

What are Ceramic coatings?



Ceramic coatings have become the latest trend in the detailing industry. Ceramics, also popularly known as nano coating, quartz coating, glass coating, etc. comprises of Silicon Oxide (SiO) in a resin mixture which cures and oxidizes as Silicon Dioxide (SiO₂). The Mohs hardness of Silicon dioxide is 7 and the melting point is 1,610 degrees Celsius. Certain coatings contain polymers and Silicon Carbide (SiC) with different installation methods which have a hardness level of 9 of the coating. Now let's understand the significance of a coating to you, the customer !

Advantages of Ceramic coating?

Enhancement of Gloss – Coated paint surface will have better reflections with increased depth and gloss.

Enhanced Durability of the Protection – Coatings last longer than traditional waxes and sealants due to chemical composition and bonding with the clear coat.

Protective layer – Coatings can add few microns to the paint surface and provides a protective layer.

Hardness - Coatings provide hardness to the surface, which helps to resist minor washing scratches.

Easier to clean contamination & maintenance – Road tar, tree sap, bird droppings, dust, etc are easier to clean along with water or shampoo and are repelled off the surface .

Resistant to fading – Resistance to fading with exposure to UV rays in sunlight

What is 9H?

The hardness of a coating is measured on the Mohs scale with a pencil hardness test, which is basically a quality test for pencils and their hardness.

9H certificate for a coating is provided by a suitable testing agency, which states that for a particular coating product, it can resist scratches from a pencil lead having 9H hardness. It also has many variables such as weight applied on the pencil, angle of pencil movement over surface, speed etc.

What this means is that a regular customer would never be able to positively verify the actual hardness in reality of the coating that has been applied to the surface. Hardness can help aid in some levels of protection, but on the scale of 1-2 microns which is the average thickness of a coating, it doesn't directly do much.

How is it applied?

Paint correction to remove surface defects is recommended to bring out the maximum depth and gloss of the paint. The surface has to be cleaned thoroughly and then wipe, spray or machine applied. It is recommended that all surface contamination is removed prior to application.

What is the thickness of a coating?

Are multiple layers possible?

For ref. 1 micron = 0.001 of a millimetre. A human hair is around 75 microns in thickness. Most coatings add 1-2 microns in thickness.

Coating bonds to paint at a molecular level, in turn forming cross-linked covalent bonds with the electrons in paint molecules. Once coatings start to dry and cure, they become more and more hydrophobic and resistant to anything bonding, including consecutive layers of that same coating. If you try to apply another layer on top of a coating, once curing is done, it will simply "reject" it and it would be a waste of time and product.

What surfaces can Coatings be applied to?

Paintwork, chrome, plastics, glass, fabrics, leather, suede and metals. Coating products are specifically designed for a specific surface. For example, fabric coating will not adhere properly to glass.

How soon after applying Coatings can I use the surface?

Around 12 hours after application to become fully established for regular use and approximately 24 hours to fully cure.

How long do Coatings last on surfaces?

Is it permanent and are lifetime warranties valid ?

The important point to be considered is that we are evaluating the performance of a coating in Indian conditions which are extremely demanding and challenging, with varying levels of temperature, humidity and high levels of abrasive dust in the air.

The biggest enemy of a coating is the dust level in ambient air which settles on various surfaces. While cleaning, the abrasive dust comes into contact with the coating and considering the limited thickness available, it's only a matter of time before the coating is removed from the surface. Proper maintenance is essential.

With regular usage, it is normal for the coating to wear off the surface and an average life of approximately one year can be realistically expected. Hence the term 'permanent protection' cannot be realistically applied when considering the life of a coating. A regular decontamination and clean up of exterior and interior surfaces helps to overall keep the car in good condition throughout its life.

Points to be considered while evaluating installers and coatings

Some installers and manufacturers use gimmicks as selling points for their product and some exaggerate the amount of protection it gives and level of maintenance required. Some popular gimmicks are fire tests, bottle cap tests and lighter tests, etc where the surface is hit repeatedly with such items and wiped off, which is actually an optical illusion of material transfer of the plastic material of the cap and lighter.

Do select a qualified installer genuinely who wants you, the customer to be satisfied. A professional detailer should offer you the coating. NOT SELL IT to you. A professional detailer should give you OPTIONS, after having a discussion with you on your maintenance schedules.

Do your due diligence before you decide to invest on any service from any coating installer. Does someone use gimmicks? Are the reports for a coating too good to be true? There are now more and more coatings then ever and everyone claims they have the best.

Do your research about the coatings. Educate yourself so you can make an educated decision. At the end of the day, you're hiring a detailer to work on your automobile investment.

Is regular maintenance required and how does one do it ?

There is an incorrect impression that paint coatings are a "no maintenance required" type of product. This is simply not true. Routine washing is crucial. As your coating becomes covered with dirt and contamination, you will notice a decrease in hydrophobic properties. It's important to remove any surface contaminants on a regular basis with a car wash shampoo.

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For daily maintenance, usage of a duster to remove light dust is recommended while inspecting and keeping duster clean to prevent contamination from being dragged across the paint. Liberal usage of a quick detailing solution is also recommended as it has lubricating properties which allows dirt and contamination to be removed easily. Only good quality and plush microfibers should be used for cleaning.

When washing your car, first start by pre rinsing every panel to loosen and remove heavy debris. This will lessen the chance of getting heavy contamination on your wash mitt, which will then be less likely to scratch (swirl). Also follow the **two bucket wash method**. Lastly, we recommend using a high quality wash mitt and lubricating soap. Keep the wash mitt clean and always keep the panel lubricated with soap.

