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**JOHNSON**<sup>®</sup>  
 Not just tiles, Lifestyles.<sup>®</sup>



**PRISM JOHNSON LIMITED**  
 (FORMERLY PRISM CEMENT LIMITED)

**H & R JOHNSON (INDIA) DIVISION**

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BR01019DXE002-CC Cat/Johnson/Endura/Maxgrip 30x30/0ct'19



**Built to  
 take on  
 anything,  
 anywhere.**

**MaxGrip**  
 30 X 30 cm Anti Slip Tiles

**Endura Maxgrip – The best in class Anti Slip Tiles.**

**JOHNSON**<sup>®</sup>  
**ENDURA**  
 INDUSTRIAL TILING SOLUTIONS

**R10 - R11 - R12**

R 10  
R 11  
R 12



## IT'S GRIPPING

At Prism Johnson we believe in redefining lifestyles. And as always we stand true to this belief, rather FIRMLY. With the all new Endura MaxGrip range of anti-skid tiles that help you keep your feet firm on the ground, while you admire its beauty. High traffic areas are full of surprises, some pleasant, some not so much. Wet floors other than being sore to the eyes can be dangerous, too. At times like these you need to put your foot down and ask for flooring that gives you grip that keeps you safe from any kind of harm.

The Endura MaxGrip is one such range of floor tiles and is ideal for interior and exterior application areas like malls, Parking Lots, Hospitals, Educational Institutes, ramps, pools, gymnasiums and many more. Moreover, they are easy to clean and maintain, making them safe, hygienic, durable and even versatile. Go ahead, walk, run, hop, skip, and jump; for here are a set of floor tiles that ensure maximum safety with least slip-ups.

### SCIENCE FRICTION:

#### What is R value?

When it comes to floor tiles in high traffic areas, a little bit of friction helps you go a long way - quite literally. Science defines Friction as "the force that acts between two bodies so as to resist their sliding over one another." Simply put, a floor with more friction will provide enough grip in most circumstances to prevent a person from falling. And in tiles it is measured in a unit called R value which ranges from R 9 to R 12, with R 13 being the best anti skid property.

## Slip Prevention 'R' Ratings for Flooring Surfaces



### PUTTING THE SCIENCE TO TEST:

The test performed to determine the value are BOT Digital Tribometer test, Pendulum test & RAMP test. The most popular is the RAMP Test.

#### RAMP Test

##### A) Oil wet ramp slip resistance test:

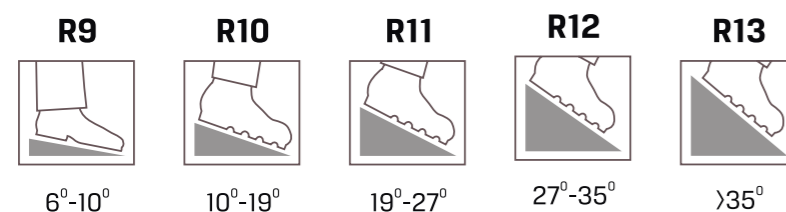
DIN 51130- The slip resistance of tile is tested on an inclined surface with a predetermined slope angle and classified according to rating rules R9 to R13.

This test requires an operator who is protected by a fall restraint harness. The operator, wearing standard footwear, walks back wards and forwards over a sample of a flooring material that has been evenly coated with oil. Beginning with the ramp in a horizontal position he gradually increases the angle of inclination until the limit of safe walking is reached and the test person slips. The acceptance angle obtained is used to express the degree of slip resistance.



##### Assessment Groups:

	Lower limit value	Upper limit value
<b>R9</b>	6°	10°
<b>R10</b>	>10°	19°
<b>R11</b>	>19°	27°
<b>R12</b>	>27°	35°
<b>R13</b>	>35°	



##### B) Wet barefoot slip resistance test- (DIN 51097 ABC rating)

The ramp test is carried out barefoot with the use of soapy water as a contaminant (DIN 51097). The angle at which slipping occurs is used to establish an A, B or C rating for the barefoot test

#### Classification Groups and Areas of Application:

Classification Groups	Lower limit value	Upper limit value	
<b>A</b>	12°	18°	<ul style="list-style-type: none"> <li>Barefoot hallways (mainly dry)</li> <li>Individual and group changing rooms with lockers</li> <li>Pool floors in non-swimmer areas, where the water level exceeds 80 cm</li> <li>Sauna and relaxation areas (mainly dry)</li> </ul>
<b>B</b>	>18°	24°	<ul style="list-style-type: none"> <li>Barefoot hallways, if not classified in A</li> <li>Showers</li> <li>Area surrounding the disinfectant sprayers</li> <li>Pool surrounds</li> <li>Pool floors in non-swimmer areas in the tide effect pool</li> <li>Lift slab floors</li> <li>Paddling pools</li> <li>Steps and ladders outside the pool area</li> <li>Sauna and relaxation area, provided they are not assigned to A</li> </ul>
<b>C</b>	>24°		<ul style="list-style-type: none"> <li>Steps and ladders leading into the water</li> <li>Stairways leading to diving boards and water slides</li> <li>Foot basins</li> <li>Inclined pool borders</li> </ul>



