Realty+ recognizes the best of the best within the ranks of Indian Real Estate

Website of the Year for www_orientbell_com
(India’s construction & design industry)

Integrated Brand Campaign of the Year for “Chote Bathroom ke Bade Upay”
(India’s construction & design industry)

Best Omnichannel Retail Model
Winners Future of Retail Summit & Awards 2020

Customer Retail Journey Innovation
Winners Future of Retail Summit & Awards 2020

CEO with HR Orientation
ZEE BUSINESS National Human Capital Leadership Congress & Awards
Go germfree with Orientbell Tiles.

Forever Tiles are Germfree*!

99% Secure

Forever Tiles
1. High Compact Sintered Body With Low Water Absorption
2. Special FT Glaze With Engobe & 2 Glaze Coatings
3. High Resolution Special FT Print
4. Special Formulated High Resistance FT Coating

Orientbell’s Scratch Resistant Range-
In offices, gymnasiums, airports and similar high traffic areas prone to rough use, scratch and abrasion resistance is desired. Orientbell’s Forever Tiles are developed with such applications in mind. Orientbell has applied for a patent for corundum based coating composition as well as its method of applying it on the tiles.

*Results achieved under standard test conditions as per JIS Antimicrobial Surface Test.
THE MECHANISM OF INFECTION

Infection caused by airborne transmission

Infection caused by contact and faeces

Infection caused by contaminated water

Infection caused by pathogens in bloodstream and tissues

CONTAINMENT IS THE KEY TO PREVENTION OF PANDEMIC

A few proven ways for containment

**HAND Sanitizers**: Chemicals / thermal treatment / radiation to kill microbes on the hand

**MASS AREA Sanitizers**: Chemical / thermal treatment / Radiation treatment (UV / IR) / static electrical shock to prevent the growth of microbial population in particular area.

**Mask and OTHER PPEs**: Special kind of masks / gloves / body suits that stop transmission of virus to the human body.

**Anti-Microbial Surface**: This is a special surface which kills the microbe that come into its contact and prevents transmission to the next person.

---


## ADVANTAGES OF ANTI-MICROBIAL SURFACES AGAINST OTHER METHODS OF CONTAINMENT

<table>
<thead>
<tr>
<th></th>
<th>Hand sanitizers and mass area sanitizers</th>
<th>Mask and other PPEs</th>
<th>Anti-microbial Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent of Human actions</strong></td>
<td>X</td>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Independent of behavioral compliance</strong></td>
<td>X</td>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Uniformity of effectiveness</strong></td>
<td>X</td>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Works 24x7</strong></td>
<td>X</td>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Continuously and actively kills Microbes</strong></td>
<td>X</td>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Requires frequent ordering and stocking</strong></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

Result → **Dependent on Manual Intervention**

Kills microbes even between cleanings

It is very important to reduce the microbe population, it possible to completely kill those while it is waiting on the surface for indirect transmission. Here an anti-microbial chemical treated surface will come to help resolve the issue. The other methods of killing or preventing transmission of microbes may still be used in conjunction with the anti-microbial surface.

## HOW DOES A GERM FREE SURFACE WORK

A: Nano Particles from Germ Free Surface interact with microbe and cause cells damage  
B: The cell membrane ruptures because of nano particles leading to loss of cytoplasmic content  
C: Nano particles ions induce reactive oxygen generation which further causes cell damage  
D: Genomic and Plasmid DNA becomes degraded

![Diagram of germ free surface interactions](image)

Depiction of tentative events in contact killing*

*ncbi.nlm.nih.gov/pmc/articles/PMC3067274/

Anti-microbial surfaces only restrict indirect transmission, and do not reduce the risk of direct transmission of any infection. The methods to restrict/prevent direct transmission, as advised by the relevant Health Authorities, must be followed.
As per a survey of industrially available technologies done globally there is a combination of surface coatings explored worldwide. The surface coatings
- with nano-embedded particles in organic matrix - less durable
- with nano-embedded particles in inorganic matrix - more durable

OBL tiles contain nano-particle embedded inorganic coatings. These are more durable because of their inherent capability to withstand weathering and consequential damage.

