

## AUTOZKIN PPF-ACT Paint Protection Film Advanced Coating Technology

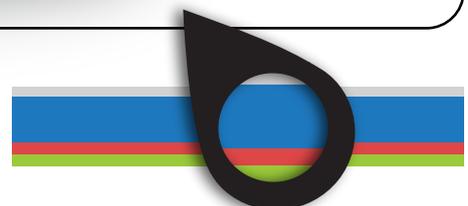
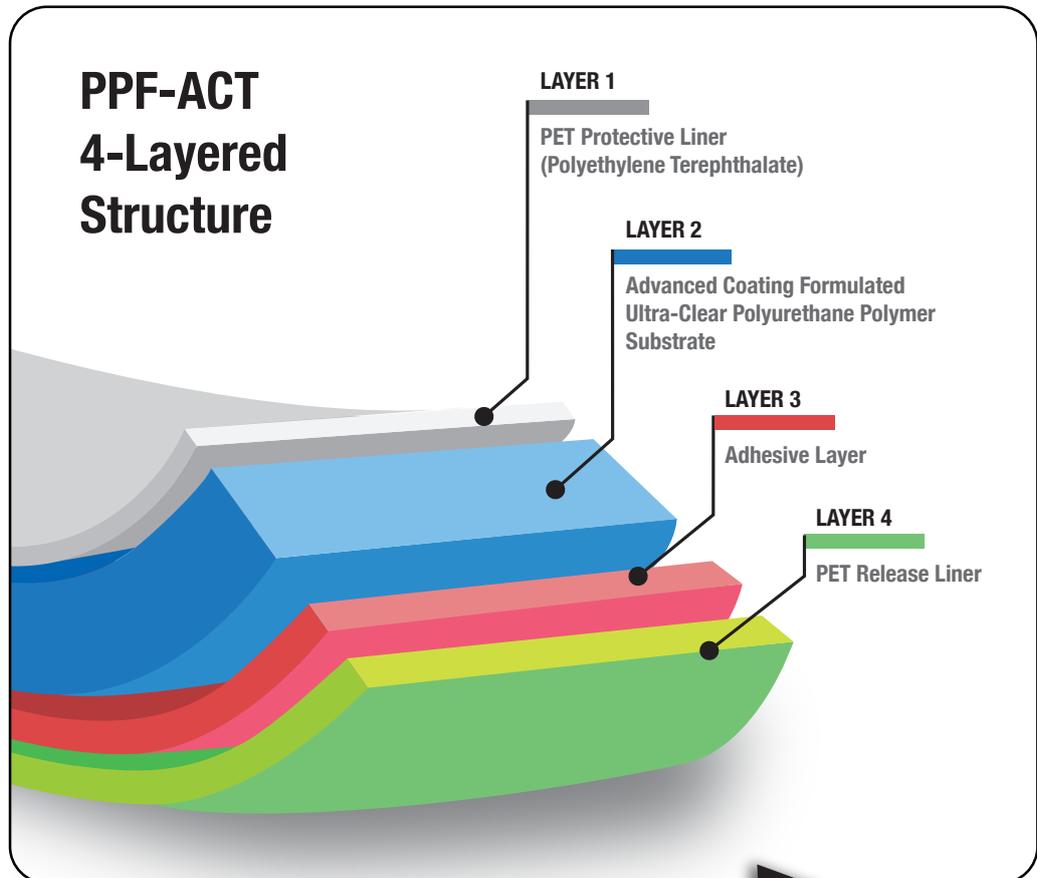
### The Perfect Solution

The Ultra High-Performance High-Functional Clear Urethane Film

### General Description

Autozkin PPF-ACT is a super high-quality, high-performance functional film, a 'never-seen-before' paint protection film product in the market that possesses characteristics combining that of polyurethane and advanced sealant coating. The making of this film comes out of the most advanced and innovative coating technology adapted from specialised coating technologies intended for the protection of the hull of commercial ships and boats. Undeniably, while your asset is getting the ultimate protection against scratches, abrasion and wears, our PPF-ACT covering over any vehicle's paint surfaces now becomes the unbeatable barrier against spillages of any kind. So ingeniously designed, you will find that liquid penetration and contamination of paint surfaces of your most prized asset can never be possible. Its exceptional "anti-fouling" capabilities promise both high-level performance and incredible durability even amidst the toughest and harshest environmental conditions.

