

# NANOMYTE® SuperCN Plus

Functionally graded superhydrophobic coating

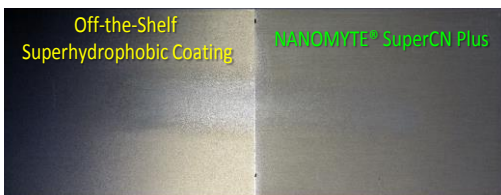


**NANOMYTE® SuperCN Plus** is a functionally graded coating that imparts superhydrophobic properties to the underlying substrate while providing greater abrasion resistance compared to existing superhydrophobic coatings. Surfaces treated with SuperCN Plus force liquids to bead up and roll off, shedding water instantly and leaving the surface completely dry.

SuperCN Plus consists of a hard and abrasion resistant outer layer that transitions to a softer material closer to the substrate. Such a functionally graded coating represents a major advancement in the state of the art and is in sharp contrast to monolithic superhydrophobic coatings that consist of a relatively soft material that is easily abraded or rubbed away.

## SURFACES

The coating can be applied on a variety of substrate materials, including plastics, metals, glass, painted surfaces and fabrics. The coating can be applied to parts of almost any geometry or size.



Both coated panels above were subjected to equal abrasion conditions. The panel on the left (commercial coating) shows abrasion marks, while the panel on the right (SuperCN Plus) shows minimal signs of wear.

## SOLUTION

Superhydrophobic coatings rely on creating and maintaining a composite of micro and nano-sized surface structures which work together to trap a layer of air that can repel most liquids. Off-the-shelf superhydrophobic coatings tend to have poor durability because they are unable to protect these delicate surface structures from abrasion, resulting in rapid loss of superhydrophobicity. Due to its graded structure, SuperCN Plus maintains its superhydrophobicity and high contact angle even after moderate damage.

## GENERAL CHARACTERISTICS

**Color:** Translucent

**Surface Roughness:** Very high

**Coating Thickness:** 60 – 100  $\mu\text{m}$

## SUPERHYDROPHOBICITY

	Off the Shelf	SuperCN Plus
Before Abrasion	151°	165°
After Abrasion	Delaminated	158°



Liquids easily roll off surfaces treated with NANOMYTE® SuperCN Plus, forming droplets with contact angles as high as 165°.

## OVERVIEW

- Functionally graded, superhydrophobic coating that provides greater abrasion resistance than existing superhydrophobic coatings
- Exhibits good adhesion to the substrate

## APPLICATIONS

Industrial and energy sectors

## CAPABILITIES

- Superhydrophobicity
- Abrasion Resistance

## BENEFITS

### High Performance

Retains superhydrophobicity and high contact angle after moderate abrasion.

### Versatility

Can be applied to a variety of substrates, including plastics, metals, glass, painted surfaces and fabrics.

### Flexibility

Can be applied to parts of almost all geometries and sizes.