**IN SUMMARY**

- **Microbes spread fast through multiple skin-surface contacts.**
- **Human precautions and cleaning cycles are subject to fallacy**
- **Anti-microbial surface works in-between human cleaning cycles**

Anti-microbial surfaces only restrict indirect transmission, and do not reduce the risk of direct transmission of any infection. The methods to restrict/prevent direct transmission, as advised by the relevant Health Authorities, must be followed.
Listed on BSE (530365) for 20+ years. And also on NSE (ORIENTBELL).
GFT BDF
CEMENTO DK BLUE

GFT BDF
CEMENTO LT BLUE
GFT BDF
RUSTIC NATURAL BROWN

GFT BDF
MODERN SLATE CHARCOAL
GFT BDF
ARABESQUE MULTI

GFT BDF
GEOMETRIC BROWN
GFT BDF
RUSTIC TRIANGLE COFFEE
GFT BDF
RUSTIC ARC JAISALMER
Try out these designs on Wall
“Enjoy Laying the Geometric Designs as per your taste!”
Bookmatch: Halls, Featured Wall

Inverse Bookmatch: Halls, Featured Wall

Use of spacer is must for such patterns
Hybrid Bookmatch:
Halls, Featured Wall

Diagonal:
Corridor, High Traffic

Use of spacer is must for such patterns
Hybrid Bookmatch:
Halls, Featured Wall

Diagonal:
Corridor, High Traffic

Double Arrow:
High Traffic, Footpath

Use of spacer is must for such patterns
Circular:
Halls, Common Area

Star:
Featured Wall, Common Area

Use of spacer is must for such patterns
Butterfly: Featured Wall, Living Room

Rosebud: Halls, Featured Wall

Use of spacer is must for such patterns
Inclined Pillar:
Featured Wall, High Traffic

Combo:
Halls, Footpath

Use of spacer is must for such patterns
Mountain:
Featured Wall, Pathway

Waves:
Halls, Courtyard, Porch Area

Use of spacer is must for such patterns
600x600 MM WOOD

forever tiles

GFT BDF
NATURAL MAPLE WOOD

GFT BDF
ANTIQUE WOOD BROWN DK
GFT BDF STRIP WOOD BEIGE

GFT BDF ESPRESSO WOOD STRIP
GFT BDF
STRIP WOOD GREY
GFT BDF
HERRINGBONE BLOND OAK

GFT BDF
HERRINGBONE OAK MULTI
600x600 MM

**STYLIZED**

forever tiles

GFT BDF INLAY WOOD

GFT BDF DOUBLE RIVET WOOD
## Test Reports of Germfree Tiles

### SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH
(A unit of Shriram Scientific and Industrial Research Foundation)

**TEST CERTIFICATE**

[Certificate Details]

---

### TEST RESULTS

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Test Procedure</th>
<th>Organism</th>
<th>Validation Scheme</th>
<th>Test Organism</th>
<th>Test Procedure</th>
<th>Validation Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Microbiological Test Against Salmonella serovar

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Organism</th>
<th>Colony per ml</th>
<th>Colony per gm (inoculated)</th>
<th>Colony per gm (uninoculated)</th>
<th>Colony per gm (inoculated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes

- The mixed sample of VFP was found to be A against Salmonella serovar and A against Salmonella serovar, which shows the value of 28 as per the guidelines.
- The sample of VFP was found to be A against Salmonella serovar and A against Salmonella serovar.

---

### Certificate Information

- **Certificate No:** 000247053
- **Date:** 30th October 2022
- **Issuing Authority:** SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH
- **Verification:** 

---

### Signature

[Signature]

---

### Address

[Address]

---
## PACKING DETAILS

<table>
<thead>
<tr>
<th>Size</th>
<th>No. of Tiles</th>
<th>Covered Area Per Carton</th>
</tr>
</thead>
<tbody>
<tr>
<td>600x600 (Dora)</td>
<td>4</td>
<td>1.44</td>
</tr>
</tbody>
</table>

## TECHNICAL SPECIFICATIONS

### CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Standard as Per IS 15622:2017 Group B lb</th>
<th>OBL Norms</th>
<th>Testing Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension &amp; Surface Quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deviation in Length &amp; Width</td>
<td>± 0.1 %</td>
<td>±0.05%</td>
<td></td>
</tr>
<tr>
<td>Deviation in Thickness</td>
<td>± 5.0 %</td>
<td>±3.0%</td>
<td></td>
</tr>
<tr>
<td>Straightness of Sides</td>
<td>± 0.1 %</td>
<td>±0.1%</td>
<td>IS 13630 Part 1</td>
</tr>
<tr>
<td>Rectangularity</td>
<td>± 0.1 %</td>
<td>±0.1%</td>
<td></td>
</tr>
<tr>
<td>Surface Flatness</td>
<td>± 0.5 %</td>
<td>±0.2 %</td>
<td></td>
</tr>
<tr>
<td>Surface Quality</td>
<td>Min 95% of the tiles shall be free from visible defects that would impair the appearance of a major area of the tile</td>
<td>Conforms</td>
<td></td>
</tr>
</tbody>
</table>

