical Committee, representing the EWF Stakeholder Group.