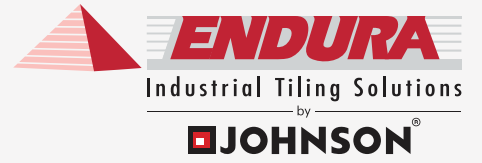
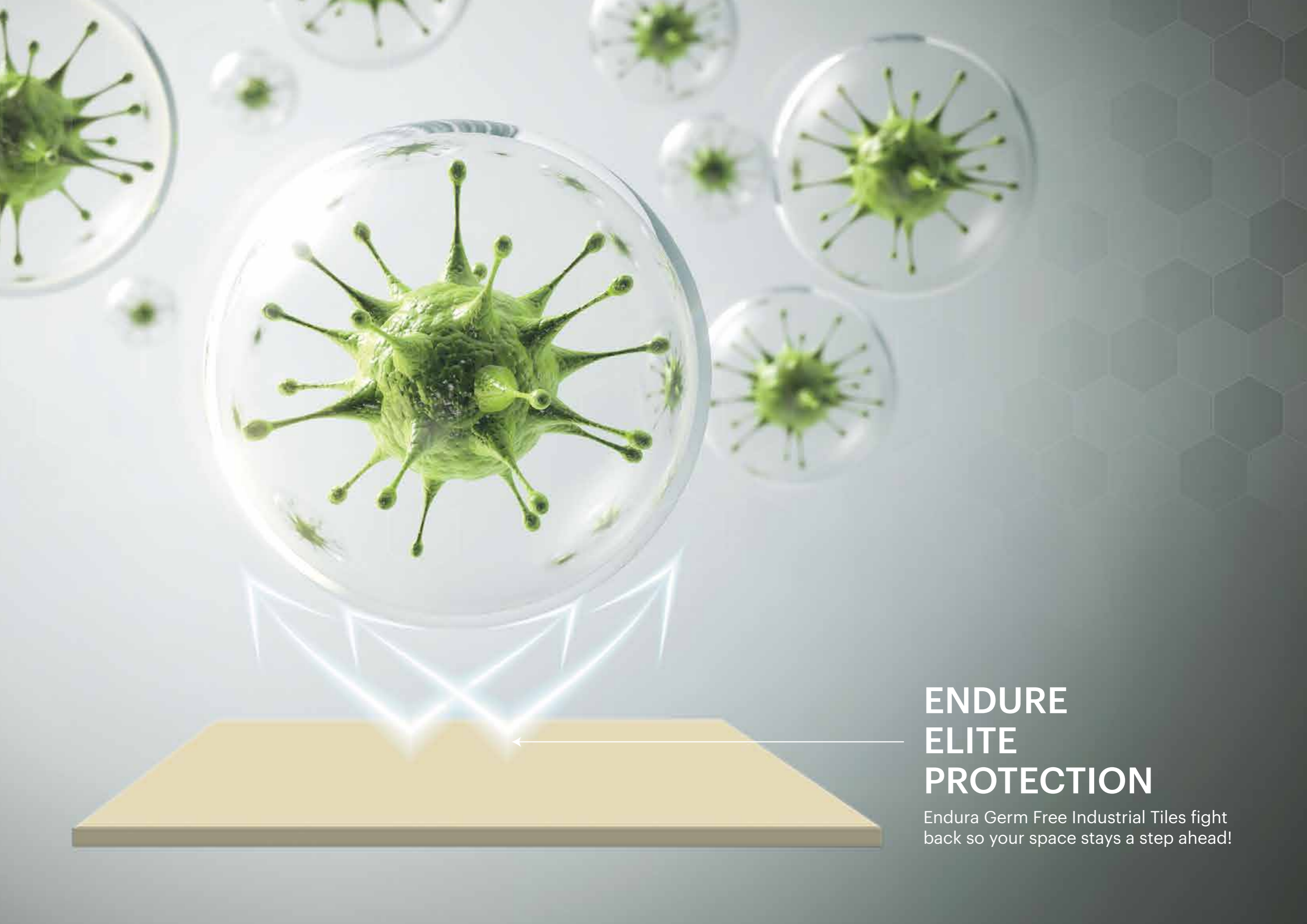


INDIA'S
1ST ANTI
MICROBIAL
TILES



ENDURA GERM FREE INDUSTRIAL TILES

Actively Antimicrobial, Exceptionally Heavy-Duty.



**ENDURE
ELITE
PROTECTION**

Endura Germ Free Industrial Tiles fight back so your space stays a step ahead!

67 YEARS OF PIONEERING SURFACES

At H & R Johnson (India), every surface tells a story of advancement. Backed by **67 years of experience** and a future-focused vision, we engineer materials that not only meet industrial demands, but also anticipate them.

As a division of Prism Johnson Limited, our infrastructure spans 11 tile plants and 2 faucet facilities with a manufacturing capacity exceeding 64 million square meters annually.

With this scale and legacy, we now elevate the category with Endura Germ Free Industrial Tiles, heavy-duty antimicrobial surfaces created specifically for industrial environments. **Building on our milestone from 2010**, when Johnson introduced India's first indigenous antimicrobial wall tile under the Germ Free range, this innovation is designed with precision and powered by our patented GermGuard technology. These tiles represent a new echelon of hygiene, performance, and trust.



HYGIENE'S IMPACT ON INDUSTRIAL SAFETY

Ensuring hygiene and safety in industrial settings is crucial, not just for protecting employee health but also for meeting the stringent standards many industries demand. Sectors such as pharmaceuticals, food processing, and healthcare require consistently sterile environments where even minor lapses in hygiene can lead to severe consequences. At the same time, industrial workspaces often expose employees to a variety of risks, from chemical and airborne pollutants to high noise levels, extreme temperatures, and biological hazards.

Strong hygiene and safety protocols are essential to prevent illness, injury, contamination, and long-term health complications. Specifically, when it comes to combating bacteria and viruses, germ free tiles offer a significant advantage. They deliver dependable protection against harmful microbes, helping create a cleaner, safer, and more compliant work environment. In the long run, investing in hygiene and safety not only protects your workforce but also supports regulatory compliance, reduces risks, and drives operational efficiency across high-demand industrial spaces.





ONE TO A BILLION- THE MATH OF MICROBES

Moisture accelerates germ growth. A single bacterium can multiply into over a million within 12 hours. Some microbes double every 20 minutes. To understand the scale, if one bacterium were worth one rupee and doubled every 20 minutes, you'd cross ₹2 million in 7 hours. In under 10 hours, you'd be a billionaire. Now, imagine that growth on your surfaces. Between cleanings, bacteria multiply rapidly, making spaces unhygienic fast. Constant antimicrobial protection is the only real defence.

ENDURA SHIELDS SURFACES WITH GERM FREE INDUSTRIAL TILES

In demanding industrial spaces, surfaces need to do more than just look clean; they need to protect. Endura Germ Free Industrial Tiles actively **eliminate over 99%*** of bacteria, viruses, and fungi on contact, thanks to antimicrobial agents embedded deep within the tile surface. No coatings. No downtime. Just nonstop protection.

Designed to be actively antimicrobial and exceptionally heavy-duty, these tiles are ideal for environments like food processing units, pharma plants, and healthcare zones, where hygiene is critical to both safety and product integrity. By fighting microbes between cleanings, they help minimise contamination risks, support compliance, ensure cleaner workspaces, and protect product quality.

Add to that unmatched resistance to stains, chemicals, and heavy-duty wear, and you have a hygiene solution built to last.

