

AUTUMN

COLLECTION 2020

SCRATCH RESISTANT FLOOR TILES



OBL Awards & Accolades

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

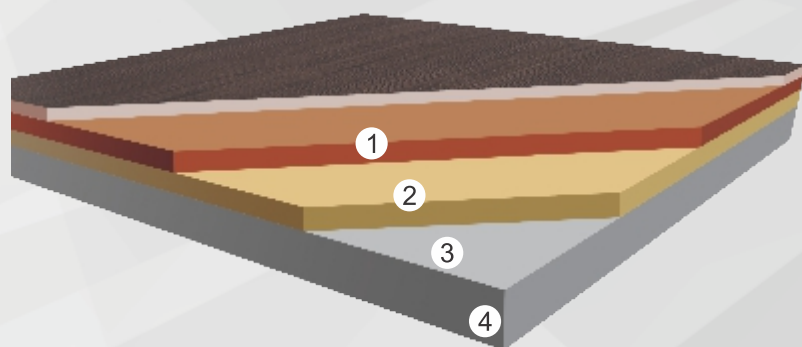


CEO with HR Orientation
ZEE BUSINESS
National Human Capital
Leadership Congress & Awards

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

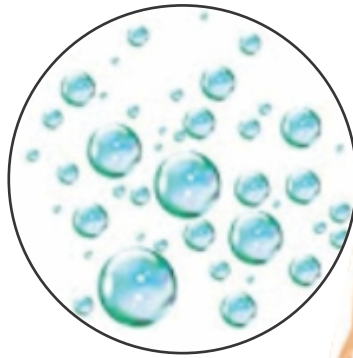
Orientbell's Scratch Resistant Range-

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

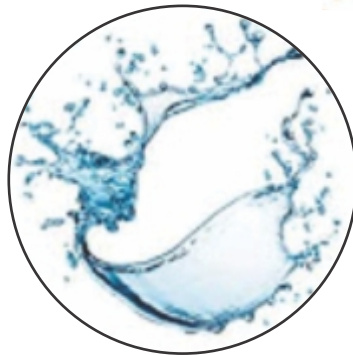
Infection caused by
airborne transmission



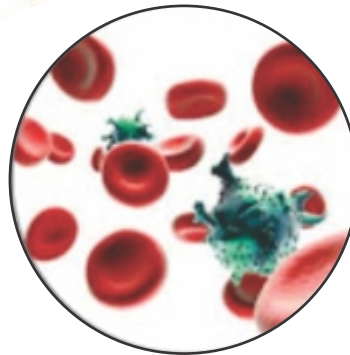
Infection caused by
contact and faeces



Infection caused by
contaminated water



Infection caused by
pathogens in blood-
stream and tissues



CONTAINMENT IS THE KEY TO PREVENTION OF PANDEMIC

A few proven ways for containment



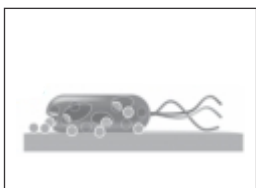
HAND SANITIZERS : Chemicals / thermal treatment / radiation to kill microbes on the hand



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.

–"Disinfection & Sterilization Guidelines". *Guidelines Library: Infection Control*. CDC. 28 December 2016. Archived from the original on 12 January 2018. <https://www.livescience.com/face-mask-new-coronavirus.html>

Yamada, H (2010). "Direct Observation and Analysis of Bacterial Growth on an Antimicrobial Surface". *Appl. Environ. Microbiol.* 76 (16): 5409–5414.

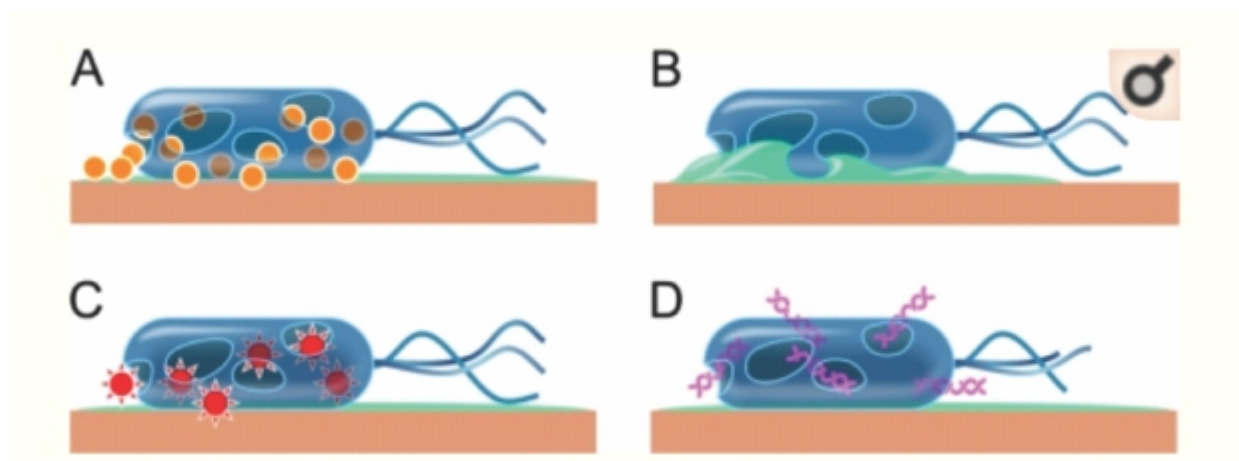
ADVANTAGES OF ANTI-MICROBIAL SURFACES AGAINST OTHER METHODS OF CONTAINMENT

	Hand sanitizers and mass area sanitizers	Mask and other PPEs	Anti-microbial Surface
			
Independent of Human actions	X	X	Y
Independent of behavioral compliance	X	X	Y
Uniformity of effectiveness	X	X	Y
Works 24x7	X	X	Y
Continuously and actively kills Microbes	X	X	Y
Requires frequent ordering and stocking	Y	Y	N
Result →	Dependent on Manual Intervention		Kills microbes even between cleanings

It is very important to reduce the microbe population, if 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



Depiction of tentative events in contact killing*

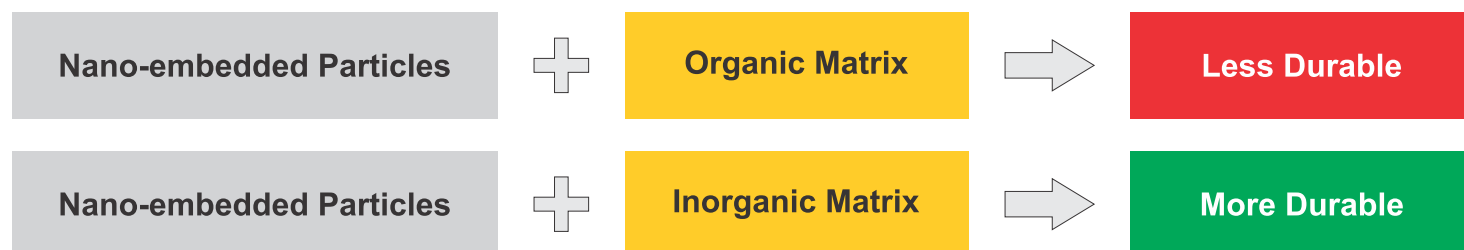
*ncbi.nlm.nih.gov/pmc/articles/PMC3067274/

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.

TYPES OF ANTI-MICROBIAL SURFACE

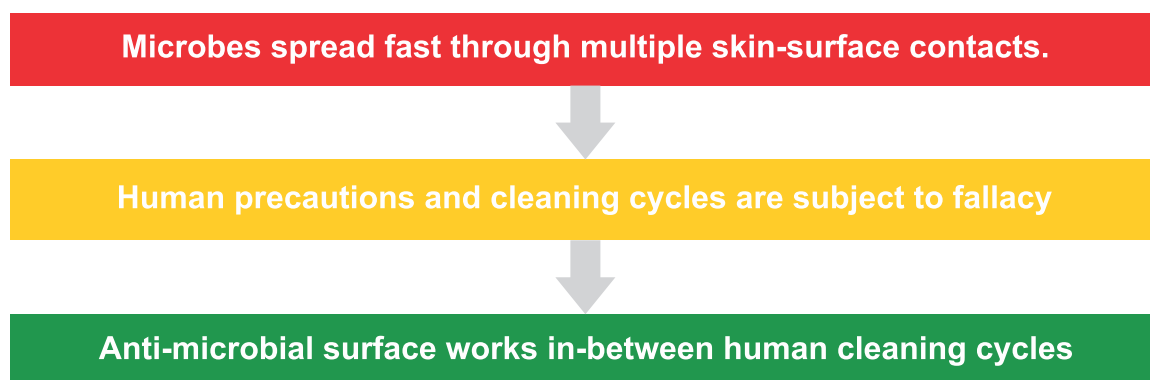
As per a survey of industrially available technologies done globally there is a combination of surface coatings explored worldwide. The surface coatings

- 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



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).