| Physical Properties                                 |                                          |           |                 |
| Water Absorption %                                   | Avg 0.08 < E ≤ 3.0% , Individual 3.30% Max | Less than 3 % | IS 13630 Part 2 |
| Modulus of Rupture in N/mm²                          | Avg 30, Individual 27 Min                | Min 33 N  | IS 13630 Part 6 |
| Breaking Strength N                                  | 700 Min for thickness < 7.5mm, 1100 Min for thickness ≥ 7.5 mm | 1200 N Min |                 |
| Moisture Expansion                                   | 0.02, Max                                | 0.02 Max  | IS 13630 Part 3 |
| Scratch Hardness (Moh’s Scale)                       | 5, Min                                   | 7         | IS 13630 Part 13 |
| Resistance to Surface Abrasion of glazed tiles Class I to V | Class II, Min                           | Class V   | IS 13630 Part 11 |
| Linear thermal expansion Co-efficient                | 6x10⁻⁶, Max                              | Conforms  | IS 13630 Part 4 |
| Thermal Shock Resistance                             | 10 Cycles, Min                          | Passed    | IS 13630 Part 5 |
| Crazing Resistance                                   | 4 Cycles at 7.5 Bar, Min                | Passed    | IS 13630 Part 9 |
| Impact Resistance                                    | 0.55, Min                               | 0.6       | IS 13630 Part 14 |
| Frost Resistance                                     | Required if agreed to between manufacturer and purchaser | Resistant  | IS 13630 Part 10 |
| Bulk density g/cc                                     | 2.0, Min                                | 2.0, Min  | IS 13630 Part 2 |

### CHEMICAL PROPERTIES

| Stain Resistance Glazed tiles                        | Class I, Min                             | Class -I | IS 13630 Part 8 |
| Resistance to household chemicals                    | Class AA, Min                            | Class AA  |                 |
| Resistance to acids and alkalis                      | Class AA, Min                            | Class AA  |                 |

**NOTE:** Certain amount of Size and Shade Variation is inherent in all ceramic products. Within the limits of printed material, the colors and aesthetics of the products correspond closely to those of illustrated products. Prospective customers are advised to inspect a sample of the tile before ordering and laying. At all points of time, the company liability is restricted to the purchase value of tiles.

Every effort has been made to ensure the accuracy of the information given. However, the company reserves the right to delete & change, any of the items, colors, sizes & technical specifications without any prior notice.
ORIENT BELL TILE BOUTIQUE

CHANDIGARH
SCO - 6, First Floor, Sector 7-C, Madhya Marg, Chandigarh-160 019,
Tel.: +91 172 4624 342

CHENNAI
New No: 85, Old No: 30, Maharaja Tower, 2nd Floor, 1st Avenue,
Asnok Nagar, (Above Kotak Mahindra Bank), Chennai-600 083,
Tel.: +91 44 4213 8687

COCHIN
“SURYA GAYATRI”, Building No. 32/8, B3, Puthiya Road, New Junction,
(Opposite Holiday Inn Hotel) ernakulam by pass road, Cochin-682 031
Tel.: +91 97457 68058

COIMBATORE
11, 1st Floor, Venkata Samy Road (East), R.S. Puram,
Coimbatore-641 002.
Tel.: +91 89799 41966

DEHRADUN
Duggal Complex (Near Kamla Palace Hotel), GMS Road,
Dehradun-248 001,
Tel.: +91 97197 01064

KOLKATA
8/1, Burdwan Road, Alipore, Kolkata-700 027,
Tel.: +91 33 4068 40467

LUCKNOW
Raj Rani Apartment, Ground Floor, Near Beej Nigam, Badhshah Nagar Railway
Station, Lucknow-226 006,
Tel.: +91 99847 86404

NEW DELHI
M-47, GK-II, M Block, New Delhi-110 048,
Tel.: +91 11 4068 7468/69

PUNE
Shop No. 3 and 4, A Tower Vega Centre, C.T.S No. 710, Final Plot No. 401/1,
Shankarasheeth Road, Gultekdi, Swargate, Pune-411 037
Tel.: +91 73910 72247

VADODRA DISPLAY CENTRE
78-79, 2nd Floor, Surya Kiran Complex, Beside Banker Heart Institute,
Old Padra Road, Vadodara-390007, Gujarat
Tel.: +91 98254 14113
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QuickLook
Visualise selected tiles & get a quote

TruLook
Share layout for a personalised render*

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