INDIA'S FIRST INORGANIC ANTIMICROBIAL COMPOUND

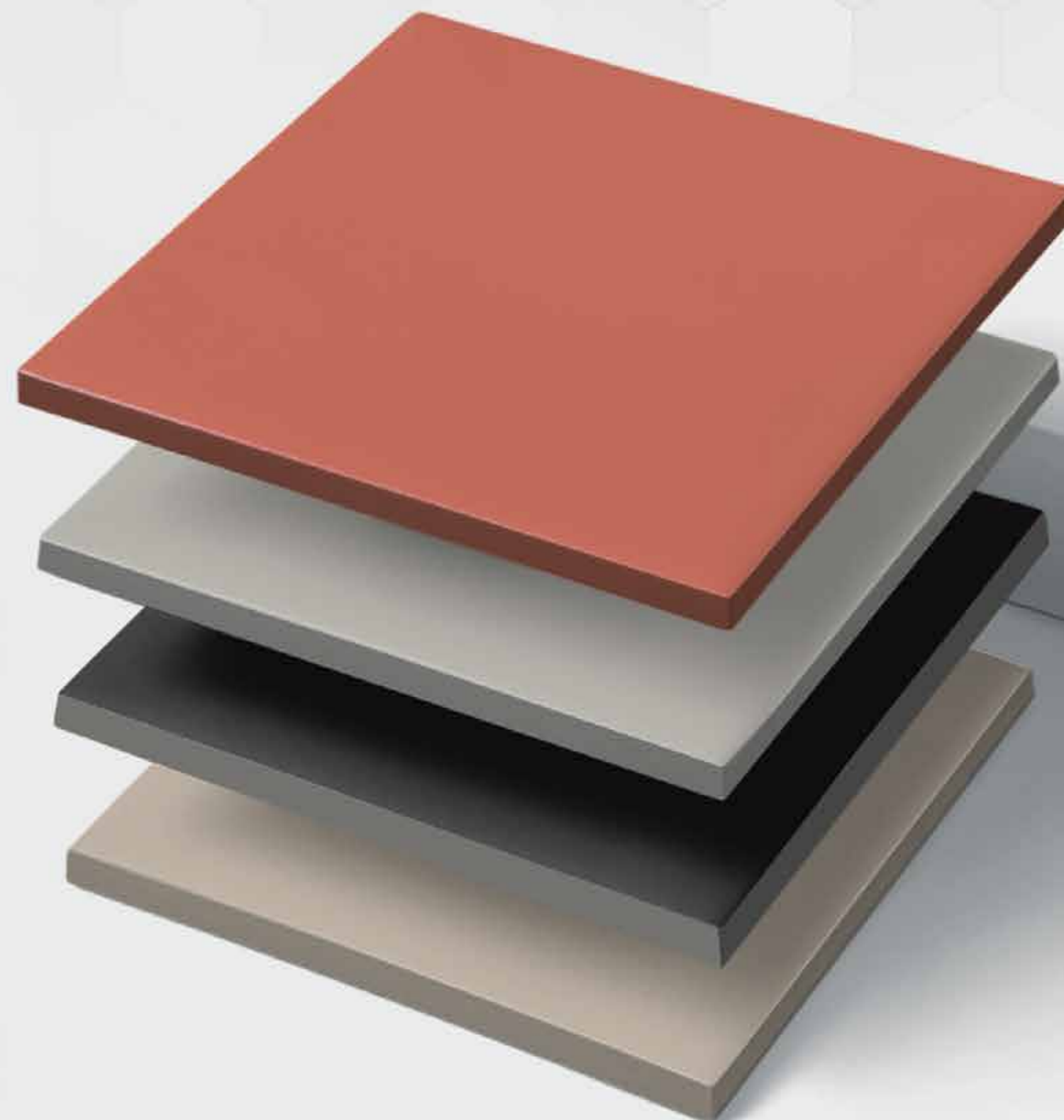
The Johnson patented antimicrobial compound is developed at **H & R Johnson's R&D Centre, which is recognized by the DSIR, Government of India**. The first of its kind in the country, this compound is a silver-based inorganic antimicrobial agent embedded within the tile glaze rather than simply applied on the surface. This ensures the antimicrobial protection remains active, durable, and long-lasting, offering sustained hygiene over time.

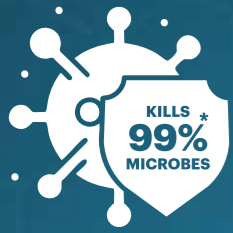


**INDIA'S
1ST ANTI
MICROBIAL
TILES**

*H & R Johnson's GERM FREE tiles are made using a patented silver-ion-based antimicrobial compound.

*As per JIS Z 2801:2010 and ISO 22196:2011 test protocols.

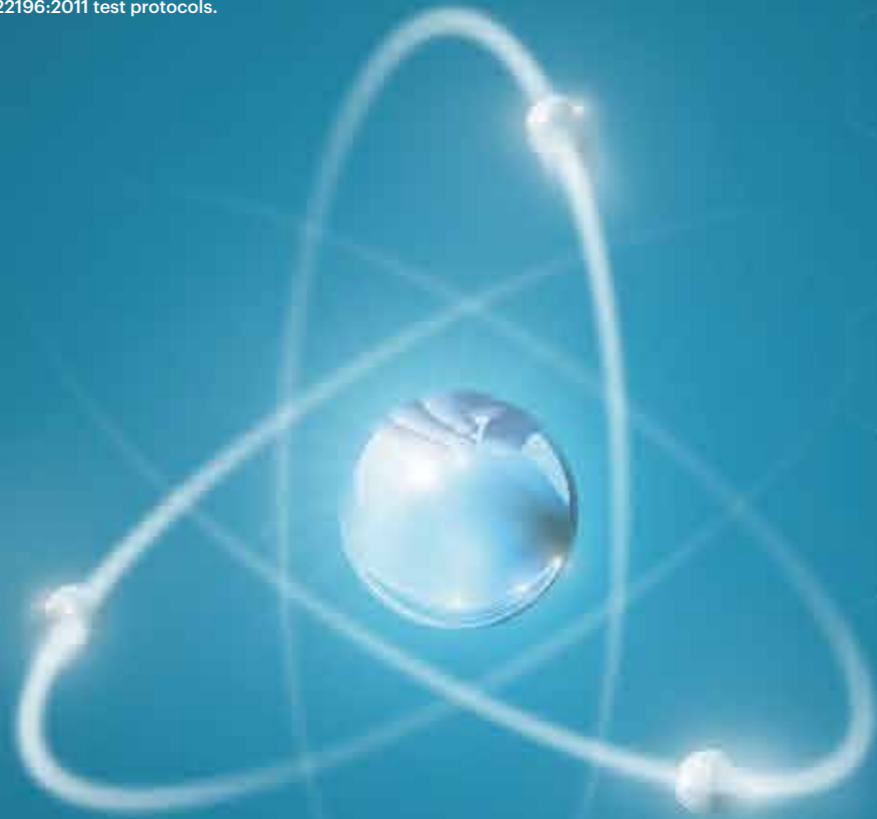




**INDIA'S
1ST ANTI
MICROBIAL
TILES**

*H & R Johnson's GERM FREE tiles are made using a patented silver-ion-based antimicrobial compound.

*As per JIS Z 2801:2010 and ISO 22196:2011 test protocols.



THE HIDDEN POWER OF SILVER IONS

Our Endura Germfree Industrial Tiles are infused with advanced silver ion technology, seamlessly embedded into the tile matrix. These silver ions (Ag^+) actively migrate to the surface where they neutralise harmful bacteria by disrupting their cell membranes, 24/7, without any compromise.

HOW SILVER IONS (Ag^+) WORK:



In the presence of moisture, silver ions are released onto the tile surface.



These ions penetrate microbial cell walls, reacting with the outer layer (peptidoglycan) and damaging the structure.



Once inside, silver ions disrupt metabolic pathways, inhibit respiration, and generate reactive oxygen species.



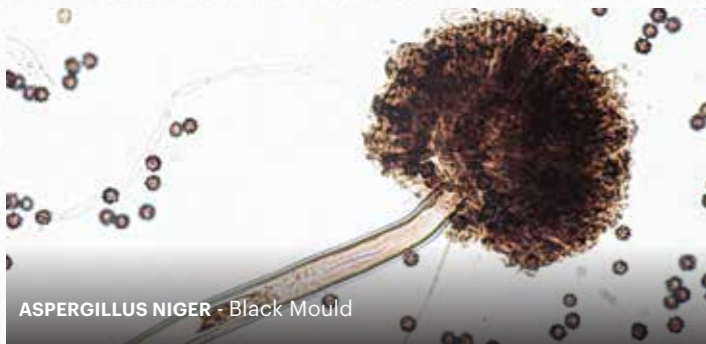
They also interfere with microbial DNA replication, stopping the microbes from multiplying or spreading.

BROAD-SPECTRUM EFFICACY

Johnson's Germ Free technology is effective against a wide range of microbes, including gram-positive and gram-negative bacteria, as well as viruses, fungi, and moulds.