I N D E X

CEMENT/SLATE

01-10

CEMENT/SLATE

GFT BDF CEMENTO DK BLUE	01
GFT BDF CEMENTO LT BLUE	01
GFT BDF MODERN SLATE CHARCOAL	03
GFT BDF RUSTIC NATURAL BROWN	03

STYLIZED

GFT BDF ARABESQUE MULTI	05
GFT BDF GEOMETRIC BROWN	05
GFT BDF RUSTIC ARC JAISALMER	09
GFT BDF RUSTIC TRIANGLE COFFEE	07

TILE LAYING CONCEPTS

15-22

TILE LAYING CONCEPTS

GFT BDF RUSTIC TRIANGLE COFFEE	16-18
GFT BDF RUSTIC ARC JAISALMER	19-22

WOOD

23-32

WOOD

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GFT BDF STRIP WOOD BEIGE	25
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STYLIZED

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GFT BDF HERRINGBONE BLOND OAK	29
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TEST REPORTS

33-34



600x600 MM

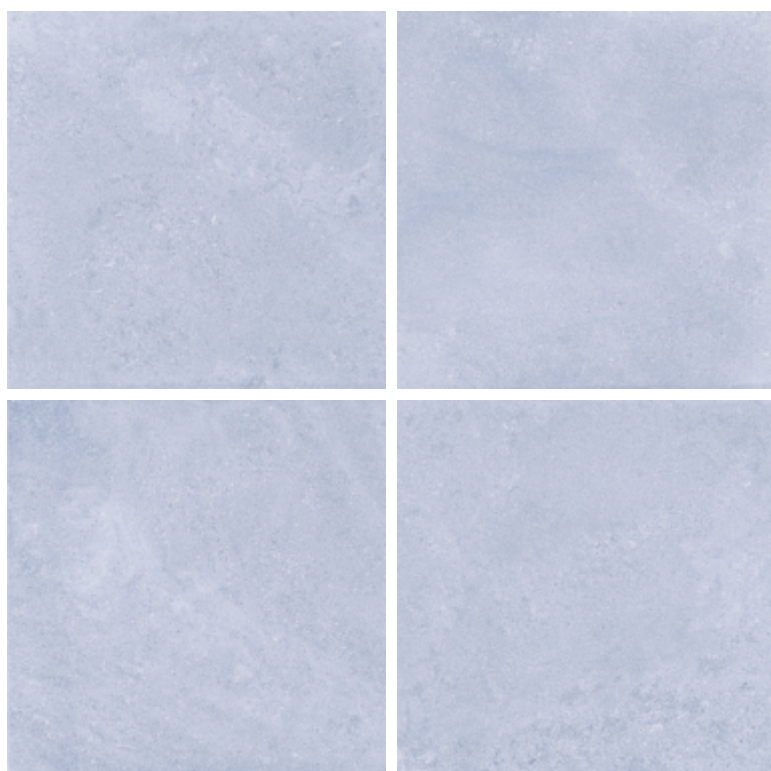
CEMENT/SLATE

forever tiles



G5
F4

GFT BDF
CEMENTO DK BLUE



G5
F4

GFT BDF
CEMENTO LT BLUE



GFT BDF CEMENTO DK BLUE & GFT BDF CEMENTO LT BLUE



GFT BDF CEMENTO LT BLUE



600x600 MM

CEMENT/SLATE

forever tiles



G5
F4

GFT BDF
RUSTIC NATURAL BROWN



G5
F4

GFT BDF
MODERN SLATE CHARCOAL