Schematic Representation of Autozkin PPF-ACT



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## Specific Technical Information

Autozkin PPF-ACT is composed of 4 distinct layers. This 'never-seen-before' paint protection film product possesses characteristics combining that of polyurethane and advanced sealant coating. Polyurethane is the principal choice polymer for critical film applications because it merges the durability of rubber with the flexibility of a thermoplastic, yet without the plasticisers. Our PPF-ACT is made of polyurethane polymers, therefore retains long-term flexibility and outstanding shelf life. It is noteworthy to mention that the unique anti-fouling strength of our PPF-ACT does not come from a mere layer of coating material on top of a polyurethane substrate. Topping the qualities of the film's polyurethane substrate, our PPF-ACT made from the most advanced innovative coating technology possesses the ultimate "anti-fouling" properties that penetrates and homogenises with the polymers' matrix as a hybrid whole. In the market, Autozkin PPF-ACT is the most powerful shield protector against the stain of any form of liquid compounds such as acidic rain and any type of water or liquid, including oil, petrol, spray, permanent marker ink, etc.

### LAYER 1

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A 'clear backing liner' that acts as a protection barrier during the installation process and will be peeled off after fitting. This layer assists in the ease of storing and transporting the film. Customers can have that added peace of mind knowing what they have installed over their prized assets is of perfect condition.

### LAYER 2

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This layer substrate is highly flexible, weather-resistant, super tough and durable, optically transparent, scratch-resistant, shock-absorbing and is able to disperse impact force with great effectiveness. It acts as an extremely powerful shield protector with these amazing hydrophobic, non-sticking, non-wetting, anti-graffiti, anti-fouling characteristics with rugged mechanical properties:

- Resisting and dispelling chemicals such as motor oil, petrol, chemical substrates in automotive cleaning agents, and other acidic or harmful substances.
- Operating as a barrier against corrosion on vehicle metal surfaces.
- Preventing foul substances and contaminants from accumulating on paint surfaces that may cause severe damage over time if not removed.
- Rapidly removing or improving the flow of liquid substances or contaminants past paint surfaces, and thus effectively keeping surfaces dry and clean.
- Decreasing the chances of unwanted contaminant accumulation, thus increasing aerodynamics and speed efficiency of the moving vehicle.

### LAYER 3

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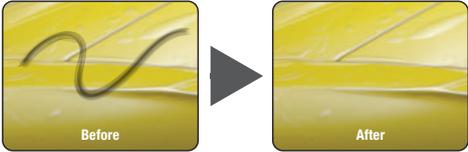
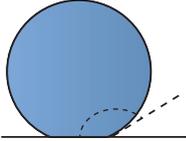
This super strong, ultra-transparent acrylic adhesive will grip to your vehicle's curves, contours and edges firmly without lifting and peeling off. It also performs as a shock absorber and has impact-dispersion functions.

### LAYER 4

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This is another protective layer allowing ease of handling, storage and transportation of the film. This layer will be peeled off prior to installation, thus allowing the adhesive surface of the film to contact the protected paint surfaces.

## Properties of PPF-ACT

Characteristics	Scientific Testing Method	Typical Results	
<b>Surface Properties</b>	<b>Anti-Fouling Test*</b> Multiple foul applications and erasing tests of different types of oil-based marker over the surface of the film in controlled laboratory testing.	<b>First-Class</b>  * by Sharpie® king-size permanent marker	
	<b>Contact Angle with Water</b> Typical water drop wetting on a normal surface forms a low internal contact angle. A non-wetting quasi-spherical drop will form a high internal contact angle (eg., >90°) and slide off the contact surface very easily on a claimed hydrophobic surface.	<b>100°</b> 	
<b>Adhesive Properties</b>	<b>Adhesion Test (N/25mm)</b> A standard test (JIS Z 0237) to evaluate adhesion strength on the adhered object at a peel speed of 300mm/min at 180°angle. The adhesive force measurement averaged values for a length of 25 mm peeled off the plate are recorded. Each value stated in the extreme right column is the peeling adhesive force for the corresponding type of plates in controlled laboratory testing.	Black Clear Coated Steel Plate	20
		Polycarbonate Plate	22
		Glass Plate	19

*Above data are typical values, not guaranteed to the product. Published in January 2015.*

## Typical Industry Sector Applications

Autozkin PPF-ACT is suitable for the external surfaces of vehicles, including luxury sports cars, regular cars, motorcycles, recreational vehicles, trucks, buses, aircrafts, jet skis and other power sports. Our PPF-ACT is specially made to be adaptably flexible for applications over curved surfaces, as well as surfaces of complex geometries, particularly suitable for supercars, exquisite luxury cars and other power sports. This protective film is a 'must-have' covering for automotive typically exposed to city driving, changing humidity, areas with some degree of air pollution, and/or changing weather conditions such as rains, storms, hazes and hales. Those who drive in close proximity to sea-water and oceanic regions will find Autozkin PPF-ACT very beneficial.