PROVEN PERFORMANCE

Successfully used for over 15 years, Germ Free Tiles from Johnson have been tested against key pathogens, including:



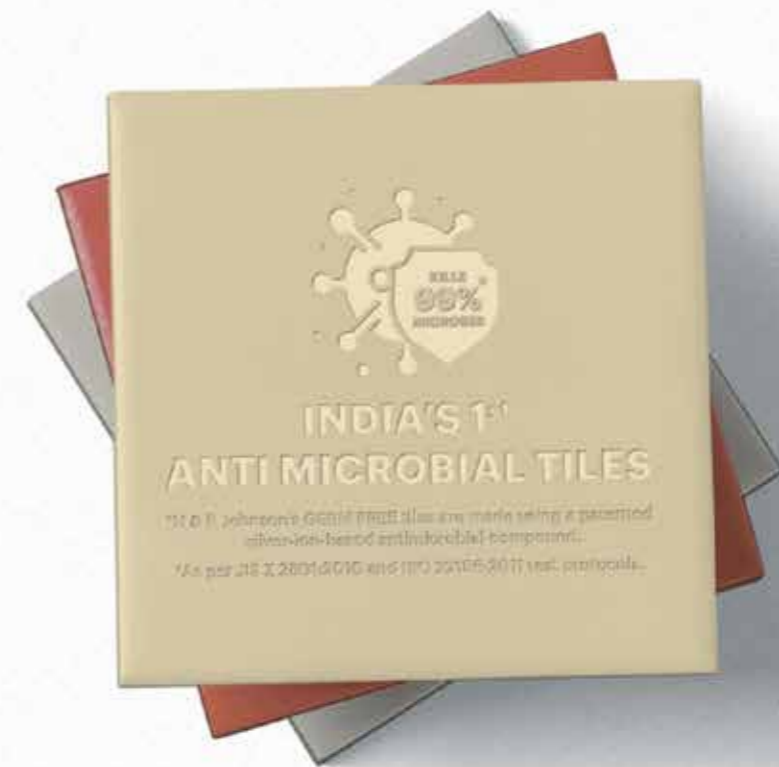
BUILT-IN HYGIENE YOU CAN TRUST

This antimicrobial technology is part of the tile itself, not a surface coating, which means no reapplication, no loss of efficacy over time, and round-the-clock protection in the most hygiene-sensitive industrial environments.

KEY BENEFITS OF ENDURA GERM FREE INDUSTRIAL TILES

BENEFIT	DESCRIPTION
INFECTION CONTROL	Reduces reservoirs and transmission of bacteria, viruses, and fungi.
BROAD-SPECTRUM EFFICACY	Eliminates over 99% of bacteria, viruses and fungi proven by standard tests.
LONG LASTING EFFECT	Surfaces remain protected between cleaning cycles, providing a much longer-lasting effect than chemical disinfectants.
PERMANENT	Lifelong 24/7 antimicrobial protection with embedded silver ions in the glaze.
REGULATORY COMPLIANCE	Meets hygiene standards for FDA, USDA, and similar agencies.
HEALTH PROTECTION	Safeguards employees and consumers from contamination.
SAFE & ECO-FRIENDLY	Non-toxic, made without using harsh chemicals, making them safe for all spaces.
DURABILITY	Resistant to chemicals, abrasion, and heavy traffic, minimising maintenance.
CLEANING EFFICIENCY	Easy to clean and maintain.

Maintaining germ free industrial floors is crucial for preventing infections, meeting regulatory standards, protecting health, ensuring smooth operations, safeguarding product quality, and maintaining overall safety within the facility.



WHAT HAPPENS WHEN YOU CHOOSE ENDURA IN INDUSTRIAL SPACE

Endura Germ Free Industrial Tiles not only protect against microbes but are also engineered to deliver exceptional performance in the most demanding environments. Here's why they are the preferred choice for industrial flooring:



LOWEST WATER ABSORPTION (<0.5%):

Prevents acid penetration through the tile body, keeping the bedding layer intact for years and enhancing structural longevity.



SUPERIOR TRACTION RESISTANCE

Designed to withstand continuous vehicular traffic without erosion, ideal for warehouses, loading bays, and heavy-use industrial zones.



BUILT TO HANDLE SUBSTANTIAL LOADS

Efficiently transfers heavy loads to the substrate without cracking or breakage.



SCRATCH-RESISTANT STRENGTH (MOHS >7)

With a MOHS hardness rating above 7 for full body tiles and above 6 for colour series tiles, Endura Germ Free Industrial Tiles resist scratches even from metal tools, ensuring a tough, durable surface that remains unscathed during regular operations and maintenance.



UNMATCHED ABRASION RESISTANCE

Among the highest in the industry, with an abrasion value of <math><120 \text{ mm}^3</math> (as per IS 4457:2007 Annex E/IS13630-12 standards), ensuring long-term surface integrity even under constant wear and tear.



EXCELLENT ACID & ALKALI RESISTANCE

With a weight loss of <math><0.8\%</math> in acid tests, Endura tiles offer outstanding resistance to concentrated acids, alkalis, and chemicals (excluding HF acid and its derivatives). Compliant with IS 4457:2007 standards, they protect concrete reinforcement and prevent structural erosion in corrosive environments.



STAIN-RESISTANT

Maintains aesthetic and functional integrity with excellent stain resistance, making routine cleaning and upkeep easy.



SLIP RESISTANCE FOR SAFETY

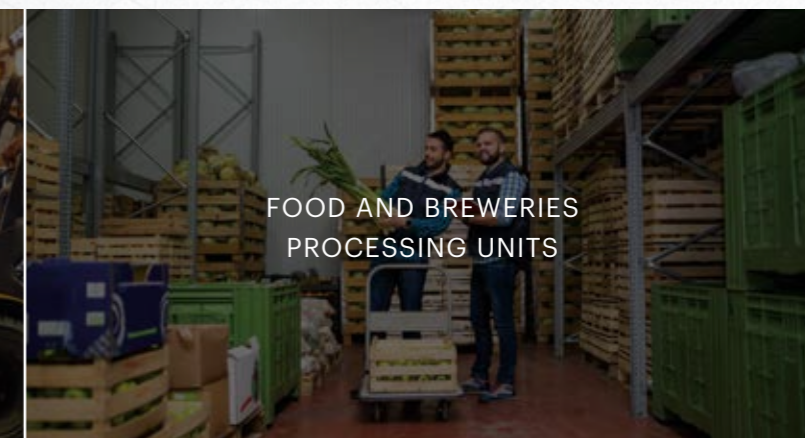
With the certified slip resistance of R9, the matt surface finish ensures enhanced safety, especially in wet, oily, or high-traffic conditions.