GFT BDF RUSTIC NATURAL BROWN & GFT BDF MODERN SLATE CHARCOAL

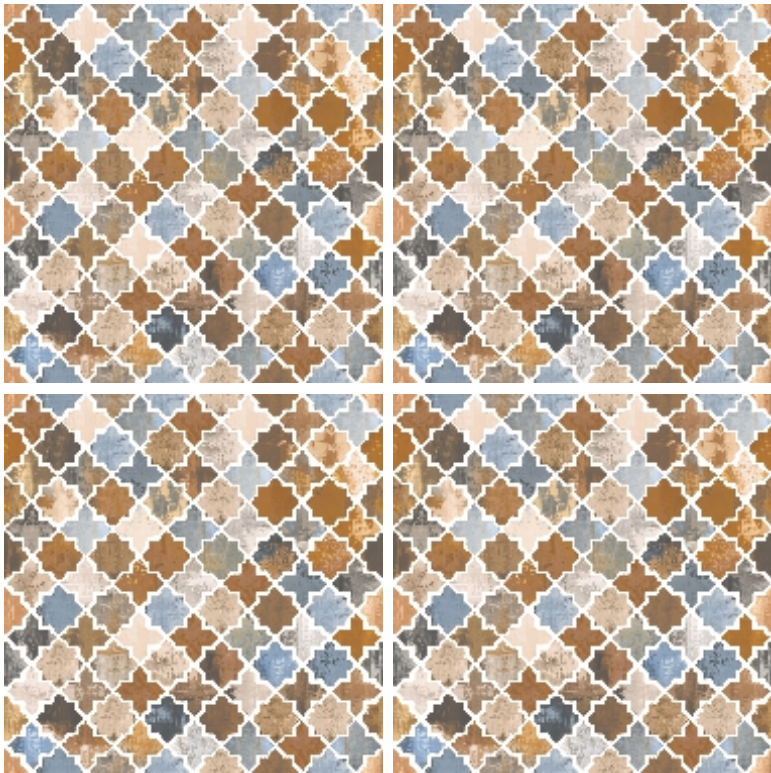


GFT BDF MODERN SLATE CHARCOAL



600x600 MM

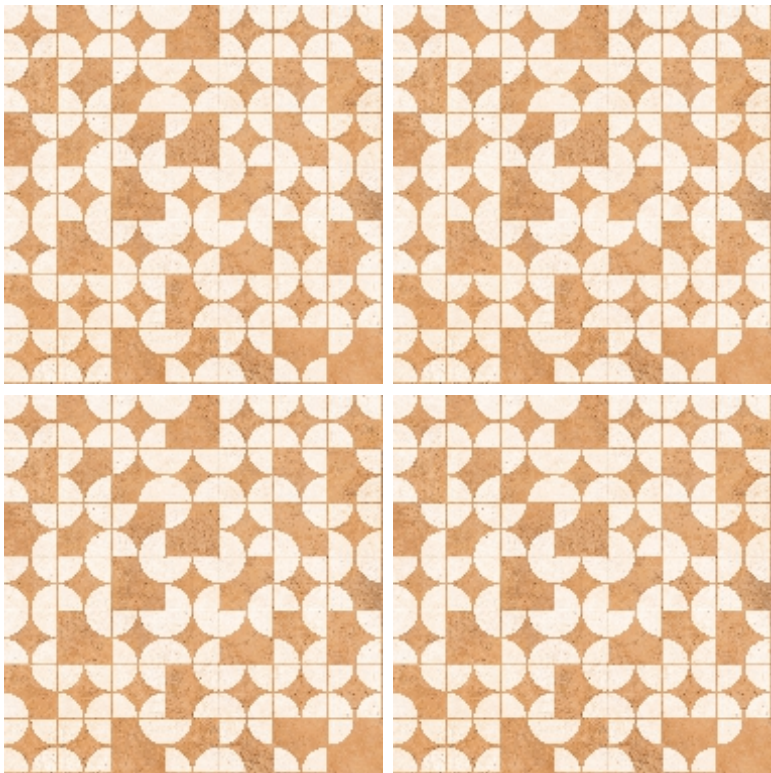
STYLIZED
forever tiles



G5
F1



GFT BDF
ARABESQUE MULTI



G5
F1



GFT BDF
GEOMETRIC BROWN



GFT BDF ARABESQUE MULTI



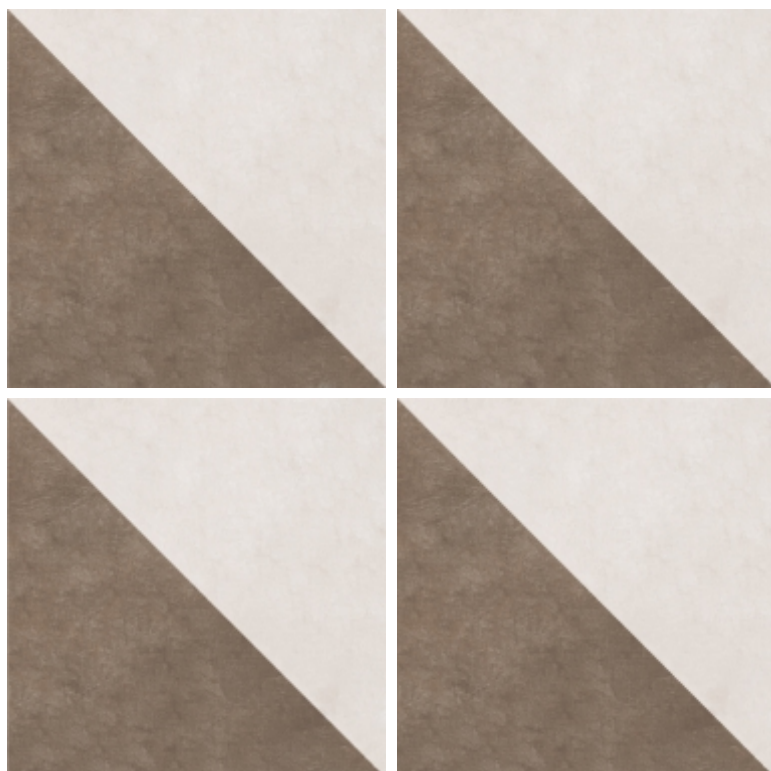
GFT BDF GEOMETRIC BROWN



600x600 MM

STYLIZED

forever tiles



G5
F1

GFT BDF
RUSTIC TRIANGLE COFFEE



GFT BDF RUSTIC TRIANGLE COFFEE



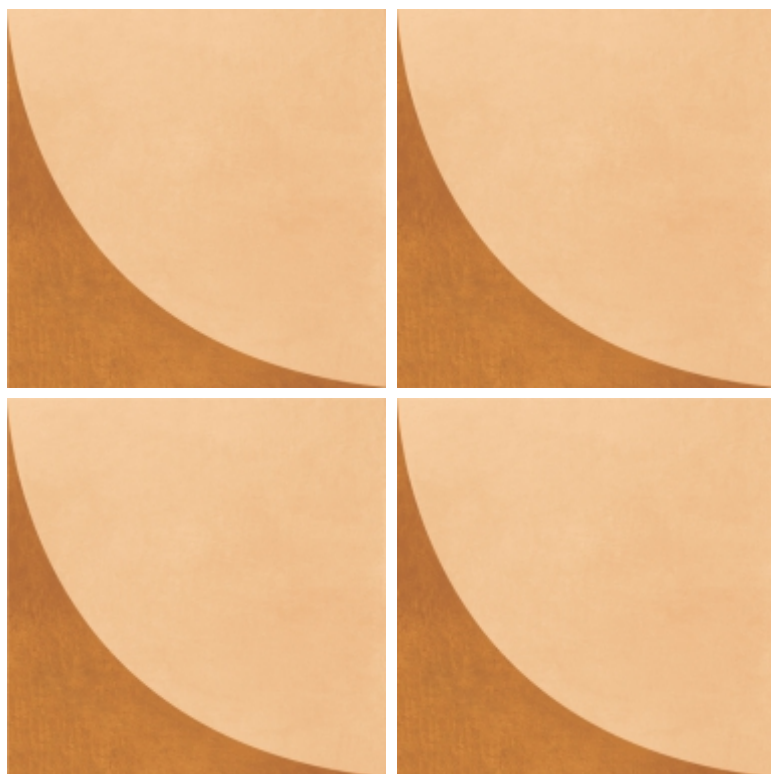
GFT BDF RUSTIC TRIANGLE COFFEE



600x600 MM

STYLIZED

forever tiles



G5
F1

GFT BDF
RUSTIC ARC JAISALMER



GFT BDF RUSTIC ARC JAISALMER



GFT BDF RUSTIC ARC JAISALMER



GFT BDF RUSTIC TRIANGLE COFFEE & GFT BDF MODERN SLATE CHARCOAL

Try out these designs on Wall



GFT BDF MODERN SLATE CHARCOAL & GFT BDF RUSTIC NATURAL BROWN



GFT BDF NATURAL MAPLE WOOD & GFT BDF ESPRESSO WOOD STRIP

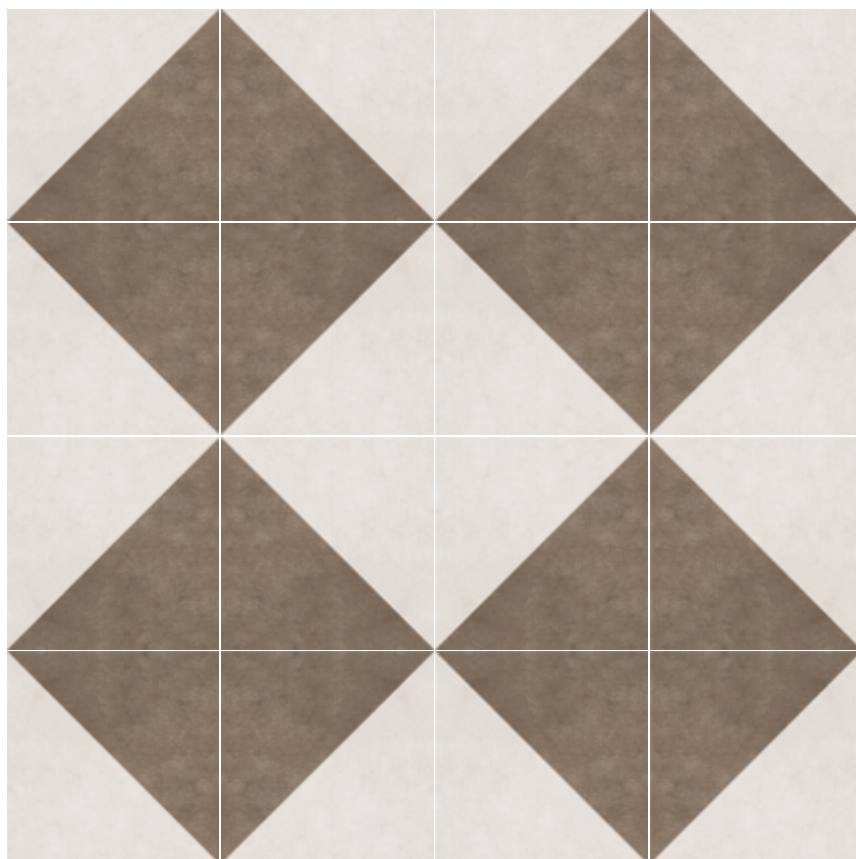


GFT BDF ANTIQUE BROWN DK & GFT BDF ARABESQUE MULTI

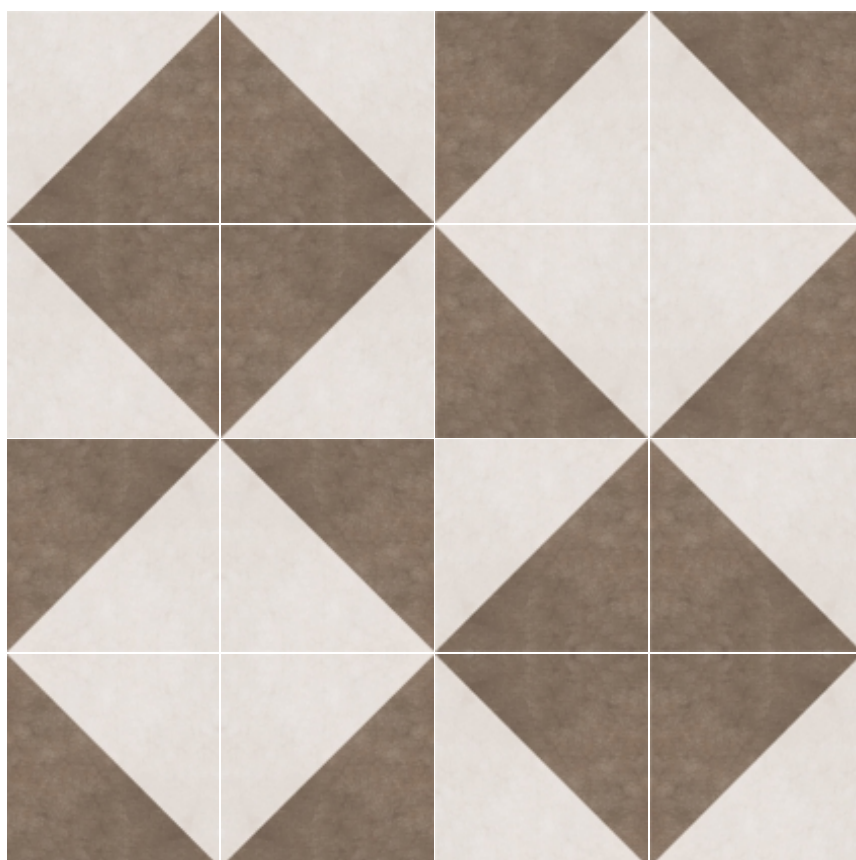


“Enjoy
Laying the
Geometric Designs
as per your
taste !”





