



SURFACE SOLUTIONS

ANTIMICROBIAL SURFACES ARE NOT JUST THE NEED OF THE HOUR BUT ALSO THE WAY FORWARD FOR THE ARCHITECTURE AND INTERIORS INDUSTRY.

BY BINDU GOPAL RAO

In the backdrop of COVID-19 a key question is about the safety of the environment and more importantly of surfaces. Expert studies have proved that the surfaces around us may contain bacteria, viruses and other microscopic organisms. And, this has brought the focus on antimicrobial surfaces.

CHOICES GALORE

Products addressing the concerns of “limiting the surface

spread of virus” and “killing of the virus on any surface” have gained a huge popularity after this pandemic. CenturyPly has introduced Virokill technology in its plywood and laminate range, which is able to kill 99.99% virus from the surface of CenturyPly and Century Laminates. Century Laminate has all antiviral, antimicrobial, antibacterial and antifungal properties – these high-pressure laminates serve as a safeguard at people’s houses by protecting them and their family members from surface virus. “Our technology

1. A-Class Marble surfaces are self-cleaning since less dirt adheres to the surface due to its hydrophilic properties.



Ashish Pillai, head - emerging business, Prism Johnson.

APPLY RIGHT

Antimicrobial surfaces can be used in many application areas such as home, offices, hospitals, public areas, public transports in the form of antimicrobial tiles, sanitaryware, kitchen tops, walls (paint), packaging (polymer), home furnishing (play, laminates) and the like. These high-pressure laminates contain antimicrobial products and can be installed in bathroom, kitchen, as well as commercial areas such as offices, schools, restaurants, and many more. The elevated heat and pressure treatment of laminates make them resistant to virus or microbes, it has self-cleaning properties which provides relief from the burden of regularly cleaning the surface. Ramesh Bhandari, director, A-Class Marble says, "our active surfaces have many advantages, especially in the kitchen where it is essential. These surfaces are self-cleaning since less dirt adheres to the surface due to its hydrophilic properties, which means it does not require frequent maintenance. It eliminates foul odours, especially in restaurants where the kitchen odour affects the staff."

Häfele is one of the organisations whose surface portfolio includes all with anti-bacterial properties. "Our ranges from Caesarstone, Dekton as well as the newest edition, Terra, in our brand portfolio are all Anti-Bacterial in nature due to their composition and non-porous nature. Our products are used as countertops, vanity tops as well wall cladding and flooring. In the case of countertop applications in Kitchens, they help ensure our food is safe and no bacteria festers on the surface. And with young kids mostly at home especially during these Covid times having a flooring which is Anti slip, Stain resistant as well as Anti-bacterial, is a smart decision as parents too are busy with Work from home to keep an eye on the kids constantly and see what they are upto," says Balakrishnan Pillai, business head, Surfaces and Water Solutions, Häfele South Asia.

DEMAND DRIVERS

The demand for these kinds of surfaces has increased many folds since the pandemic as consumer awareness about these disease-causing microbes and the need for hygienic surfaces

of 'Virokill' which can kill 99.99% of viruses from the surface of plywood and laminates has developed a positive image in the consumer's mind resulting in a good response. If we look at the properties (plywood and laminate), the carpenters and contractors face most risk because they are in frequent contact with the items. Their interest will surely peak when they will experience the anti-viral properties," says Shankho Chowdhury, president, Decoratives Division, CenturyPly. Silver ion-based product with brand GermGuard is the innovation in the field of Antimicrobial done by extensive R&D of Prism Johnson Limited. GermGuard can be added on any product surface to make them microbe free. "The R & D division is recognised by the Department of Science & Industrial Research, Ministry of Science & Technology, Govt. of India. Under ideal conditions, it is known that many types of bacteria can double every 20 minutes. Silver Ion based GermGuard is a multifunctional antimicrobial compound; which when incorporated into products and materials inhibits and destroys even the most resistant bacteria, fungi, algae and virus," says

2. Terra Surface Solutions by Häfele are anti-bacterial in nature due to their composition and non-porous nature.

3. Ashish Pillai, Head - Emerging Business, Prism Johnson.

4. Shankho Chowdhury, President, Decoratives Division, CenturyPly.

5. Terra Surface Solutions by Häfele can be used for countertop, interior wall cladding and vanity top applications.



has increased. Likewise, Fundermax Compact Interior panels have anti-microbial, non-porous surfaces which help in maintaining hygiene, further it is also SEFA 3 certified material which makes the panel non-reactive to most of the corrosive chemicals. "Fundermax compact interior panels are made from natural fibre panels, around 65%, by weight consisting largely of wood that has been processed into 'kraft papers'. These panels do not contain organic halogen (or chlorine, fluorine, bromine) compounds such as those found in greenhouse gases or PVC. They contain neither asbestos nor wood protection agents (fungicides,

pesticides) and are free of sulphur, mercury and cadmium," says Ashwani Khanna, associate vice president marketing, Fundermax India.

SAFETY MATTERS

Amidst the pandemic, the disinfection of surfaces has become the need of the hour. With the compulsion of no-surface-interaction, repeated cleaning before interactions seems to create havoc, especially when it comes to the food and beverage industry. Anti-Bacterial coatings are generally required in products that are in contact with water. We



6. Fundermax India panels are anti-microbial and have a non-porous surface which helps in maintaining hygiene.

7. This washbasin by Nuance Studio has an anti-bacterial coating as is generally required in products that are in contact with water.