SIZE AND AREAS TO APPLY

30x30CM TILES, 20MM & 15MM THICKNESS



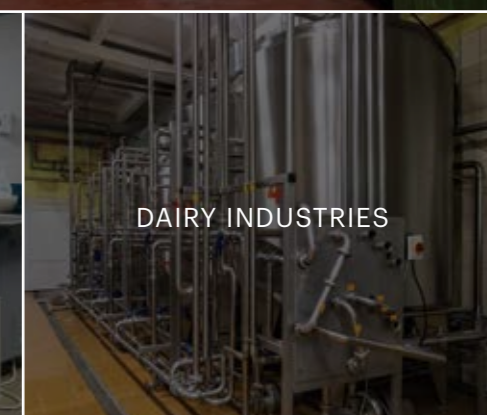
AGRO-BASED INDUSTRIES



FOOD AND BREWERIES PROCESSING UNITS



COMMERCIAL AND INDUSTRIAL KITCHENS



DAIRY INDUSTRIES

ENGINEERED TO RESIST



HARSH CHEMICALS, ACIDS AND ALKALIS



ABRASIVE FORCES



HEAVY MECHANICAL LOADS



SCRATCHES



GENERAL WEAR OVER TIME



FIRE



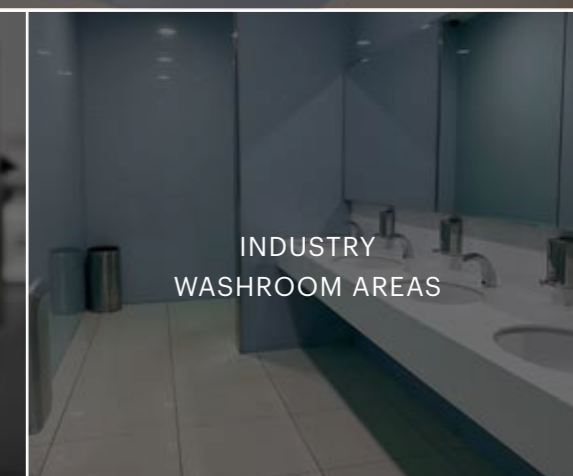
PHARMACEUTICALS & MANUFACTURING PLANTS



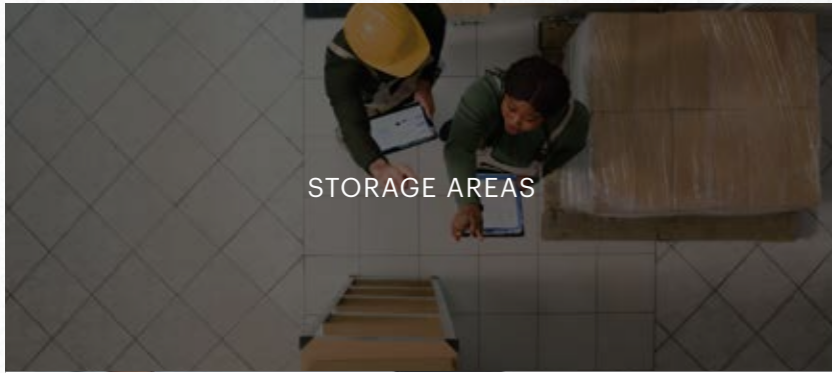
MEDICAL EQUIPMENT MANUFACTURING PLANTS



COSMETIC MANUFACTURING PLANTS



INDUSTRY WASHROOM AREAS



STORAGE AREAS



HOSPITALS, LABORATORIES,
AND HEALTHCARE FACILITIES



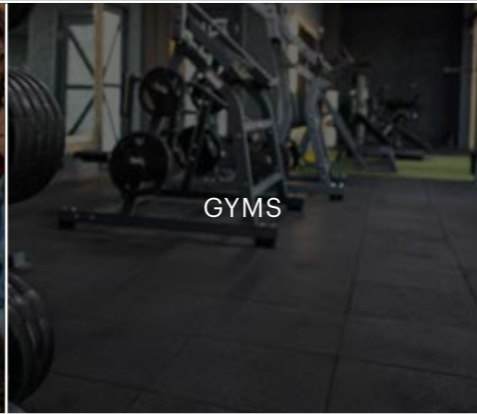
RESEARCH LABS



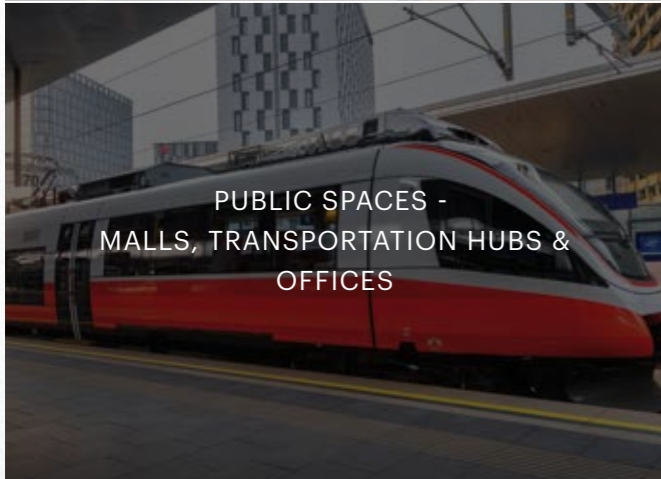
INDUSTRIAL CLINICS



COMMUNITY HALLS AND CLUBS



GYMS



PUBLIC SPACES -
MALLS, TRANSPORTATION HUBS &
OFFICES



SCHOOLS



CANTEENS



GF IVORY

SIZE:
30CMx30CM

SURFACE:
MATT

15mm
THICKNESS

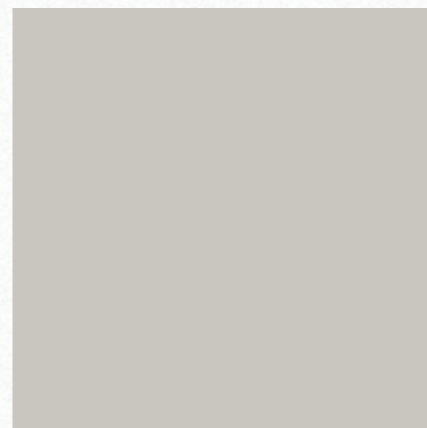


GF
TERRACOTTA

SIZE:
30CMx30CM

SURFACE:
MATT

15mm
THICKNESS



GF GREY

SIZE:
30CMx30CM

SURFACE:
MATT

15mm
THICKNESS



SIZE AND AREAS TO APPLY

30x30CM TILES, 10MM THICKNESS



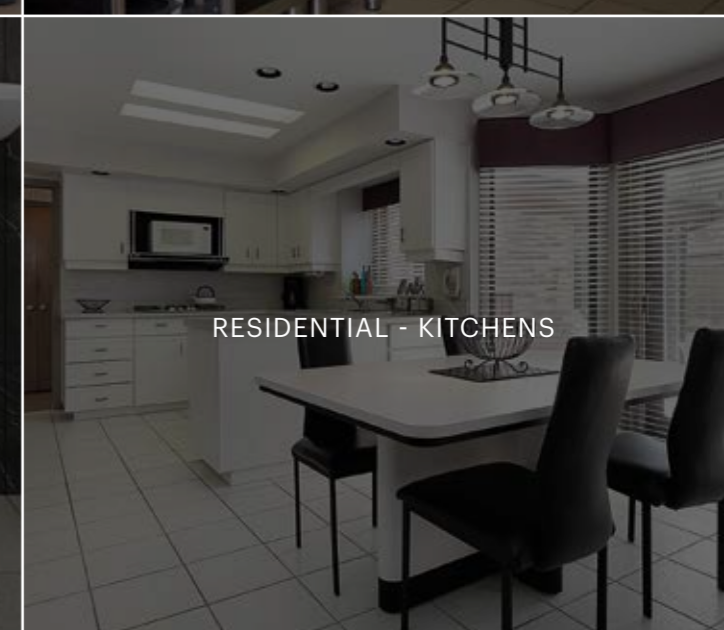
WALL / DADO IN INDUSTRIAL & COMMERCIAL KITCHENS