#### BOT-3000E Digital Tribometer

The tribometer can accurately measure both static coefficient of friction (SCOF) and dynamic coefficient of friction (DCOF), wet or dry



#### Pendulum Test

Pendulum slip resistance test (Dry & Wet) – Pendulum Test value (PTV) MunroStanley – Skid resistance Tester, is based on the Izod principle. In operation, a pendulum of a known mass rotates about a vertical spindle.



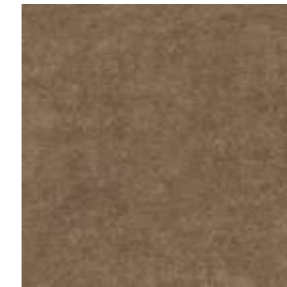
MAX BEIGE 10



MAX CEMENT 10

# R10

A-CLASS | 30X30 CM



MAX UMBER 10



MAX GIRS 10



MAX BRICK 10



MAX ASH 10



MAX BRUNO 10



MAX STEEL 10



MAX VERDE 10



MAX BEIGE 10



MAX COTTO 10



MAX CEMENT 10

# R11

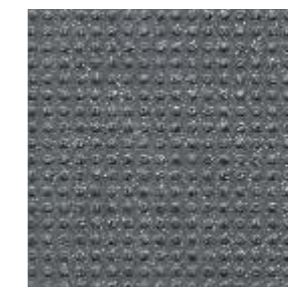
A/B/C-CLASS | 30X30 CM



MAXCIR IVORY 11B



MAXSTAR SNP NOIR 11C



MAXCIR SNP NOIR 11C



MAXTRI SNP NOIR 11C



MAXSTAR SNP WHITE 11B



MAXCIR SNP WHITE 11B



MAXTRI SNP WHITE 11C



MAXSTAR GREY 11A



MAXCIR GREY 11A



MAXTRI GREY 11B



MAXSTAR IVORY 11B



MAXCIR IVORY 11B



MAXTRI IVORY 11B



MAXSTAR COTTO 11B



MAXCIR COTTO 11B



MAXTRI COTTO 11B

# R12

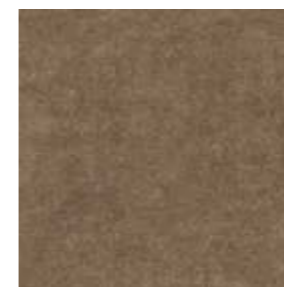
C-CLASS | 30X30 CM



MAX UMBER 12



MAX GIRS 12



MAX UMBER 12



MAX GIRS 12



MAX BRICK 12



MAX ASH 12



MAX BRUNO 12



MAX STEEL 12



MAX VERDE 12



MAX BEIGE 12



MAX COTTO 12



MAX CEMENT 12

## APPLICATION AREAS

Application Area	R Scale	Application Area	R Scale
<b>General Work Room and Areas</b>		<b>Fire Brigade Buildings</b>	
Entrance Lobby, indoors	R9 / R10	Vehicle parking places	R12
Entrance areas, outdoors	R10 / R11	Rooms for hose maintenance equipment	R12
Sanitary (e.g. toilets, wash rooms)	R10	<b>Financial Institutions</b>	
Recreation Room/ Medical treatment rooms	R9 / R10	Counter areas	R9 /R10
<b>Catering Establishments</b>		Banks reception area	R9 /R10
Restaurant and hotel kitchens:		<b>Schools and Kindergartens</b>	
a) up to 100 meals per day	R11	Entrance areas, corridors, assembly halls	R9 /R10
b) more than 100 meals per day	R12	Classrooms, group rooms	R9
Commercial Kitchens for homes, schools, Kindergarten	R11	Toilets, washrooms	R10
Large scale commercial Kitchens for hospitals, University canteens, contract catering, food preparation (fast food kitchens snack bars)	R12	Instructional kitchens in schools	R10
Dish Washing rooms (wet)	R12	Special rooms for handicrafts	R10
Dining rooms, guest rooms, canteens including serving counters	R9 /R10	<b>Outdoor Areas</b>	
<b>Sales Outlets, Shops &amp; Hypermarkets</b>		Entrance areas	R10/R11
Reception of goods, meat /fish/ Slaughters room	R11	Traffic routes	R10/R11
Serving counters for meat Unpacked	R11	Loading platforms, covered	R10/ R11
Serving counters for meat packed	R10	Loading platforms, not covered	R12
Serving counters for fish / Meat /Flower	R10/ R11	Sloping ramps (e.g. for wheel-chairs, loading platforms)	R12
Preparation area Food for selfservice sales	R10	Open air Parking areas	R10/R11
Cash register areas, packing areas	R9	<b>Automobile Workshops</b>	
Bakeries, cake shops,	R10	Repair and servicing bays	R10/R11
Ware houses for oils Fats,...etc	R11/ R12	Working and inspection pits	R12
Hairdressers	R 9 /R10	Car wash & Washing areas	R11
Spa	R11	<b>Laundry</b>	
Serving counters for bread,	R10	Rooms with washing machine dripping wet	R11
<b>Health Service Rooms</b>		Ironing rooms	R9