Bookmatch:
Halls, Featured Wall

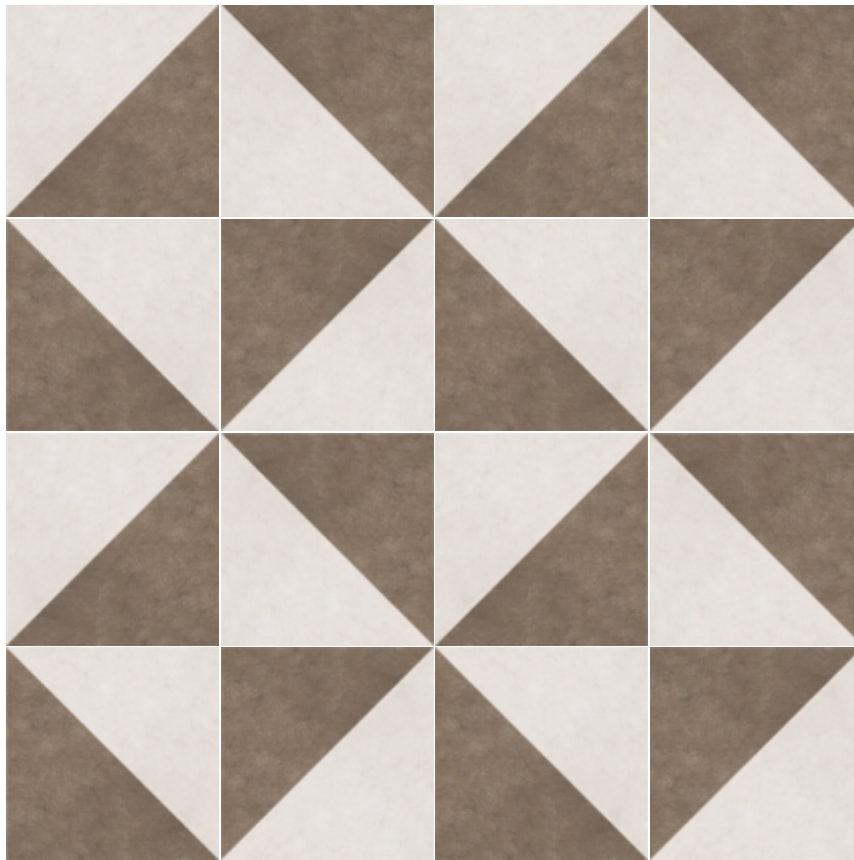


Inverse Bookmatch:
Halls, Featured Wall

Use of spacer is must for such patterns



Tile Laying Concepts



Hybrid Bookmatch:
Halls, Featured Wall

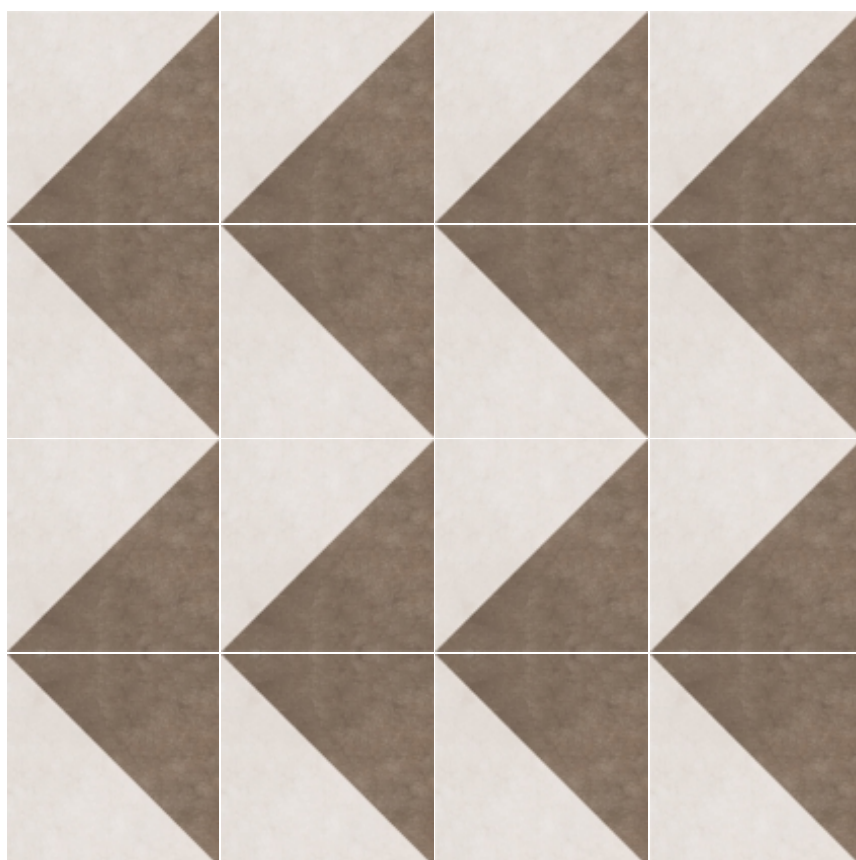


Diagonal:
Corridor, High Traffic

Use of spacer is must for such patterns



Arrow:
High Traffic, Pathway

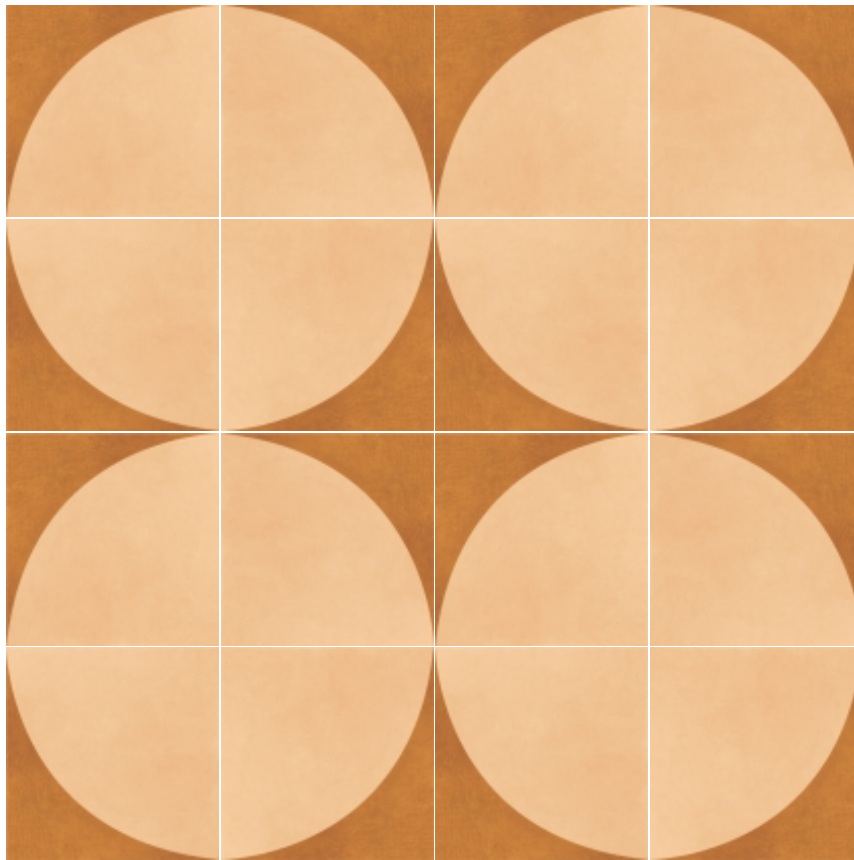


Double Arrow:
High Traffic, Footpath

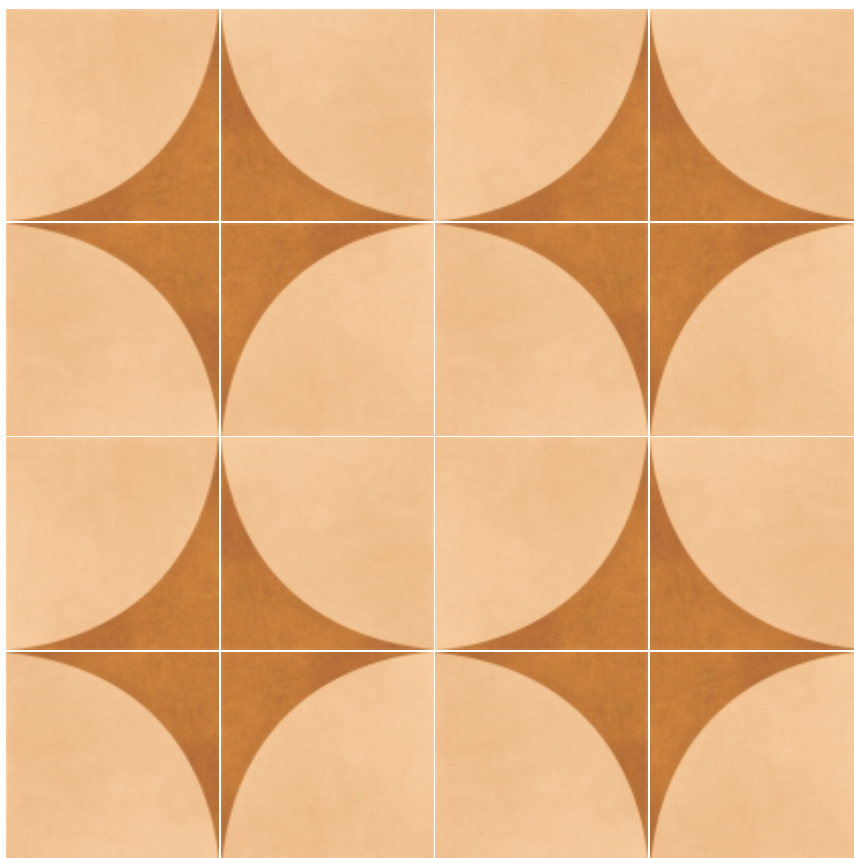
Use of spacer is must for such patterns



Tile Laying Concepts

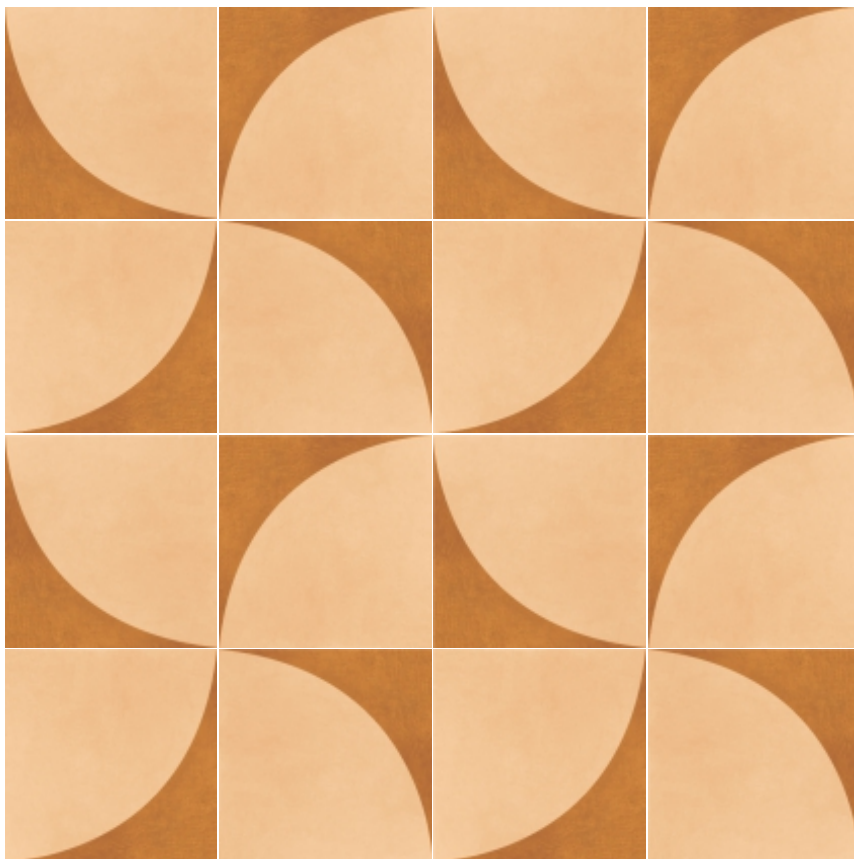


Circular:
Halls, Common Area

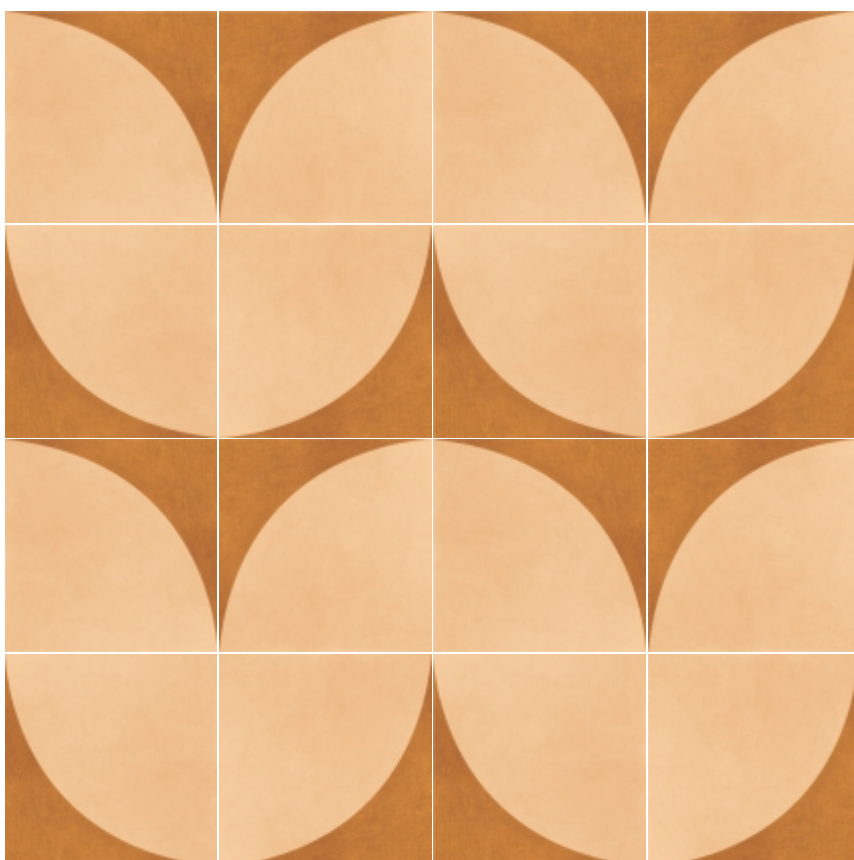


Star:
Featured Wall, Common Area

Use of spacer is must for such patterns



Butterfly:
Featured Wall, Living Room

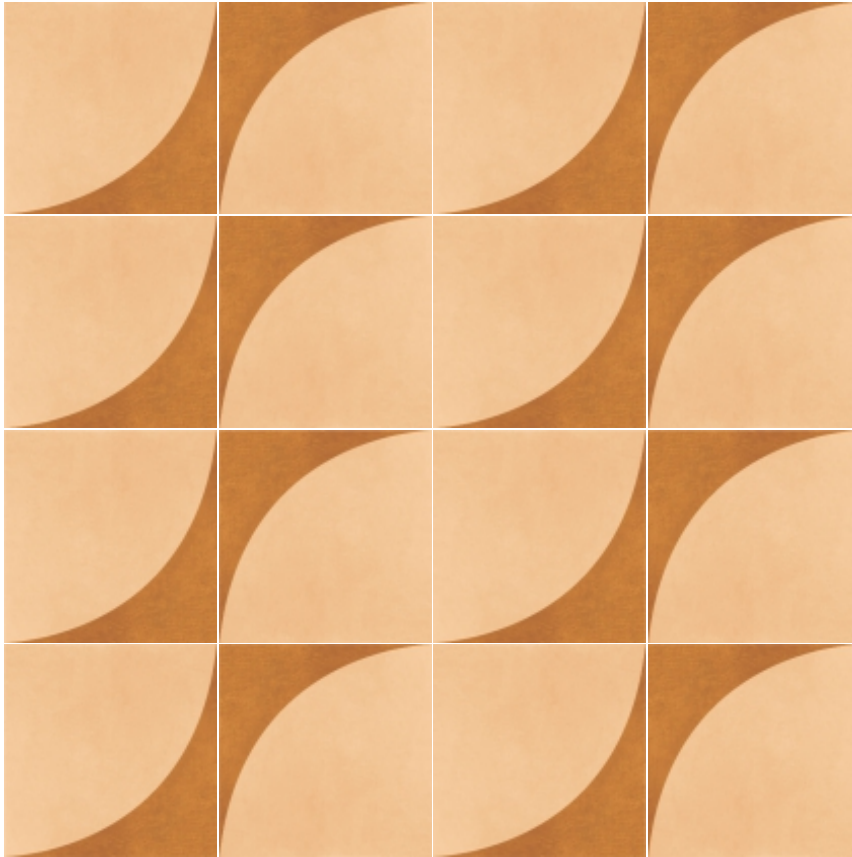


Rosebud:
Halls, Featured Wall

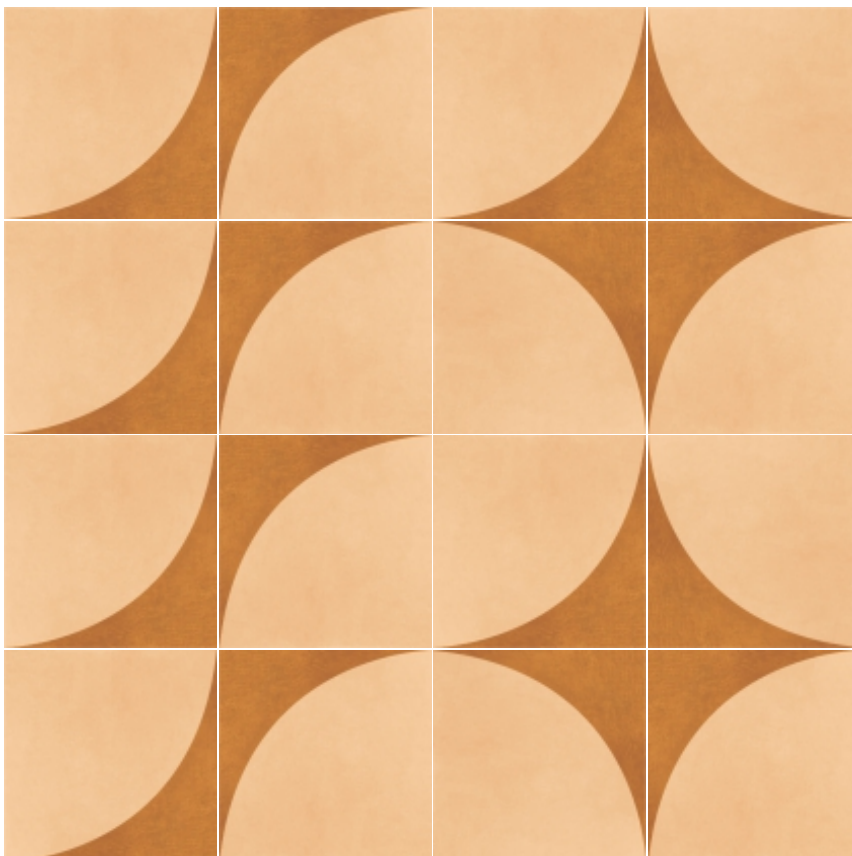
Use of spacer is must for such patterns