RESTAURANT & CLOUD KITCHENS



RESIDENTIAL - BATHROOMS



RESIDENTIAL - KITCHENS



GF IVORY

SIZE:
30CMx30CM

SURFACE:
PLAIN

20mm
THICKNESS



GF TERRACOTTA

SIZE:
30CMx30CM

SURFACE:
PLAIN

20mm
THICKNESS

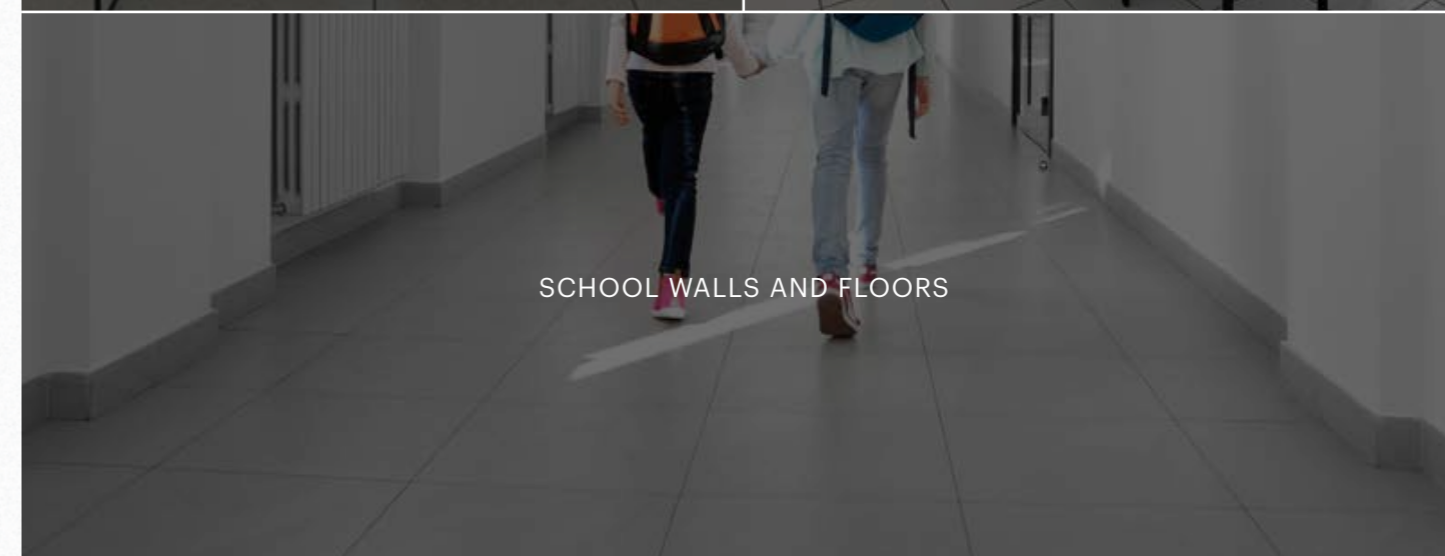


GF GREY

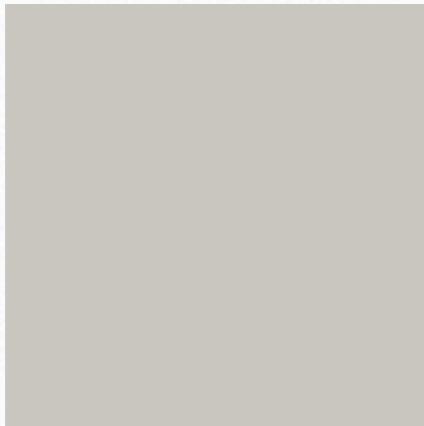
SIZE:
30CMx30CM

SURFACE:
PLAIN

20mm
THICKNESS



SCHOOL WALLS AND FLOORS



**GF
COLOUR SERIES
GREY PLUS**

SIZE:
30CMx30CM

SURFACE:
MATT

10mm
THICKNESS



**GF
COLOUR SERIES
BLACK PLUS**

SIZE:
30CMx30CM

SURFACE:
MATT

10mm
THICKNESS



**GF
IVORY PLUS**

SIZE:
30CMx30CM

SURFACE:
MATT

10mm
THICKNESS

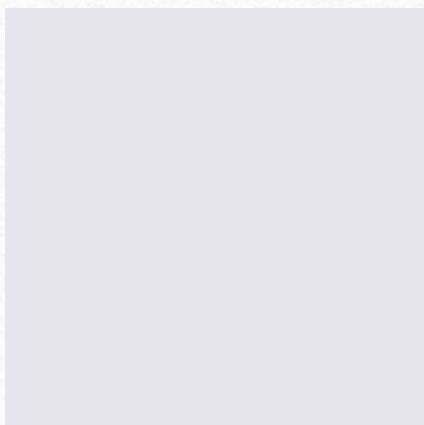


**GF
TERRACOTTA
PLUS**

SIZE:
30CMx30CM

SURFACE:
MATT

10mm
THICKNESS

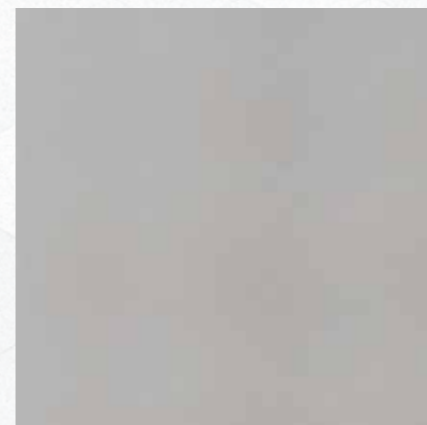


**GF
COLOUR SERIES
WHITE PLUS**

SIZE:
30CMx30CM

SURFACE:
MATT

10mm
THICKNESS



**GF
GREY PLUS**

SIZE:
30CMx30CM

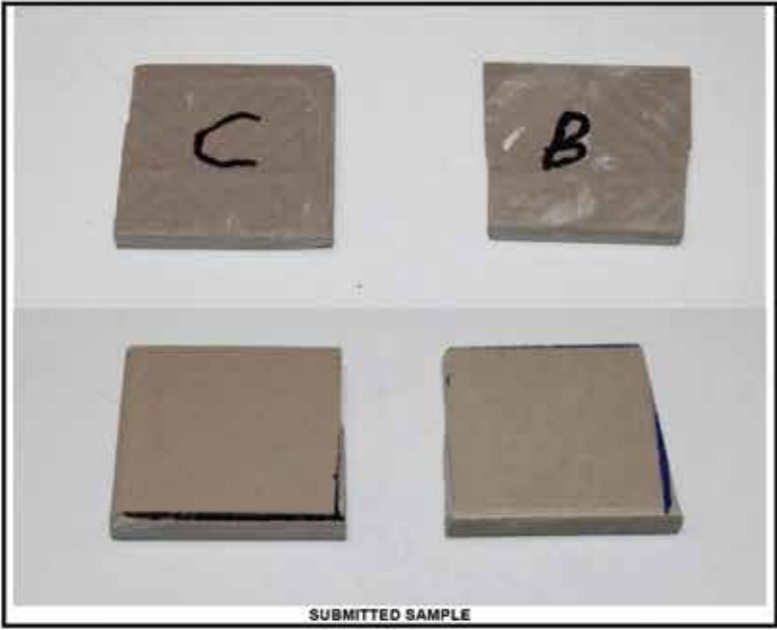
SURFACE:
MATT

10mm
THICKNESS

INDUSTRY-BACKED CERTIFICATIONS

intertek
Total Quality. Assured.


TEST REPORT NUMBER : DELH25007618
DATE : 10TH JUNE,2025



SUBMITTED SAMPLE

Intertek India Pvt.Ltd. 290, Udyog Vihar, Phase-II, Gurgaon, Haryana - 122016. Tel: 0124-4503400, Registered Office : E-20, Block B-1, Mohan Co-Operative Industrial Area, Mathura Road, New Delhi -110044. Fax: 0124-4303592 www.Intertek.com

Page 1 of 5



intertek
Total Quality. Assured.

TEST REPORT NUMBER : DELH25007618
DATE : 10TH JUNE,2025

APPLICANT: PRISM JOHNSON LIMITED
AB ROAD, INDUSTRIAL AREA NO 2, IN FRONT OF MALWA STRIPS, DEWAS, MADHYA PRADESH

ATTN: DEEPAK KUMAR

SAMPLE DESCRIPTION: : SAMPLE B IS GGT 10
SAMPLE C IS CONTROL

DATE RECEIVED : 12TH MAY, 2025
TEST PERFORMANCE DATE : 12TH MAY, 2025 TO 05TH JUNE, 2025
BUYER'S NAME : -
BUYING AGENT/ CONTACT : -
ORDER NO. : -
STYLE NO. : -
COLOR : -
END USE : -
MANUFACTURER'S NAME : -
SEASON : -
COUNTRY OF DESTINATION : -
COUNTRY OF ORIGIN : -

TESTS CONDUCTED: AS PER THE REQUEST BY THE APPLICANT.
FOR FURTHER DETAILS PLEASE REFER TO THE ENCLOSED PAGE (S).

CONCLUSION:

TESTED SAMPLE	TEST PARAMETERS / STANDARD	RESULT
SUBMITTED SAMPLE	ANTIMICROBIAL ACTIVITY (As per- JISZ 2801)	Refer data below

NOTE: M = MEET CLIENT'S REQUIREMENT F = BELOW CLIENT'S REQUIREMENT
= NO SPECIFIED REQUIREMENT N/A = NOT APPLICABLE

Note:

1. Statement of conformity is based on the simple acceptance rule without using measurement uncertainty.
2. In this report results relate only to the item tested.
3. Laboratory reports the final test results in test report. Any additional information, if required will be provided on request.
4. Samples received in good condition.
5. Testing has been performed as per the applicant's request.
6. Sampling is not done by Laboratory.


AUTHORIZED BY
FOR INTERTEK INDIA PVT. LTD

Sudhanshu

SUDHANSHU KUMAR
LAB MANAGER - HARDLINES AND TOYS

Intertek India Pvt. Ltd. 290, Udyog Vihar, Phase-II, Gurgaon, Haryana -122016. Tel: 0124-4503400, Registered Office : E-20, Block B-1, Mohan Co-Operative Industrial Area, Mathura Road, New Delhi -110044. Fax: 0124-4303592 www.Intertek.com

Page 2 of 5



intertek
Total Quality Assured

TEST REPORT

NUMBER : DELH2507618
DATE : 10th JUNE 2025

TEST CONDUCTED

1. ANTIMICROBIAL ACTIVITY

Test method:

ISO 22021 Measurement of antimicrobial activity on plastics and other non-porous surfaces

Determination of infectious time:

SCCA Method

Experimental conditions:

Test sample: control

Tile Sample

Test procedure:

Testators

Microbial inoculum

volume: 0.4 ml

Microbial size: 1.2^µ sp

Contact period: 24 hrs

Wash out medium:

SCCLP

Medium of Cell culture

SCCA

Incubation: 37°C for 2 days for bacteria, 20°C for 3 days for fungi

Intertek India Pvt Ltd

290, Ujjwaj Vihar, Phase-2, Gurgaon, Haryana-122016
Registered Office : E-20, Block B-1, Vicham
Co-Operative Industrial Area, Mathura Road,
New Delhi-110044