Medical treatment rooms	R9 /R10	<b>Aircraft Repair Workshops</b>	
Disinfection rooms (wet)	R11	Aircraft hangars	R11
Pathological facilities	R10	Repair hangars	R12
Rooms for medical baths, hydrotherapy	R11	Washing halls	R11
Washrooms of operating theatres	R10	<b>Sewage Treatment Plants</b>	
Sanitary rooms, ward bathrooms	R10	Pump rooms	R12
Rooms for medical diagnosis, and therapy	R9/R10	Rooms for sludge draining facilities	R12
Operating theaters	R9 /R10	Rooms for screening equipment	R12
Wards with hospital rooms and corridors	R9 /R10		
Medical practices, day clinics	R9 /R10		
Laboratories, Pharmacies	R9 /R10		

The above list of areas of application for commercial /industrial utilization contained in this brochure shows an extract from the standards BGR 181- DIN 51130  
\*Floors in work rooms and work areas with high risk of slipping\*

## FREQUENTLY ASKED QUESTIONS

### Q1) Why need Antislip flooring?

Every year over 8 million people worldwide suffer from injuries due to slips and falls. Especially in elderlies, slip related fall has been the common cause for TBI (Traumatic Brain Injury) It is therefore important to look for ways to prevent slips and falls by keeping the hallways and walk through areas safe at all times. Endura MaxGrip provides an ideal solution to this problem by offering anti slip flooring in 3 grades - R 10, R 11 and R 12, enable you to choose according to the demands of the application area.

### Q 2 ) What is the specialty in Endura MAXGRIP compared to other ordinary slip resistance tile?

Endura MaxGrip tiles are manufactured in consonance with the International Slip Resistance Standard indicated by R value, R 10, R 11 and R 12. The tiles are subjected to stringent tests such as Tribometer, Pendulum and RAMP test. Thus Endura MaxGrip tiles feature unmatched slip resistance compared to the other so called slip resistant tiles.

### Q 3) What are the factors associated with Slips ?

#### Controllable factors:

- Environment - adequate lighting, slopes / gradients, external areas etc
- Floor material.
- Contaminants like water, oil, dust etc. which reduces the contact & traction between the feet & floor surface.

#### Predictable factors:

- Use of the surface
- Footwear
- Behavior: Awareness creation for safe working habits. Human vision, balance& reaction time also plays vital role in slip prevention

### Q 4) Why routine cleaning is essential for the performance of slip resistance tile?

In the heavy traffic areas the flooring tends to loosen its grip over the period of time due to constant friction, making it slippery. Furthermore, if proper cleaning regime is not followed, then the tiles fail to perform faster. Therefore it is of utmost importance to follow daily cleaning regime to maintain the performance of slip resistant tiles.

### Q5) How can accidents caused by slipping be prevented?

Prevention of accidents, caused by slipping, is down to correct choice of flooring medium and good management (i.e. contamination prevention, cleaning regimes, type of footwear worn and an assessment of the surrounding environment). In order for management systems to be effective it is important that floor materials are suitable for the application and environment in which they are used, and an appropriate measuring method employed.