Tile Laying Concepts

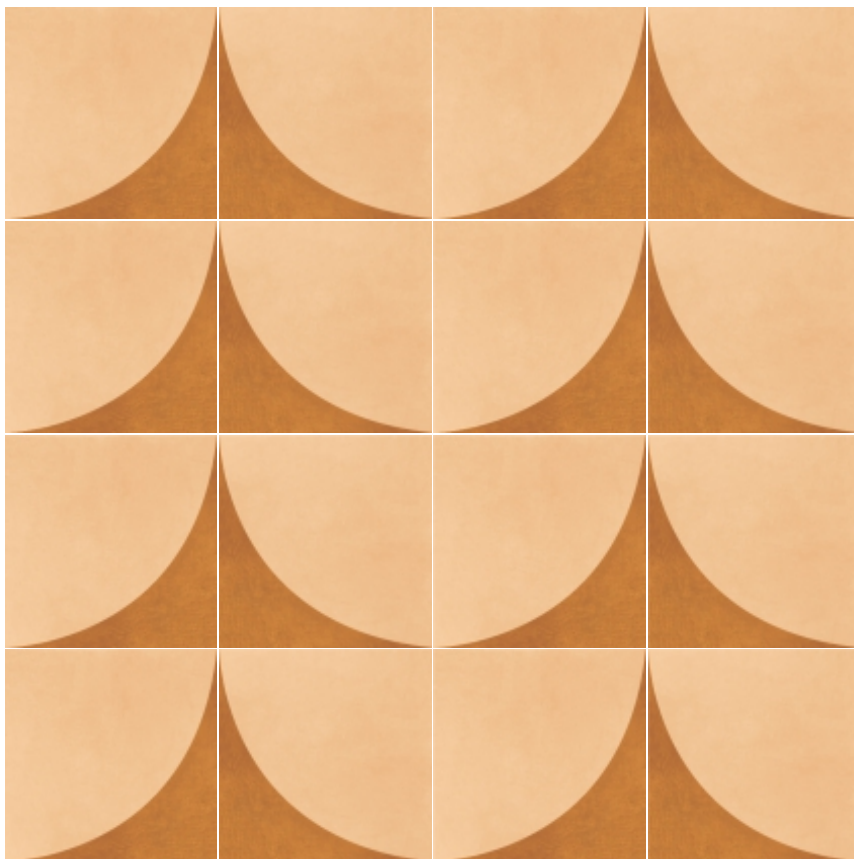


Inclined Pillar:
Featured Wall, High Traffic

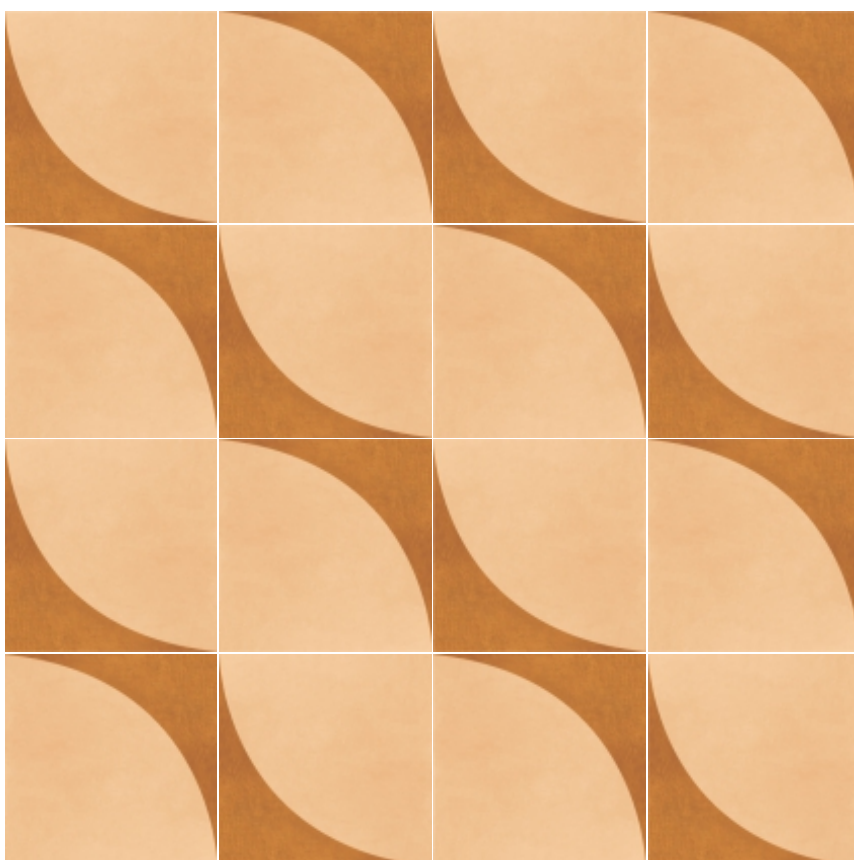


Combo:
Halls, Footpath

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



G5
F4

GFT BDF
NATURAL MAPLE WOOD



G5
F3

GFT BDF
ANTIQUE WOOD BROWN DK



GFT BDF NATURAL MAPLE WOOD



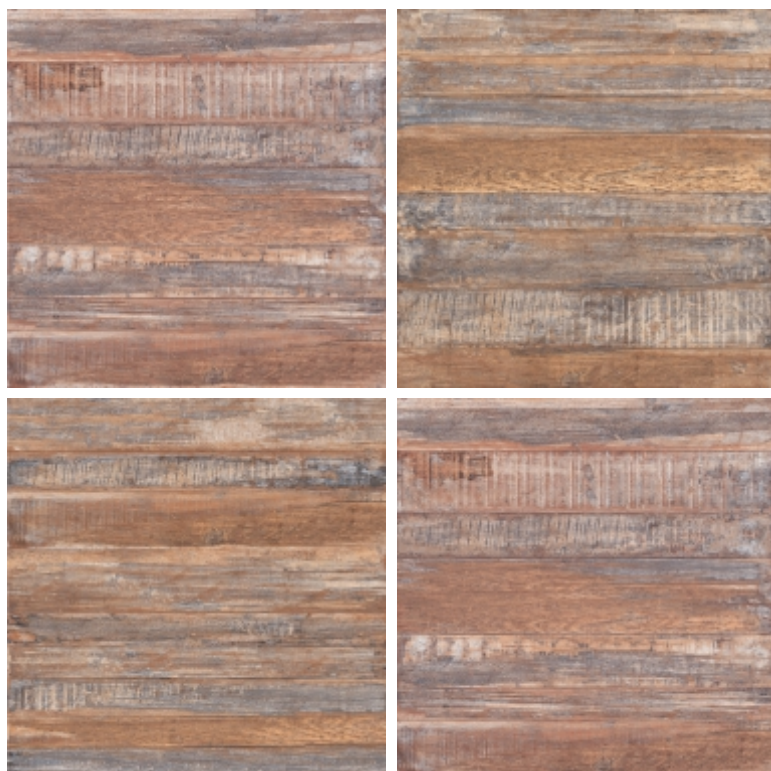
GFT BDF ANTIQUE WOOD BROWN DK



600x600 MM

WOOD PLANKS

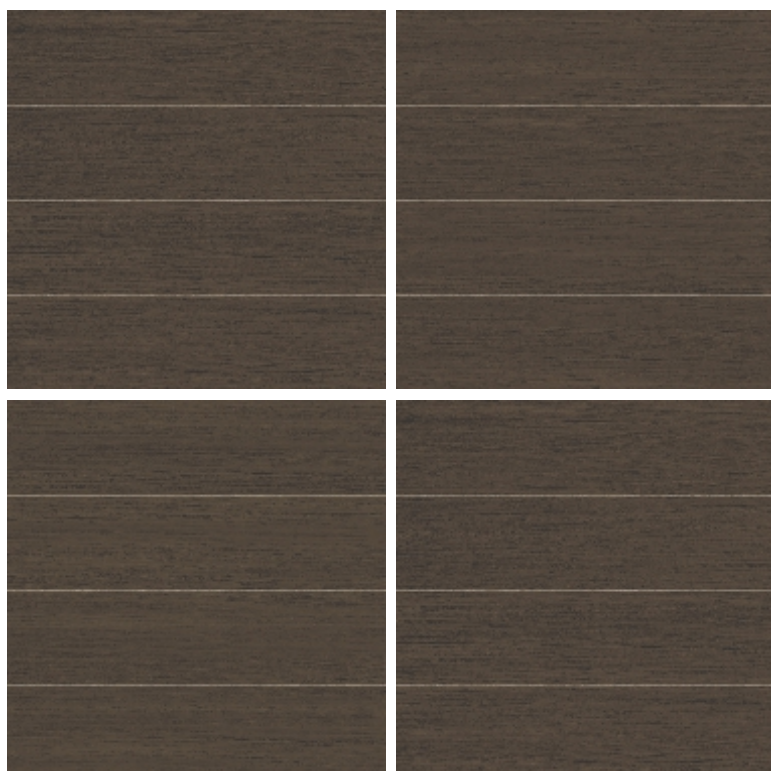
forever tiles



G5
F3



GFT BDF
STRIP WOOD BEIGE



G5
F4



GFT BDF
ESPRESSO WOOD STRIP



GFT BDF STRIP WOOD BEIGE



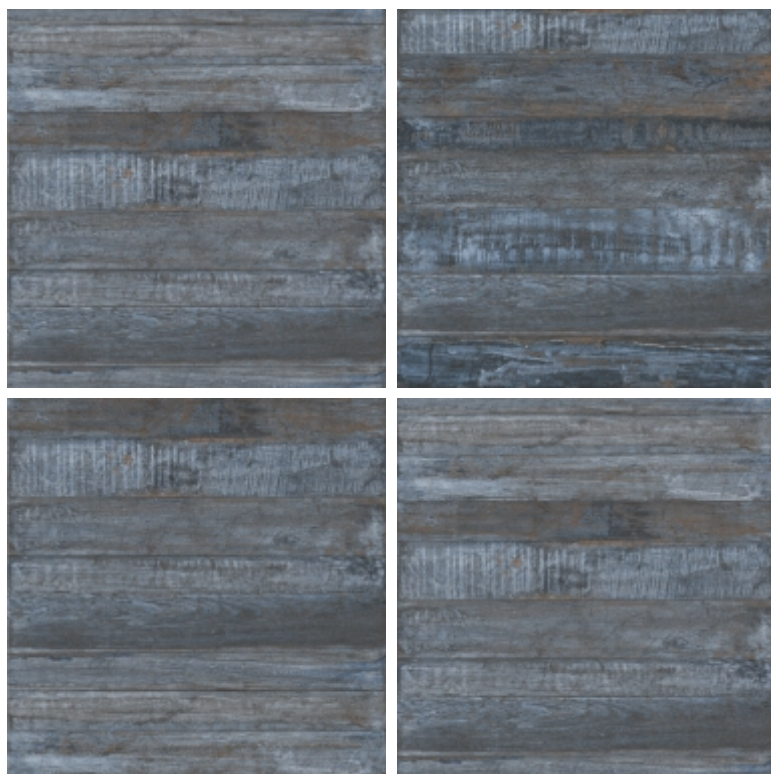
GFT BDF ESPRESSO WOOD STRIP



600x600 MM

WOOD PLANKS

forever tiles



G5
F3

GFT BDF
STRIP WOOD GREY



GFT BDF STRIP WOOD GREY



GFT BDF STRIP WOOD GREY



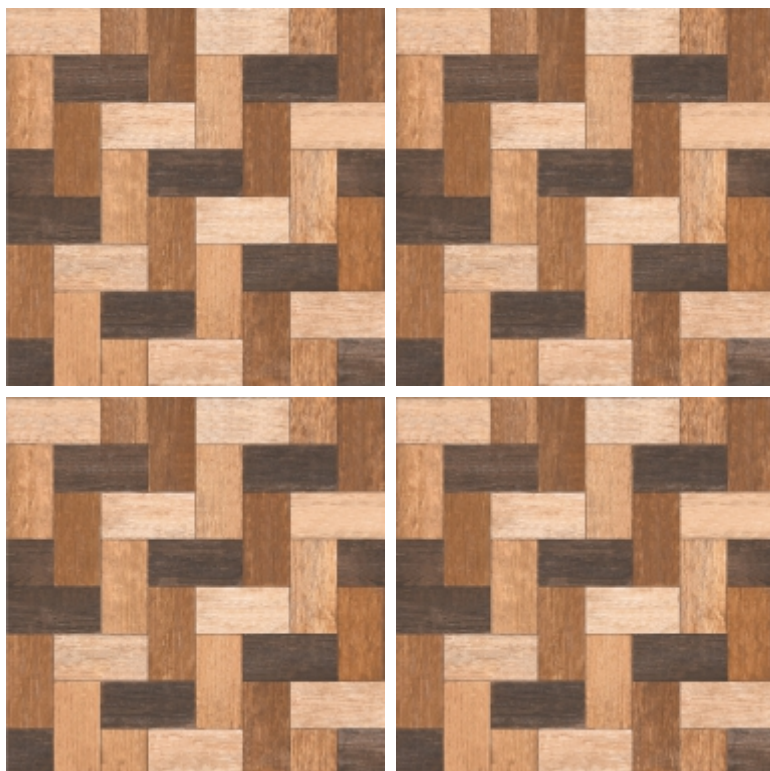
600x600 MM

STYLIZED

forever tiles



GFT BDF
HERRINGBONE BLOND OAK