## Typical Reasons for Application

Autozkin PPF-ACT is particularly effective in protecting the automotive paint and external surfaces from the penetrating and contaminating effects of both harmful and non-harmful liquids. It performs exceptionally well as an anti-fouling barrier, while being a high-performance, ultra-clear gloss polyurethane film designed for both super stout protection and pleasing appearance. It will certainly perform to an exceptionally high standard when protecting your asset from an array of harsh environmental conditions.

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## Warranty Information

For added peace of mind and protection, Autozkin offers a 5-year Limited Warranty for the PPF-ACT, the original product purchased from Autozkin, free of discernible manufacturing defects and used for its intended purposes. This Limited Warranty shall be limited to a period of 5 years from the date of purchase by the original retail purchaser. Autozkin will replace any film that does not meet this warranty. The warranty does not cover damage to the film caused by faulty or incorrect installation done elsewhere, or damages, incidental, consequential or otherwise, such as accidents or collisions, intentional negligence, misuse, abuse, neglect, alteration or vandalism, or routine deterioration or damage such as chips or dents to the protected surface or film caused by impact of particles such as flying objects, loose rocks or any other debris. This warranty is only valid as to the original retail purchaser from Autozkin and is therefore not transferable or assignable to any other parties, by operation of law or otherwise. Please contact Autozkin for more information regarding the warranty offer.

## About Installation

Autozkin PPF-ACT can be installed to any fully cured external OEM (Original Equipment Manufacturer) painted surface or repainted surfaces which have been repainted according to manufacturer's standards. An indoor installation is vital to reduce the chances of dust, dirt or debris that could taint the application. Timing is also essential in the wet installation process. The adhesive surface of the film should not be allowed to be left to the open air for too long a period once the release liner is removed.

The film installation requires meticulous cutting and precise positioning of the film over the protected surface. For an impeccable finish, it is highly recommended that an approved Autozkin skilled installer perform the film installation. Autozkin's installers are comprehensively trained, highly experienced and all possess world-class installation skills.

Nevertheless, detailed instructions can be made available for those who wish to install the film themselves. It is recommended that Autozkin PPF-ACT be stored at 50°F (10°C) and be kept in enclosed shelving away from direct sunlight at 40% to 60% relative humidity (RH), and be used within one year from the date of purchase. Please contact Autozkin for more information regarding the installation of film.

## Disclaimer Notes

Autozkin Co., Ltd has provided this Technical Fact Sheet as a helpful resource to complement its PPF product range. The specific features of performance and suitability for use covered in this Technical Fact Sheet may be taken as a guide. However, it is vital the customer is aware of the specific conditions in which the product is to be used, and it remains the customer's responsibility to determine if the product is suitable for that intended use. It is also important to refer to the most up-to-date industrial data or facts as specifics may change from time to time.

The following links may be a helpful resource for further information about PPF products.

- Autozkin Website: [www.autozkin.com/](http://www.autozkin.com/)
- For the Science Behind Thermoplastic Polyurethane: <http://polyurethane.americanchemistry.com/Introduction-to-Polyurethanes/Applications/Thermoplastic-Polyurethane>
- Design News Article about Thermoplastic Polyurethane Film: [www.designnews.com/document.asp?doc\\_id=220141&dfpPPParams=aid\\_220141&dfpLayout=article](http://www.designnews.com/document.asp?doc_id=220141&dfpPPParams=aid_220141&dfpLayout=article)
- Autozkin on Instagram: [www.oninstagram.com/autozkin](http://www.oninstagram.com/autozkin)
- Youtube Clips: <https://www.youtube.com/watch?v=Qj131DyldVM>; <https://www.youtube.com/watch?v=AJ1CvUmP8YI>



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