## TECHNICAL SPECIFICATIONS

S. No.	Test Description	IS - 4457:2007	IS - 15622:2017 Group B1b	Endura Maxgrip	Test Method
<b>A) Dimension Quality</b>					
1	Deviation in Length & Width	±0.75%	±0.1%	±0.1%	IS 4457:2007 Annex B / IS 13630-1
2	Deviation in Thickness	±5%	±5%	±4%	
3	Straightness of Sides	±0.5%	±0.1%	±0.1%	
4	Rectangularity	±0.6%	±0.1%	±0.1%	
5	Surface Flatness	±0.5%	±0.5%	±0.3%	
6	Surface Quality	Min 95%	Min 95%	Min 95%	
<b>B) Physical Properties</b>					
1	Water Absorption	<0.5%	0.08<E≤3	<0.5%	IS 4457:2007 Annex C / 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 <sup>2</sup>	>30N/mm <sup>2</sup>	>38N/mm <sup>2</sup>	IS 4457:2007 Annex D / IS 13630-6
4	Breaking Strength	≥1300 N	≥1100 N	>1800 N	IS 4457:2007 Annex D / IS 13630-6
5	Impact Resistance	Manufacturer to Declare	≥0.55	≥0.55	IS 13630 -14
6	Deep Abrasion resistance (Unglazed Tile)	<175mm <sup>3</sup>	<175mm <sup>3</sup>	<120mm <sup>3</sup>	IS 4457:2007 Annex E / IS 13630-12
7	Resistance to Surface Abrasion of Glazed Tiles for Floor Application	-	Class II, Min	Min PEI IV - V	IS 13630 - 11
8	# Anti-Slip Properties				
	a) Ramp Test @ Value)			R10/R11/R12	DIN 51130
	b) Barefeet on Wet Area (A/B/C) Scale			A/B/C	DIN 51097
9	Frost Resistance	-	Manufacturer to Declare	No damage	IS 13630-10
10	Density, in (gm/cc)	-	≥2	>2.2	IS 13630 part 2
11	Moisture Expansion	Manufacturer to Declare	-	≤0.3 mm/m	IS 13630-part 3
12	Color Resistance to UV Light	-	-	No change in color	DIN 51094
<b>C) Chemical Properties</b>					
1	Resistance to Chemicals				ISO 10545-13
	a) Resistance to Low Concentrations of Acids & Alkalies	Manufacturer to Declare	Manufacturer to Declare	ULB /GLB	
	b) Resistance to High Concentrations of Acids & Alkalies	Manufacturer to Declare	Manufacturer to Declare	UHB /GHB	
	c) Resistance to Household Chemicals and Swimming Pool Salts	Manufacturer to Declare	UB /GB	UB /GB	
2	Stain Resistance	-	Resistant	Resistant	ISO 10545-14
<b>D) Thermal Properties</b>					
1	Linear Thermal Expansion	-	≤7x10 <sup>-6</sup> K <sup>-1</sup>	≤7x10 <sup>-6</sup> K <sup>-1</sup>	IS 13630 part 4 / ISO 10545-8
2	Thermal Shock Resistance	-	10 Cycle, Min	No damage	IS 13630 part 5 / ISO 10545-9

# Refer Recommended Application Matrix- ENDURA MAXGRIP

## PACKING DETAILS

Product	Nominal Size (cm)	No. of Tiles/Box	Approx. Area/ Box (sq.m)	Approx. Weight/ Box (kgs)	Approx Cartons / 20' Container	Approx Area/ 20' Container (sq m)	Approx Cartons / 16T truck	Approx. sqm/ 16T Truck
Maxgrip	30X30	10	0.9	18.55	1455	1310	863	958

**Disclaimer:** Endura MaxGrip tiles have been tested for the latest International R value standard tests for anti slip performance. However as other environmental factors and improper maintenance may affect the performance over the period of time.

## YOU CAN ALSO REACH US AT

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West	Ranchi	9798845560
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	Mumbai - Central	022-40647500
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Ahmedabad	F 106-107, Shivalak Plaza, IIM Road, Panjrapole Cross Road, Ahmedabad, Gujarat - 380015	079-48480010
Indore	Shop No. 5, 6, 7 and 8, Upper Ground Floor, Exotica, Shalimar Township, Village Niranjapur, A. B. Road, Indore, Madhya Pradesh - 452001	0731-4988340/4007441
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Chennai	82, 84 & 86 Bascon Maeru, 1st Floor, Kodambakkam High Road, Nungambakkam, Chennai - 600034	044-48611632
Cochin	Door No. 11/300 F, Next to VTJ Hyundai, NH 47 Kudanoor, Maradu, Ernakulam - 682304	0484-4098555
Calicut	Survey No. 279/32, 279/33, Malaparamba Bypass, Kudilthod, Calicut, Kerala - 673002	0495-2352474
Trivandrum	1st Floor, Sreedhanya Apex, TC 22/3720 (4) Vellayambalam, Sasthamangalam PO, Thiruvananthapuram Kerala - 695010	0471-2551141

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