GFT BDF
HERRINGBONE OAK MULTI



GFT BDF HERRINGBONE BLOND OAK



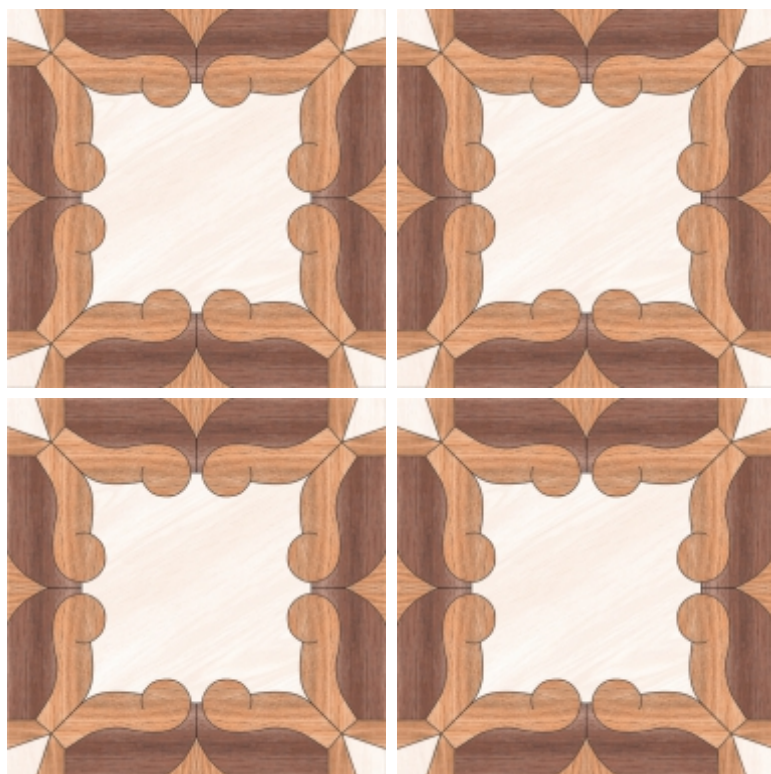
GFT BDF HERRINGBONE OAK MULTI & GFT BDF CEMENTO LT BLUE



600x600 MM

STYLIZED

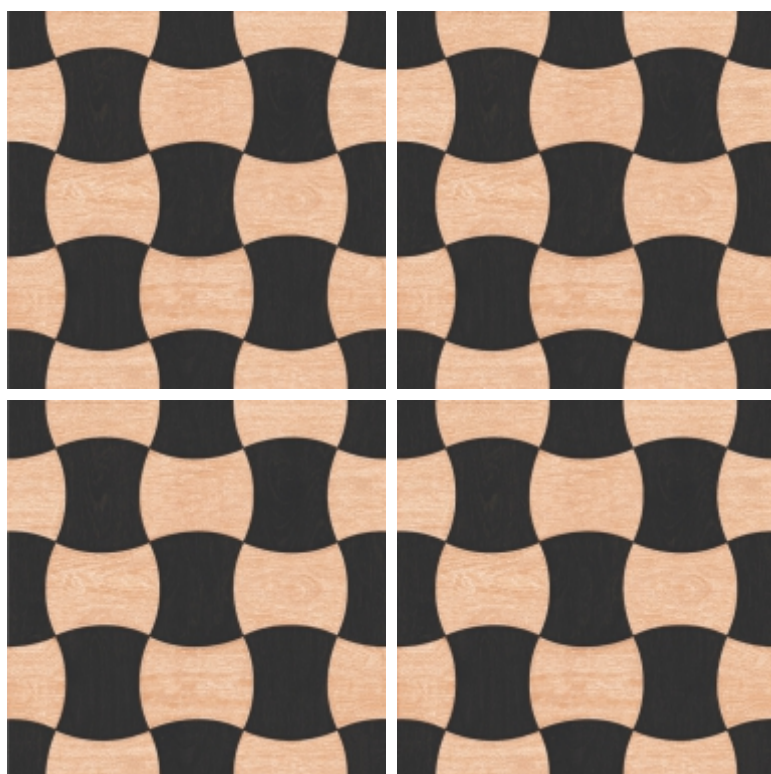
forever tiles



G5
F1



GFT BDF
INLAY WOOD



G5
F1



GFT BDF
DOUBLE RIVET WOOD



GFT BDF INLAY WOOD



GFT BDF DOUBLE RIVET WOOD

SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH
(A unit of Shriram Scientific and Industrial Research Foundation)
An ISO - 9001:2008 Certified Institute

TEST CERTIFICATE

000247052

Issued to: 1. ORIENT BELL LIMITED, 2. INDUSTRIAL AREA, 3. SIKANDRABAD - 203205, UTTAR PRADESH

Kind Attn: MR. G. S. TYAGI, SR. MGR. PURCHASE

One sample of Nand Tech Germ Free Tiles, Size 600x600 was received.

TEST RESULTS

- Evaluation of Antimicrobial activity of the Tile sample.
- As per guidelines of BIS - Z-2801-2000
- Escherichia coli
- Staphylococcus aureus
