

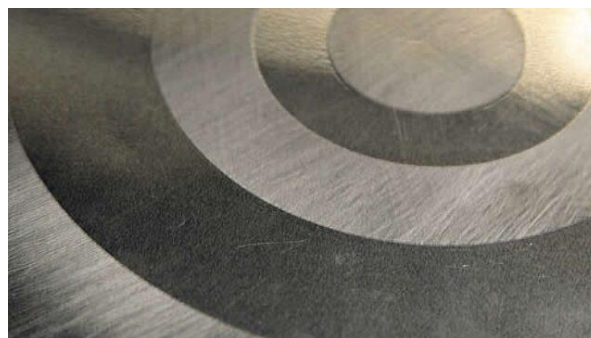
TECHNICAL REPORT

Good news to those who are in charge of development of automotive interiors and have problems of abrasion flaws.

Repairs scratch during use and maintains brand-new-like beauty.

Introduction of Self-Restoring Clear

We will introduce SELF-RESTORING CLEAR which repairs scratch during use of the product and maintains brand-new-like beauty.



1. Clear for protecting surface and keeping beauty of plastic products which is easy to be scratched.

1.1 SELF-RESTORING CLEAR which solves problem of scratch used for the product.

This SELF-RESTORING CLEAR is Clear that obscures surface scratch marks and abrasion flaws caused by using product by its self-repairing function of the printed ink layer and maintains brand-new conditions.

It enables to protect surface and maintain beauty of plastic products which are easy to be scratched such as Polycarbonate, Ester with treatment for easy adhesiveness, rigid and soft vinyl chloride, etc.

This Clear is suitable for protection of the parts which are easy to be scratched by dirt of nail and fingertip, such as automotive interiors, home appliances, smartphones, etc..

1.2 Excellent characteristics of SELF-RESTORING CLEAR.

1). Demonstrates excellent repairing function to dent scratch and maintains brand-new beauty.

This Clear provides very high elastic force and repairs dent scratch such as scratch mark and restores dent to be smooth as if rubber ball restores its dent.

The following figure is the image that printed ink layer dented by scratch, etc. (the left side photo) is restored to be smooth by elastic force of printed ink layer (the right side photo).



Note: This Clear restores by using elastic force (repelling force) of printed ink layer. Therefore, cutting scratch on the printed ink layer put by cutter knife, etc. remains without being restored.

2). **High elongation property by vacuum forming.**

This Clear provides quite excellent elongation property and demonstrates excellent workability in vacuum forming process.

3). **Slip resistance function applying high elastic force.**

This Clear can be used as slip resistance by applying elastic force of the printed ink layer, which is optimum for the parts requiring grip function such as automotive interiors, home appliances, smartphones, etc.

4). **Excellent environmental responsiveness (Halogen-free ink).**

There is no intentional use of Halogen compounds (Chlorine (Cl) , Bromine (Br)) in raw materials of this Clear, which can be used for the products dealing with the possibility of usage in the regions with strict environment regulations.

2. Introduction of SELF-RESTORING CLEAR.

2.1 Example of self-restoring ability.

Print SELF-RESTORING CLEAR on concentric circular pattern, scratch with metal brush, and compare. Parts where Clear was NOT printed looks pure white by diffuse reflection of light caused by scratch. On the other hand, parts where Clear was printed maintains smooth printed ink layer with transparency.

