

# NextGrip

# NORBEC™

## SLIP RESISTANT FLOOR | TECHNICAL SHEET

Norbec is a cutting-edge company who continuously invests in research and development which enables them to constantly integrate new technologies into its products and procedures thus establishing a solid reputation on the market. With the objective of continuously meeting the specific needs of its customers and by developing tailor-made products and solutions, Norbec has now created a groundbreaking floor model for its walk-in coolers and freezers.

Norbec is proud to present NextGrip, a new slip resistant floor model. NextGrip is a non-slip embossed pattern evenly spread in rectangles, which can be applied to most Norbec floor materials. This in-house developed *motif* consists of four rows and three columns evenly distributed to ensure that the number of extrusions in contact with an object or the sole of a shoe is increased.

### GROUPS OF A UNIFORM, EMBOSSED PATTERN STRATEGICALLY REPEATED TO INCREASE STABILITY AND ADHERENCE.

#### TEST ENVIRONMENT

This embossed floor option is made up of a rare design pattern, unknown to the industry and its customers alike, therefore the need to prove its effectiveness was essential. Our team subjected the new model to daily usage which lead our research and development experts to fully comprehend its properties, establishing that this *avant-garde* concept would come change the future of walk-in floors and its safety concerns. A series of internal tests, strongly inspired by the ASTM F2913 standards, brought forward its superior adhesion efficiency characteristics when faced with conditions in which the NextGrip floor would be exposed to in the industry.

The main objective of the tests was to understand which model among the new embossed floor, the traditional diamond tread plate floor or the smooth metal floor would produce the safest results in actual conditions. The coefficient of static friction formula, which is  $\mu_s = F_f/M$ , is the ratio measured between the strength of friction of the floor and the normal resultant of the shoe sole. The one producing the highest average amongst all the tests would prove to be the floor type that provides the most secure working environment where pedestrian traffic is highly present.

These experiments were conducted on a flat surface with a contact at 7 degrees in elevation between the tip of the foot and the floor, same elevation between the heel and floor. With a 'typical' running shoe used in the actual situations, a 140-pound mass was used to weigh down the shoe against the surface of the floor. The tests were orchestrated with temperatures at -20 degrees Celcius [-4 Fahrenheit] and at 23 degrees Celcius [73.4 Fahrenheit] in order to reproduce the environments in which the floors and employees would be exposed.

#### THE FOLLOWING CONTAMINANTS WERE USED IN THE TESTS TO REPRODUCE, AS CLOSELY AS POSSIBLE, AUTHENTIC SITUATIONS FACED BY CLIENTS

- › Oil
- › Mix of water and vegetable oil
- › Frost

Please note that the tests conducted in-house with the coefficient of static friction were inspired by the ASTM F2913 standards.



# NextGrip



## TESTED IN-HOUSE BY OUR TEAM OF EXPERTS

### 3 TYPES OF FLOORS WERE TESTED\*

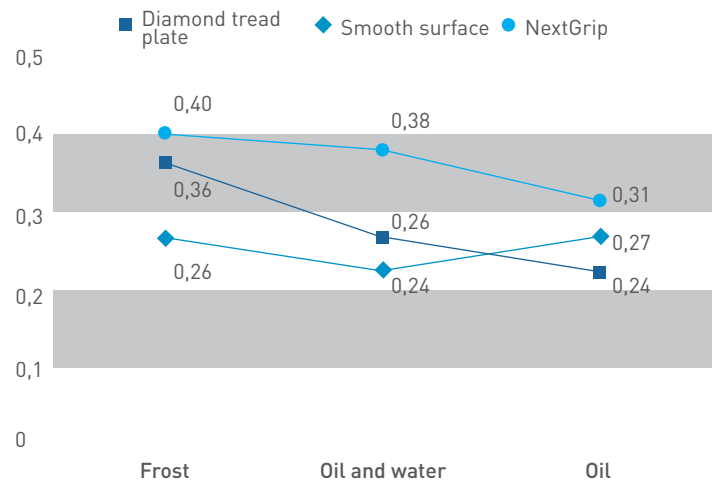
- › NextGrip
- › Traditional diamond tread plate
- › Smooth surface

Size of each of the samples tested 200 mm x 470 mm..

\*Tests were conducted on 0.100 inch aluminum.



### COEFFICIENT OF STATIC FRICTION



## RESULTS

The tests conducted internally come to show that NextGrip surpasses significantly the other two types of floor options on multiple aspects. The repeated and strategically placed pattern that is NextGrip increases the points of contact with an object therefore providing improved adherence and stability in comparison with the two other floors which offer less.

When a floor is subject to temperatures below freezing point and a humid and warm air flow appears on the cold surface, the development of frost occurs, increasing the risks of an accident as the action happens quickly and is not always apparent. While testing the three models of floor, it was observed that NextGrip's adherence properties remained relatively consistent during the temperature changes compared to the two others, as shown above. This type of behaviour from materials is one that is sought out for the types of industries that deal with high pedestrian traffic as well as multiple liquids and contaminants.

This new floor made of aluminum or steel is also ideal for heavy load equipment because of its superior traction control. The embossed pattern enables rubber wheels to roll on top without affecting the centre of gravity therefore creating fluid circulation within the walk-in and surrounding areas.

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