Hub 0124-4503900,
Fax: 0124-4303992
www.intertek.com

Page 1 of 5



intertek
Total Quality Assured

TEST REPORT

NUMBER : DELH2507618
DATE : 10th JUNE 2025

Observation:
Test Sample, Tiles

Parameter	Strain No	log10		Log Reduction		Log Reduction control	Log Reduction Sample	Percentage Reduction Sample	Log Reduction		
		CFU (N)	CFU(24hr)/Control	Log(24hr)Control	Log(24hr)Sample						
Bacillus Cereus	ATCC-430	140000	5.15	90000	4.95	37.9	0.21	480	2.58	99.81	2.48
Pseudomonas Aeruginosa	ATCC-2781	150000	5.18	100000	5.00	35.5	0.18	550	2.74	99.85	2.45
Listeria monocytogenes	ATCC-1962	140000	5.15	110000	5.04	22.5	0.11	490	2.59	99.85	2.44
E. Coli 9152	ATCC-4709	140000	5.15	110000	5.04	28.9	0.15	520	2.72	99.86	2.47
E. Coli 8732	ATCC-19628	130000	5.11	90000	4.95	30.7	0.16	470	2.57	99.83	2.46
E. Coli O157 H7	ATCC-43889	140000	5.15	100000	5.00	22.8	0.10	380	2.58	99.83	2.47
E. Coli Phage MS2	ATCC-1962 B1	140000	5.15	101000	5.00	18.8	0.09	480	2.58	99.88	2.49
Shigella	ATCC-12022	130000	5.20	110000	5.04	30.4	0.19	510	2.71	99.88	2.49
Salmonella Enterica Ser. typh	ATCC-7330	150000	5.18	100000	5.00	14.5	0.07	420	2.52	99.72	2.54
Salmonella Enterica	ATCC-13031	140000	5.15	101000	5.00	14.2	0.07	390	2.54	99.76	2.61
Salmonella Enterica subsp. Disenteriae	ATCC-12025	130000	5.11	110000	5.04	20.9	0.10	410	2.61	99.71	2.52
Salmonella Enterica subsp.	ATCC-49619	140000	5.15	102000	5.01	23.5	0.10	420	2.52	99.74	2.54
Clostridium Perfringens	ATCC-12024	150000	5.22	100000	5.00	20.7	0.10	390	2.54	99.76	2.57
Vibrio Cholerae	ATCC-35060	130000	5.11	100000	5.00	11.8	0.05	320	2.51	99.76	2.53
Vibrio Parahaemolyticus	ATCC-17602	130000	5.11	101000	5.00	12.3	0.06	320	2.59	99.85	2.55
Baccharomyces Cerevisiae	ATCC-18024	140000	5.15	110000	5.05	23.8	0.12	350	2.49	99.83	2.77
Candida	ATCC-10221	180000	5.25	101000	5.00	19.3	0.10	380	2.69	99.76	2.62
Aspergillus	ATCC-6275	150000	5.22	100000	5.00	28.4	0.13	410	2.61	99.76	2.60
Moulds	MYA-4821	130000	5.11	110000	5.04	20.3	0.10	320	2.58	99.81	2.60

Intertek India Pvt Ltd

290, Ujjwaj Vihar, Phase-2, Gurgaon, Haryana-122016
Registered Office : E-20, Block B-1, Vicham
Co-Operative Industrial Area, Mathura Road,
New Delhi-110044

Hub 0124-4503900,
Fax: 0124-4303992
www.intertek.com

Page 4 of 5



RESULTS THAT REFLECT PERFORMANCE

intertek
Test Quality Assured

TEST REPORT

NUMBER: DELHQ25007016
DATE: 30th JUNE 2020

Organism	ATCC	CFU	CFU	CFU	CFU	CFU	CFU	CFU	CFU	CFU	CFU
Bacillus Coglatus	ATCC-7950	148000	5.10	120000	5.10	13.1	0.09	420	2.52	89.71	2.54
Bacillus Subtilis	ATCC-7231	952000	5.21	148000	5.15	13.5	0.09	419	2.51	89.75	2.50
Enterococcus Faecium	ATCC-4302	186000	5.20	120000	5.11	17.7	0.09	365	2.75	89.85	2.49
Listeria Inocosa	ATCC-30159	166000	5.19	120000	5.19	19.4	0.09	320	2.72	89.68	2.47
Listeria Inocosa	ATCC-30030	162000	5.21	140000	5.15	13.6	0.09	340	2.73	89.67	2.49
Rhizobium S Sol	ATCC-49619	128000	5.14	110000	5.04	20.9	0.19	380	2.58	89.73	2.54
Lactobacillus	ATCC-2821	167000	5.20	120000	5.08	22.9	0.11	430	2.52	89.73	2.57

Remark: According to the standard, an antibacterial product is determined to have antibacterial effectiveness when the antibacterial activity (IR) is 2.0 or more.

END OF TEST REPORT

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Test on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, as conducted, but, by statute or otherwise, except in the event of our gross negligence or willful misconduct.

Intertek India Pvt. Ltd.
290, Udyog Vihar, Phase II, Gurgaon, Haryana - 122016
Registered Office - 8-20, Block B-1, Malviya
Co-Operative Industrial Area, Malviya Road,
New Delhi - 110044.

Tel: 0124-4933430
Fax: 0124-4933592
www.intertek.com

Page 1 of 5

BTS
BIOTECH TESTING SERVICES

TEST REPORT

LAB NO. : 1900032/ 1 - 2 DATE: 12/06/2019

NAME OF CUSTOMER : M/S. PRISM JOHNSON LIMITED

ADDRESS : Village Khar Devil,
Gadab, Gos Road, Tal. Pen - 402 107
Dist. Raigad, Maharashtra

REFERENCE : Your letter Ref. No. Nil dated April 24, 2019
Kind Attention: Santosh Kumar

DATE OF RECEIPT : 24/04/2019

DATE OF INITIATION : 24/04/2019

DATE OF COMPLETION : 12/06/2019

SAMPLE DESCRIPTION : Tiles sample labeled as -

Sr. No.	Description
1.	Control Tiles
2.	Johnson Germ Free Tiles

Name of Test:
Evaluation of Antimicrobial Activity of Tile specimen

Name of Test Protocol:
JIS Z 2801: 2010

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

Page 1 of 4

* Samples are not drawn by the laboratory. * Result relate only to the samples tested
* This report shall not be reproduced except in full without prior permission of this laboratory

104/105, Malwa, Patanwala Ind. Estate, L.B.S. Marg, Ghatkopar (W), Mumbai - 400086, INDIA • Tel. +91-22-2500 2811, 2500 2812
Email : info@biotechs.in / report@biotechs.in / biotechtestingservices@gmail.com / shilpanair@biotechs.in

An ISO / IEC 17025-2017 Accredited Testing Services www.biotechs.in



Test Organisms used for evaluating Antimicrobial activity:

1. Staphylococcus aureus ATCC 8538
2. Alkaligenes faecalis ATCC 8750
3. Corynebacterium xerosis ATCC 7711
4. Proteus mirabilis ATCC 14153
5. Proteus vulgaris ATCC 13315
6. Pseudomonas putida ATCC 12633
7. Salmonella typhi ATCC 10749
8. Shigella flexneri ATCC 9199
9. Streptococcus faecalis ATCC 9790
10. Citrobacter freundii ATCC 8090
11. Pseudomonas aeruginosa ATCC 9027
12. Vancomycin Resistant Enterococcus AATCC 51299
13. Vibrio cholerae 01 MTCC 3904
14. Acinetobacter baumannii ATCC 19606
15. Bacillus subtilis ATCC 6633
16. Corynebacterium minutissimum ATCC 23348
17. Enterobacter sakazakii ATCC 51329
18. Enterococcus hirae ATCC 10541
19. Escherichia coli ATCC 25922
20. Escherichia coli ATCC 8739
21. Klebsiella pneumoniae ATCC 2146 - MBL strain
22. Listeria monocytogenes ATCC 23074
23. Meticillin Resistant Staphylococcus aureus ATCC 43300
24. Nocardia rugosa NCIM 2290
25. Salmonella enterica sub enterica ATCC 14028
26. Serratia marcescens ATCC 14786
27. Shigella boydii ATCC 8207
28. Staphylococcus epidermidis ATCC 7919
29. Vancomycin Resistant Enterococcus ATCC 2008
30. Sarcina luteus MTCC 2210
31. Burkholderia cepacia ATCC 25416
32. Klebsiella pneumoniae ATCC 1705 - KPC
33. Micrococcus luteus ATCC 10240
34. Escherichia coli ATCC 10538

1900032/ 1 - 2
Page 2 of 4

* Samples are not drawn by the laboratory * Result relate only to the samples tested
* This report shall not be reproduced except in full without prior permission of this laboratory

104/105, Mahwa, Patanwala Ind. Estate, L.B.S. Marg, Ghatkopar (W), Mumbai - 400086, INDIA • Tel. +91-22-2500 2811, 2500 2812
Email : info@biotechts.in / report@biotechts.in / biotechtestingservices@gmail.com / shilpanair@biotechts.in

An ISO / IEC 17025:2017 Accredited Testing Services

www.biotechts.in



RESULTS:

ANTIBACTERIAL ACTIVITY

Sr. No.	Test Organism	Count of Test Organism After Exposure				Antimicrobial Activity	
		Untreated		Treated		Log Reduction	Percentage Reduction
		CFU/ml	Log	CFU/ml	Log		
1.	Staphylococcus aureus ATCC 8538	500000	5.77	5200	3.72	2.05	99.12
2.	Alkaligenes faecalis ATCC 8750	490000	5.69	4700	3.67	2.01	99.04
3.	Corynebacterium xerosis ATCC 7711	80000	4.90	710	2.85	2.05	99.11
4.	Proteus mirabilis ATCC 14153	1800000	6.28	18200	4.21	2.05	99.10
5.	Proteus vulgaris ATCC 13315	960000	5.62	5700	3.76	2.05	99.14
6.	Pseudomonas putida ATCC 12633	780000	5.89	7800	3.88	2.01	99.03
7.	Salmonella typhi ATCC 10749	810000	5.91	4900	3.89	2.22	99.40
8.	Shigella flexneri ATCC 9199	310000	5.49	2900	3.46	2.03	99.06
9.	Streptococcus faecalis ATCC 9790	810000	5.79	5200	3.72	2.07	99.15
10.	Citrobacter freundii ATCC 8090	510000	5.71	2800	3.45	2.28	99.45
11.	Pseudomonas aeruginosa ATCC 9027	1350000	6.13	12800	4.10	2.03	99.07
12.	Vancomycin Resistant Enterococcus AATCC 51299	340000	5.53	3100	3.49	2.04	99.09
13.	Vibrio cholerae 01 MTCC 3904	710000	5.85	6700	3.83	2.03	99.06
14.	Acinetobacter baumannii ATCC 19606	910000	5.96	8200	3.91	2.05	99.10
15.	Bacillus subtilis ATCC 6633	400000	5.60	3100	3.49	2.11	99.22
16.	Corynebacterium minutissimum ATCC 23348	78000	4.88	310	2.49	2.39	99.58
17.	Enterobacter sakazakii ATCC 51329	205000	5.31	7100	3.85	2.01	99.03
18.	Enterococcus hirae ATCC 10541	360000	5.55	3000	3.48	2.07	99.16
19.	Escherichia coli ATCC 25922	2570000	6.41	25600	4.41	2.00	99.00
20.	Escherichia coli ATCC 8739	700000	5.85	6800	3.84	2.01	99.01

1900032/ 1 - 2
Page 3 of 4

* Samples are not drawn by the laboratory * Result relate only to the samples tested
* This report shall not be reproduced except in full without prior permission of this laboratory

104/105, Mahwa, Patanwala Ind. Estate, L.B.S. Marg, Ghatkopar (W), Mumbai - 400086, INDIA • Tel. +91-22-2500 2811, 2500 2812
Email : info@biotechts.in / report@biotechts.in / biotechtestingservices@gmail.com / shilpanair@biotechts.in

An ISO / IEC 17025:2017 Accredited Testing Services

www.biotechts.in

FAQs

1. What are Endura Germ Free Industrial Tiles? Do we really need them? We use disinfectant already then, what is the advantage?

Endura Germ Free Industrial Tiles are high quality vitrified tiles for floor and wall which also control the bacteria & virus growth in food, pharmaceutical industries, hospitals and bathroom & kitchen walls and flooring across your home. These tiles are made using Johnson's innovation and patented inorganic antimicrobial compound and processes. It is a well known fact that, no disinfectant kills bacteria & virus 100% and also they do not remain effective till the next cycle of cleaning tiles. The remaining bacteria & viruses start growing again and if they get favourable conditions, they can multiply too fast and infect the surface in few hours again. Endura Germ Free Industrial Tiles fights these bacteria & viruses, neutralize and kill them 24x7 and it keeps on doing so for years to come.

2. How do Endura Germ Free Industrial Tiles work?

Endura Germ Free Industrial Tiles are made using its own patented antimicrobial compound and process. This technology is based on scientifically proven the lethal action of silver ions against a wide range of germs. The embedded antimicrobial compound in tiles release silver ions in presence of moisture and as soon the bacteria & viruses come into contact, they destroy and neutralize them.

3. Isn't the tile surface toxic as it is killing bacteria & virus? What if kids touch it?

Unlike chemical biocides used to kill bacteria & virus, this is totally safe way to control their growth where we don't want them. The surface remains absolutely safe to touch by humans.

4. Are they certified? What International / national standard they follow?

Yes, these tiles made using Johnson's patented technology, are tested in certified laboratories for a wider range of bacteria and viruses than the standard tests prescribe. The International testing protocols for this tests are JIS Z 2801 : 2010 & ISO 22196: 2011. They consistently show over 99% reduction (log2 reduction) across all tested bacteria and viruses.

5. Can we make a difference between tiles which are Germ Free and which are not? How can we identify?

Bacteria & viruses are not visible with naked eyes is a fact. Also, being the technically most advanced Indian company, Johnson has mastered the material and process to make Germ Free Tiles, which do not come with any compromise on aesthetics and surface finish. You can also write to us for any doubt or clarification. We are making and selling Germ Free Tiles using our patented technology since 2010 and what you get is a time tested Johnson product, you can rely upon.

6. Are Germ Free Tiles costly?

There are different categories of tiles that vary in features other than this property also. e.g. - types of body, size, finish and technology used, etc. when you compare tiles from same the category, the price difference between Germ Free and regular tiles has been kept very less by Johnson.

7. Which are ideal spaces to use Germ Free Tiles?

Practically every exposed wall and floor can be infected by bacteria & virus. Although all these are not dangerous to humans, but some definitely are and may cause infection and diseases at times. The most commonly found bacteria & viruses in our homes, hospitals, restaurants and other public spaces are E.Coli (Diarrhoea), MRSA (Infections), Pseudomonas Aureus (Pneumonia), Bacillus Subtilis (Gastro Intestinal track affected), Aspergillus Niger (Black Mold), Candida Albicans (Itchiness) and common viruses which can make us ill. As these Germ Free Tiles are safe for humans and environment on one hand and very reasonably priced on the other, these should be used for spaces like:

**Food Manufacturing Industries | Pharmaceutical Industries | Hospitals | Commercial Kitchens & Bathrooms | Restaurants | Homes | Schools
Medical Equipment Manufacturing | Laboratories and Healthcare Facilities | Agro Based Industries | Cosmetic Manufacturing Research Labs
Gyms | Community Halls and Clubs | Dairy Industries | Public Spaces | Storage Areas | Canteen | Residential Spaces**




RESULTS:
ANTIBACTERIAL ACTIVITY

Sr. No.	Test Organism	Count of Test Organism After Exposure				Antimicrobial Activity	
		Untreated		Treated		Log Reduction	Percentage Reduction
		CFU/ml	Log	CFU/ml	Log		
21.	Klebsiella pneumoniae ATCC 2146 - MBL strain	920000	5.96	3900	3.59	2.37	99.58
22.	Listeria monocytogenes ATCC 23074	480000	5.68	3800	3.58	2.12	99.28
23.	Meticillin Resistant Staphylococcus aureus ATCC 43300	410000	5.61	4100	3.61	2.00	99.00
24.	Nocardia rugosa NCIM 2290	1090000	6.04	10500	4.02	2.02	99.04
25.	Salmonella enterica sub enterica ATCC 14028	910000	5.79	4600	3.66	2.12	99.28
26.	Serratia marcescens ATCC 14786	80000	4.90	860000	5.93	-1.03	0.00
27.	Shigella flexneri ATCC 9199	510000	5.71	4700	3.67	2.03	99.07
28.	Staphylococcus epidermidis ATCC 7919	710000	5.85	7000	3.85	2.00	99.01
29.	Vancomycin Resistant Enterococcus ATCC 2006	640000	5.81	3900	3.59	2.22	99.39
30.	Sarcina luteus ATCC 2210	180000	5.25	1800	3.26	2.00	99.00
31.	Burkholderia cepacia ATCC 25418	850000	5.81	1300	3.11	2.70	99.80
32.	Klebsiella pneumoniae ATCC 1705 - KPC	1290000	6.11	2500	3.40	2.29	99.49
33.	Micrococcus luteus ATCC 10240	100000	5.00	950	2.97	2.02	99.05
34.	Escherichia coli ATCC 10538	110000	5.04	450	2.65	2.38	99.89

The Standard Antimicrobial value of Evaluation $R \geq 2.0$

For BIOTECH TESTING SERVICES




 Dr Shilpa U. Nair
 Quality Manager
 (Authorized Signatory)

1900032/1 - 2
Page 4 of 4

* Samples are not drawn by the laboratory * Result relate only to the samples tested
 * This report shall not be reproduced except in full without prior permission of this laboratory

104/105, Malwa, Patanwala Ind. Estate, L.B.S. Marg, Ghatkopar (W), Mumbai - 400086, INDIA • Tel. +91-22-2500 2811, 2500 2812
 Email : info@biotechts.in / report@biotechts.in / biotechtestingservices@gmail.com / shilpanair@biotechts.in

