

AGC

SURECO™ AF series can be easily applied using a variety of methods.

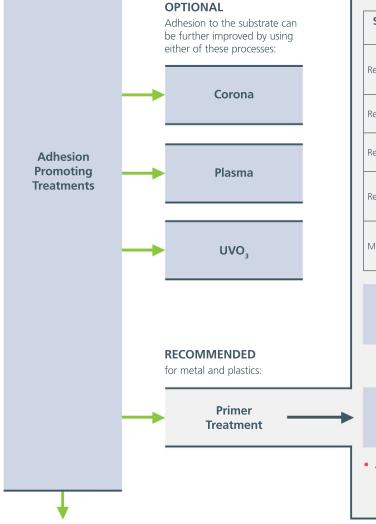
Surface adhesion of the coating to the substrate is important to the performance of SURECO. Special attention to the three major components of the coating process need to be considered: Surface Preparation, Coating Process, Curing.

# **Surface Preparation:**

Proper cleaning of the surface and optional secondary treatments improve the SURECO coating adhesion.

- Cleaning Dry
- Adhesion improves by washing the substrate well in advance.
- Select a solution (neutral detergent solution, alkaline solution, alcohol, etc.) to address the type of substrate contamination.
- · Rinse substrate surface with deionized water.
- Cleaning effectiveness can be improved by using an ultrasonic cleaning device.

 Remove moisture from the substrate by applying nitrogen blowing for 1 minute or more.



Substrate	Organic Functional Group	Examples	
Resin / PET	Amino group	Momentive A-1110 Dow Corning Toray Z-6610 Shin-Etsu Chemical KBM903 or KBP90	
Resin /PMMA	Amino group	Momentive A-1110 Dow Corning Toray Z-6610 Shin-Etsu Chemical KBM903 or KBP90	
Resin / PC	Methacryl group	Momentive A-174 Dow Corning Toray Z-6030 Shin-Etsu Chemical KBM503	
Resin / PP, PE	Methacryl group / Vinyl group	Momentive A-171 or A-174 Dow Corning Toray Z-6030 or Z-6300 Shin-Etsu Chemical KBM503 or KBM1003	
Metal / SUS	-	Momentive A-187 Dow Corning Toray Z-6040 Shin-Etsu Chemical KBM403 TEOS*	
Mixing of silane agent: Add silane agent at the ratio of 0.1 to 0.0			

Silane Agent IPA (Isopropyl alcohol), and stir it. **Preparation** In some cases, consider addition of catalyst and water.

**Silane Agent** Coating

Apply silane agent coating. Example of silane agent spin coating conditions: 1000-1500rpm for 30 sec.

 Drying with nitrogen air for one minute or more. Cure (heat) at 100°C for 90 sec.

**Drying** 

## **Coating Process:**

SURECO can be applied by many common coating methods.



- Equipment: Dip coater
- Pre-treatment: Alkali-cleaning -> Corona
- Immersion time:> 1 minute
- Pulling speed: 5~15 mm/sec

### Spray Coating



- Equipment:2 fluid nozzle spray
- Pre-treatment:
   Alkali-cleaning ->
   Corona or plasma treatment
- Spray amount: 30~60 g/m2

#### Vapor Deposition



- Equipment: PVD (Physical Vapor Deposition)
- Chamber base pressure 1.0~3.0x10<sup>-3</sup> Pa
- SURECO™ AF thickness 10-15 nm

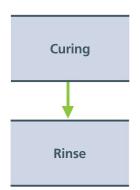
#### Spin Coating



- Equipment: Spin coater
- Pre-treatment:
   Alkali-cleaning ->
   Corona or plasma treatment
- Spin speed: 1,000 rpm

# **Curing:**

The curing process of the SURECO™ coating is essential for good adhesion.



- Adhesion may not be obtained unless heating or sufficient drying is performed. Example: 120°C for 10 minutes, 60°C for 2 hours, 25°C for 24 hours.
- If the surface is uneven, optionally wipe with soft cloth, or rinse substrate with fluorine solvent (AGC AE3000) or deionized water.

After Fingerpri	nt	After Wiping Once	
Untreated Glass	SURECO Treated Glass	Untreated Glass	SURECO Treated Glass

## **Handling and Disposal:**

- Please make sure proper protection equipment is used when handling SURECO™.
- All waste streams from operations containing SURECOTM must be disposed of via hazardous waste incineration.
- Refer to the SURECO SDS for more information on handling and disposal recommendations and requirements.