8. Balakrishnan Pillai, Business Head, Surfaces and Water Solutions, Häfele South Asia

9. Ashwani Khanna, Associate Vice President Marketing, Fundermax India



10. Ajaay Srinivaas, Founding Director, Nuance Studio

11. Aditya Gupta, CEO, Orientbell Tiles

12. Orientbell Tiles have a range of Germ-Free Tiles that kills more than 99% of the bacteria and fungus (in 24 hours) that come in contact with the surface.

13. Orientbell Tiles are manufactured using a specially formulated glaze with antimicrobial properties.

provide this feature for wash basins, kitchen counters and certain specific types of furniture like tables and the like. Ajaay Srinivaas, founding director, Nuance Studio, Bangalore says, "we provide anti-bacterial coating as an option to our customers. After the pandemic outburst, people are more cautious and give importance to such details. All our products are surface treated in the factory to make it resistant to stains. The wash basins are coated with the antibacterial coating as an enhanced feature on special request by the consumers. These coatings are long lasting and durable even after washing and cleaning the surface regularly. The coating has special active ingredients that continuously inactivate the bacteria that comes in contact with the surface and thereby keeping the surface cleaner and healthier."

TECH TALK

Nanotechnology that uses highly activated and energized

nanoparticles embedded in the surface that physically rupture and kill viruses instantly. Orientbell Tiles has two types of tiles. GermFree® Tiles that are anti-bacterial, anti-fungal in a variety of colours and anti-viral tiles that kills 99% of the virus (mRNA) in two hours. "Our Germ-Free Tiles are manufactured using a specially formulated glaze with antimicrobial properties. It kills more than 99% lethal drug resistant bacteria (like Methicillin-resistant Staphylococcus aureus (MRSA) and fungus on its surface within 24 hours," says Aditya Gupta, CEO, Orientbell Tiles. They are specially formulated using a cocktail of metals suspended in the glaze. Given their high performance against viruses they come only in a limited range of colors. "They ensure the surfaces remain safe and hygienic even between cleaning cycles. Both are technologies that have patents pending and reflect our commitment to innovation that is consumer relevant. External lab test results to support these claims are available on request," adds Gupta.

BANISH BACTERIA

With respect to Anti-microbial technologies, most companies are experimenting with patented compositions to reduce the porosity of the product or increasingly promoting the usage of non-porous products like Caesarstone, Dekton and Terra. "As the issue with any surface that is porous is the festering of bacteria and the cross contamination that can occur. Even one E. Coli bacterium caught in a microscopic crevice or pore can turn into millions in a matter of hours. Fortunately, countertops like Caesarstone and Terra can significantly reduce the risk of bacterial proliferation as they do not have these pores or crevices. So, the best products with the best technologies are available provided you choose the right product," says Pillai. Antimicrobial Products are the agents that either kill microorganisms or simply inhibit their growth. "Antimicrobial technologies for different surfaces use chemicals, compounds containing quaternary ammonium salts, Nano or ion particles of noble metals, Metal oxides like copper and silver, Zinc



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pyrithione, Chitosan, Triclosan, Hydrogels or from Compounds based on natural biocides and the like. Among these technologies silver ion is regarded as one of the most accepted and widely used technology globally due to its antimicrobial efficacy over a wide spectrum of microbes and safe to use," says Pillai. Usage of this Nanotechnology is increasing in medical science and is also considered to be an alternative to antibiotics.

CONTEMPORARY CUES

This pandemic has brought on additional energy into producing more products for people in their everyday life as a measure for the future. For wooden items there is a spray-on lacquer type substance that is an antimicrobial coating additive that has antimicrobial efficiency. For furniture textiles antimicrobial fabrics can be made of a variety of textiles, including but not limited to polyester, polyester-vinyl composites, vinyl and even acrylics. How quickly these products

enter the market depends on their antimicrobial efficiency and in turn if customers understand that it is an option for their furniture," says Hussain Somjee, managing director, Mimi Homes. Ajay Aggarwal, managing director, Action TESA says, "we have introduced Antiviro technology on Pre-laminated Particle Board, Pre-laminated MDF, Pre-Laminated HDHMR Boards, Pre-laminated Boilo, Pre-Laminated HDHMR Doors and Laminated HDF Flooring. The latest technology is effective and creates a self-defense mechanism for killing microbes like bacteria, viruses, fungus, etc. Safety and Hygiene is the need of the hour and our customers rely immensely upon our commitment to quality products." Tesa Antiviro products have been tested by Biotech Testing Services, Mumbai for antimicrobial activity against JIS Z 2801 test method and for measurement of antiviral activity against test standard ISO 21702:2019, result of which shows 99.99% Microbial kill automatically due to effect of treatment on TESA finished surfaces. 15



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14. TESA Antiviro pre-laminated surfaces are made from Nanotechnology, in which nanoparticles continuously release ions which is a self-defense mechanism for killing microbes like bacteria, viruses, fungus.

15. A-Class Marble eliminates foul odours, especially in restaurants where the kitchen odour affects the staff.

16. Ajay Aggarwal, Managing Director, Action TESA

17 Hussain Somjee Managing Director, Mimi Homes