An ISO / IEC 17025:2017 Accredited Testing Services
www.biotechts.in

TECHNICAL SPECIFICATIONS

Sr. No	Test Description	Endura Industrial Tile				Test Method
		IS-4457:2007	IS-15622:2017 Group Blb	Germ Free 30x30cm		
				1.5cm	2.0cm	
A	Deviation in Length & Width	±0.75%	±0.1%	±0.1%	±0.1%	IS 4457:2007 Annex B/IS 13630-1
1	Deviation in Thickness	±5%	±5%	±4%	±4%	
2	Straightness of Sides	±0.5%	±0.1%	±0.1%	±0.1%	
3	Rectangularity	±0.6%	±0.1%	±0.1%	±0.1%	
4	Surface Flatness	±0.5%	±0.5%	±0.3%	±0.3%	
5	Surface Quality	Min 95%	Min 95%	Min 95%	Min 95%	
B	Water Absorption	<0.5%	0.08%<E≤3	<0.5%	<0.5%	IS 4457:2007 Annex C/IS 13630-2
1	a) Scratch Hardness of Surface (Moh's scale)-Unglazed tile	-	≥5	≥7	≥7	IS 13630-part 13
	b) Scratch Hardness of Surface (Moh's scale)-Glazed tile	-	≥5	≥6	≥6	
2	Flexural Strength (Average MOR)	≥35 N/mm ²	>30N/mm ²	>38 N/mm ²	>38 N/mm ²	IS 4457:2007 Annex D/IS 13630-6
3	Breaking Strength	≥1300N	≥1100N	>5500N	>8000N	IS 4457:2007 Annex D/IS 13630-6
4	Impact Resistance	-	≥0.55	≥0.55	≥0.55	IS 13630-14
5	Deep Abrasion Resistance (Unglazed Tile)	<175mm ³	<175mm ³	<120mm ³	<120mm ³	IS 4457:2007 Annex E/IS13630-12
6	Resistance to Surface Abrasion of Glazed Tiles for Floor Application	-	Class II, Min	Min PEI IV-V	Min PEI IV-V	IS 13630-11
7	#Skid Resistance	-	-	-	-	
8	a) Skid Resistance Ramp Test	-	-	≥R9	≥R9	DIN 51130
	b) Coefficient of Friction	-	Manufacturer to declare	≥0.42	≥0.42	ANSI A 326.3
9	Frost Resistance	-	Manufacturer to declare	No damage	No damage	IS 13630-10
10	Density (gm/cc)	-	≥2	>2.2	>2.2	IS 13630-part 2
11	Moisture Expansion	-	Max 0.02 mm/m	≤0.02 mm/m	≤0.02 mm/m	IS 13630-part 3
12	Color Resistance to UV Light	-	-	No change in color	No change in color	DIN 51094
C	Chemical Properties					
1	Resistance to Concentrated HNO ₃ & H ₂ SO ₄ Acid (wt. loss)	<1.5%	-	<0.8%	<0.8%	IS 4457:2007 Annex G
2	Resistance to Chemicals					ISO 10545-13/IS 13630-part 8
	1) Resistance to Low Concentrations of Acids & Alkalies	Manufacturer to declare	Manufacturer to declare	ULA/GLA	ULA/GLA	
	2) Resistance to High Concentrations of Acids & Alkalies	Manufacturer to declare	Manufacturer to declare	UHA/GHA	UHA/GHA	
	3) Resistance to Household Chemicals and Swimming Pool Salts	Manufacturer to declare	AA min	AA min	AA min	
3	Stain Resistance		Class 1 min	Class 1 min	Class 1 min	IS 13630-part 8
D	Thermal Properties					
1	Linear Thermal Expansion	-	≤7x10 ⁻⁶ K ⁻¹	≤7x10 ⁻⁶ K ⁻¹	≤7x10 ⁻⁶ K ⁻¹	IS 13630-part 4/ISO 10545-8
2	Thermal Shock Resistance	-	10 Cycle,Min	No damage	No damage	IS 13630-part 5/ISO 10545-9

#Ramp Test: Suitable for all kind of surfaces (Plain, structural, etc.)

#Slider (BOT-3000E Digital Tribometer): Suitable for plain/smooth surface and not working for structural/profiled surface

TECHNICAL SPECIFICATIONS

Sr. No	Test Description	IS-4457:2007	IS-15622:2017 Group Blb	10mm Endura Germ Free	Test Method
A	Dimension Quality			30x30x1cm	
1	Deviation in Length & Width (Rectified)	±0.5%	±0.1%	±0.1%	IS 4457:2007 Annex B/IS 13630-1
2	Deviation in Thickness	±5%	±5%	±4%	
3	Straightness of Sides (Rectified)	±0.2%	±0.1%	±0.1%	
4	Rectangularity (Rectified)	±0.2%	±0.1%	±0.1%	
5	Surface Flatness	±0.3%	±0.5%	±0.3%	
6	Surface Quality	Min 95%	Min 95%	Min 95%	
B	Physical Properties				
1	Water Absorption	<0.5%	0.08%<E≤3	<0.5%	IS 13630-2
2	a) Scratch Hardness of Surface (Moh's scale)-Unglazed tile	-	≥5	≥7	IS 13630-part 13
	b) Scratch Hardness of Surface (Moh's scale)-Glazed tile	-	≥5	≥6	
3	Flexural Strength (Average MOR)	>35N/mm ²	>30N/mm ²	>35N/mm ²	IS 13630-6
4	Breaking Strength	≥1300N	≥1100N	>1800N	IS 13630-6
5	Impact Resistance	-	≥0.55	≥0.55	IS 13630-14
6	Deep Abrasion Resistance (Unglazed Tile)	<175mm ³	<175mm ³	<120mm ³	IS13630-12
7	Resistance to Surface Abrasion of Glazed Tiles for Floor Application	-	Class II, Min	Min PEI IV-V	IS 13630-11
8	#Skid Resistance				
	a) Skid Resistance-Ramp Test	-	-	≥R9	DIN 51130
	b) Coefficient of Friction	-	Manufacturer to declare	>0.42	ANSI A 326.3
9	Frost Resistance	-	Manufacturer to declare	No damage	IS 13630-10
10	Density (gm/cc)	-	>2	>2.2	IS 13630-part 2
11	Moisture Expansion	-	Manufacturer to declare	≤0.3mm/m	IS 13630-part 3
12	Colour Resistance to UV Light	-	-	No change in color	DIN 51094
C	Chemical Properties				
1	Resistance to Concentrated HNO ₃ & H ₂ SO ₄ Acid (wt. loss)	<1.5%	-	<0.8%	IS 4457:2007 Annex G
2	Resistance to Chemicals				ISO 10545-13/IS 13630-part 8
	a) Resistance to Low Concentrations of Acids & Alkalies	Manufacturer to declare	Manufacturer to declare	ULA/GLA	
	b) Resistance to High Concentrations of Acids & Alkalies	Manufacturer to declare	Manufacturer to declare	UHA/GHA	
	c) Resistance to Household Chemicals and Swimming Pool Salts	Manufacturer to declare	AA min	AA min	
3	Stain Resistance		Class 1 min	Class 1 min	IS 13630-part 8
D	Thermal Properties				
1	Linear Thermal Expansion	-	≤7x10 ⁻⁶ K ⁻¹	≤7x10 ⁻⁶ K ⁻¹	IS 13630-part 4/ISO 10545-8
2	Thermal Shock Resistance	-	10 Cycle,Min	No damage	IS 13630-part 5 /ISO 10545-9

#Ramp Test: Suitable for all kind of surfaces (Plain, structural, etc.)

#Slider (BOT-3000E Digital Tribometer): Suitable for plain/smooth surface and not working for structural/profiled surface

PACKAGING DETAILS

Size	No. of Tiles/ Box	Approx Area/ Box (sq m)	Approx Wt/ Box (kgs)	Approx Cartons /20' Container	Approx Area per Container (sq m)
30x30cm (Plain and Colour Series) (1cm Thick)	10	0.9	20	1350	1215
30x30cm (1.5cm Thick)	6	0.54	18.5	1459	788
30x30cm (2cm Thick)	5	0.45	20	1350	608

DISCLAIMER

Colors shown are as accurate as the limitations of the printing process will allow. Prospective customers are advised to inspect a sample of the tile before ordering. Every effort has been made to ensure the accuracy of the information given. However, the company reserves the right to change the specifications without prior notice. Sometimes, variations in shade or size may occur, which is inherent in the ceramic industry.

Before fixing the tiles, we urge you to read and follow the fixing instructions given on the carton box of the tiles. The company will not take any responsibility and will not accept any complaints of shade, size, or planarity once the tiles have been fixed.

Although every effort is made to ascertain that all the information provided in this brochure is accurate before printing, errors may still happen. Please contact the local branch office for updated information before placing orders. The information contained in this catalog is given in good faith. The Company takes no liability on account of any loss or damage, either consequential or otherwise, as a result of the information provided therein.





TILES
AND
BATHWARE

www.hrjohnsonindia.com

Toll Free No : 1800 210 7484 | **WhatsApp No :** +91 84510 57484

Email : tiles.customercare@prismjohnson.in

Corporate Office: "Rahejas", Main Avenue, 3rd Floor, V. P. Road, Santacruz (W), Mumbai - 400 054