- 50mm X 50mm

TEST PROTOCOL
TEST ORGANISM
SAMPLE SIZE

S. No.	Antibacterial Resistance against Escherichia coli	Count per Piece of control, (in cfu/Piece)	Count of Inoculum (Average count - in cfu/piece)
1.	Control Sample (marked as untreated)		
	Number of bacteria inoculated per piece at 0 Hrs(A)	7.3×10^7 7.6×10^7 7.2×10^7	7.3×10^7
2.	Number of bacteria inoculated per piece after 24 Hrs incubation(B)	9.5×10^7 9.1×10^7 9.4×10^7	9.3×10^7

S. No.	Sample (marked as treated)	Count per tile, (in cfu/tile)	Count of Inoculum (Average count (C), in cfu/tile)	Antimicrobial Activity after 24hrs (log (B/C))
3.	Number of bacteria inoculated per piece after 24 Hrs incubation(C)	1.7×10^2 2.1×10^2 2.8×10^2	1.9×10^2	3.6

Contd. to report no. 247053 (Page 1 of 2)

19, University Road, Delhi - 110007.
E-Mail: shriram@srin.com Website: www.shriraminstitute.org

Ph: 91-11-27667267, 27667281, 27667288
Fax: 91-11-27667676, 27667287

P.T.O.

SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH
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TEST CERTIFICATE

000247053

Contd. from report no. 247052 (Page 2 of 2)

2. Antimicrobial Resistance against Staphylococcus aureus

S. No.	Control Sample (marked as untreated)	Count per piece of control, (in cfu/piece)	Count of Inoculum (Average count - in cfu/piece)
1.	Number of bacteria inoculated per piece at 0 Hrs(A)	8.2×10^7 8.0×10^7 8.5×10^7	8.2×10^7
2.	Number of bacteria inoculated per piece after 24 Hrs incubation(B)	9.7×10^7 9.4×10^7 9.2×10^7	9.4×10^7

S. No.	Sample (marked as treated)	Count per tile, (in cfu/tile)	Count of Inoculum (Average count (C), in cfu/tile)	Antimicrobial Activity after 24hr (log (B/C))
3.	Number of bacteria inoculated per piece after 24 Hrs incubation(C)	Less than 10 Less than 10 Less than 10	Less than 10	5.9

Interpretation: The antimicrobial efficacy of Tile was found to be 5.6 against Escherichia coli and 5.9 against Staphylococcus aureus, which are above the value of 2.0 as per the guideline, hence sample of tile passes the test.

DOB: 11-07-2012
DOC: 30-07-2012

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Fax: 91-11-27667676, 27667287

P.T.O.



BTS BIOTECH TESTING SERVICES

TEST REPORT

DATE: 07/12/2019

LAB NO.: 19020805/6 - 6

NAME OF CUSTOMER: M/S. ORIENT BELL LIMITED

ADDRESS: S. A 70 to A 80, Industrial Area, Sakinaka 200206, UP, India

REFERENCE: Your Letter Ref: Nil dated November 21, 2019
Kind Attention: Anil Kumar

DATE OF RECEIPT: 23/11/2019

DATE OF INITIATION: 23/11/2019

DATE OF COMPLETION: 07/12/2019

SAMPLE DESCRIPTION: Tiles specimen labeled as -

Sr. No.	Sample Code	Other details
5	FT Tiles	Untreated
6	FT Tiles	Treated

Name of Test: Evaluation of Antimicrobial Activity of Tile sample

Name of Test Protocol: IS Z 2801: 2010

Test Organisms used for evaluating Antimicrobial activity:
1. *Staphylococcus aureus* ATCC 6538
2. *Escherichia coli* ATCC 8739

Test Conditions:
Neutraliser used: Buffered Saline with Tween 80 - 0.01 %
Contact Time: 24 hours at 37° C
Incubation Temperature: 37° C for Bacteria
Media and Reagent: Soyabean-casain digest agar for Bacteria

Page 1 of 2

BTS BIOTECH TESTING SERVICES

Results:

ANTIBACTERIAL ACTIVITY
1. Test Bacteria: *Staphylococcus aureus* ATCC 6538

Quantitative Assessment of Activity - IS Z 2801: 2010				
Untreated Conc. of inoculum on untreated sample after 24 hour (A): 1.78×10^7				
Log of Bacteria on treated sample				
Untreated Conc. of inoculum on untreated sample after 24 hour (B): 5.30×10^7	No. Bacteria on treated sample (C)	Log of Bacteria on treated sample	Antimicrobial Activity (R) (Log B.C)	Microbial Kill (% Reduction)
FT Tile - Untreated	162000	5.28	0.44	63.77
FT Tile - Treated	4500	3.65	2.67	96.15

2. Test Bacteria: *Escherichia coli* ATCC 8739

Quantitative Assessment of Activity - IS Z 2801: 2010				
Untreated Conc. of inoculum on untreated sample after 24 hour (A): 1.20×10^7				
Log of Bacteria on treated sample				
Untreated Conc. of inoculum on untreated sample after 24 hour (B): 5.32×10^7	No. Bacteria on treated sample (C)	Log of Bacteria on treated sample	Antimicrobial Activity (R) (Log B.C)	Microbial Kill (% Reduction)
FT Tile - Untreated	210000	5.32	0.76	92.50
FT Tile - Treated	10900	4.02	2.06	96.11

The Standard Antimicrobial value of Evaluation R ≥ 2.0

COMMENT:

When tested as specified, the sample labeled FT Tile - Treated **PASSES** the Quantitative Assessment of activity.
FT Tile - Untreated **FAILS** the Quantitative Assessment of activity for *Staphylococcus aureus* and *Escherichia coli* by IS Z 2801: 2010 Test Method.

For BIOTECH TESTING SERVICES



Dr. Shipra U. Nair
Quality Manager
(Authorized Signatory)

19020805 - 6
Page 2 of 2

TECHNICAL SPECIFICATIONS

Forever Tiles

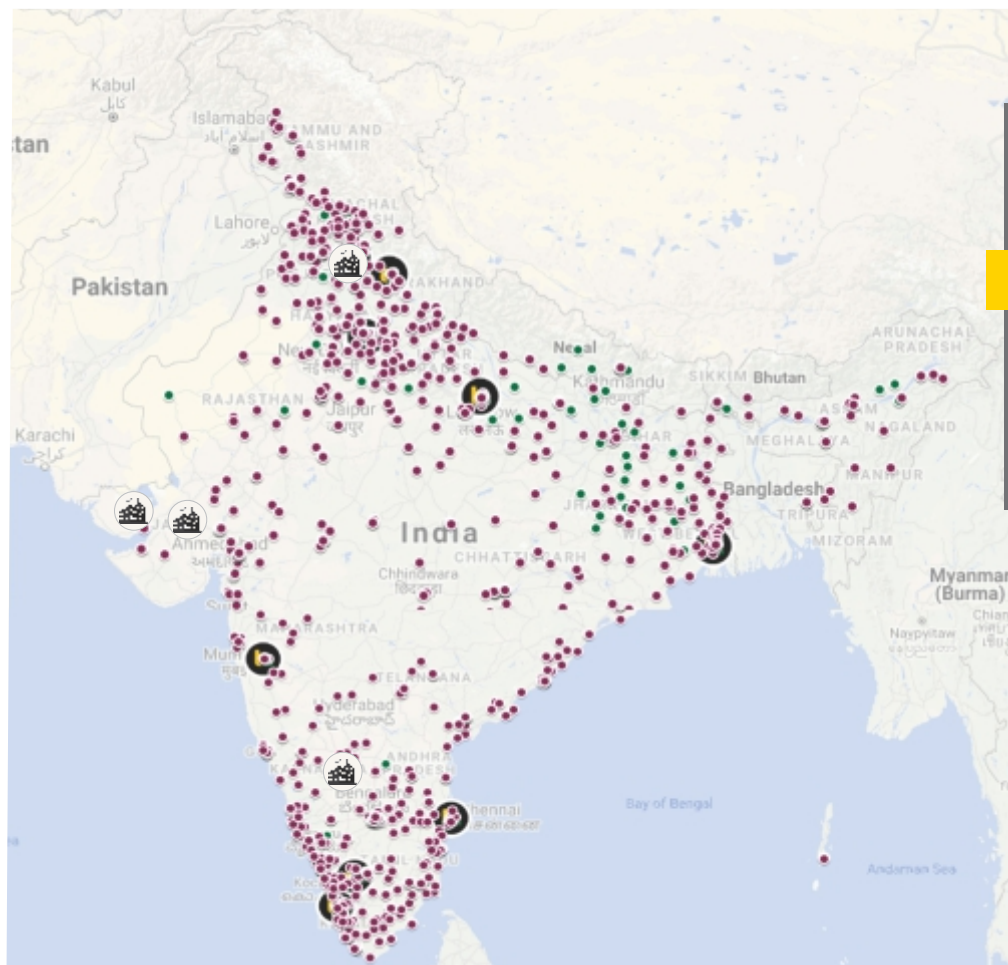


Packing Details			
Size	No. of Tiles	Covered Area Per Carton	
(In mm.)	Per Carton	(In Sq. Mtr.)	(In Sq. Ft.)
600x600 (Dora)	4	1.44	15.5





Characteristics	Standard as Per IS 15622:2017 Group B Ib	OBL Norms	Testing Methods
Dimension & Surface Quality			
Deviation in Length & Width	± 0.1 %	±0.05%	IS 13630 Part 1
Deviation in Thickness	± 5.0 %	±3.0%	
Straightness of Sides	± 0.1 %	±0.1%	
Rectangularity	± 0.1 %	±0.1%	
Surface Flatness	± 0.5 %	± 0.2 %	
Surface Quality	Min 95% of the tiles shall be free from visible defects that would impair the appearance of a major area of the tile	Conforms	
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/mm ²	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 (Applicable for floor applications only)	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 -1	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.



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CHENNAI

New No: 85, Old No: 30, Maharaja Tower, 2nd Floor, 1st Avenue,
Ashok 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 41666

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 4046/7

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,
Shankarasheth Road, Gultekdi, Swargate, Pune-411 037
Tel.: +91 73910 72247

VADODRA DISPLAY CENTRE

78-79, 2nd Floor, Surya Kiran Complex, Beside Banker Heart Institute,
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