

Application Manual

HOT GUARD & HOT GUARD SC Coat

Standard Coating Procedures



Standard Coating Procedures (*HOT GUARD& HOT GUARD SC*)

1. Safety Preparations
2. Confirming Conditions and Photographing Site
3. Applying Masking Tape: (a) materials; (b) procedures
4. Preparing the Window Surface
5. Primer
6. Coating (tools, sponges, mixing and application)
7. Drying and Ventilation
8. Cleaning Up
9. Wrapping Up Application
- Removal Steps

2. *Confirming Conditions and Photographing Site*



1. Check the temperature and humidity.
 - Outside temperature needs to fall within the range of 5°C and 35°C.
 - Relative humidity must be 70% or less.

2. In the event these conditions are not met, application should be rescheduled.
3. If the conditions are met, they should be recorded on the application check sheet.
4. Photographs of the site should be taken. Photographs are helpful records in avoiding misunderstandings with customers.

3. *Applying Masking Tape*

a. *List of Materials*



1. Spray bottle (water)
2. Grease remover
3. Primer (alcohol)
4. Cloths and paper towels
5. Masking tape
6. Masking tape with plastic wrap
7. Buffer
8. Scraper
9. Squeegee
10. Other tools as necessary

3. *Applying Masking Tape*

b. *Taping Procedures and Video*

Wipe clean the caulking around the windows with alcohol and then securely apply masking tape and/or masking tape with plastic wrap. This will protect the caulking from water and the liquid coating.

Because even a slight breeze may cause the plastic wrap attached to the masking tape to move, all corners of the plastic wrap should be secured with additional masking tape.

When the tape does not adhere to the surface well, clean that area first with the grease remover to permit better adherence.



Click on the picture above for a **video** of the masking process.

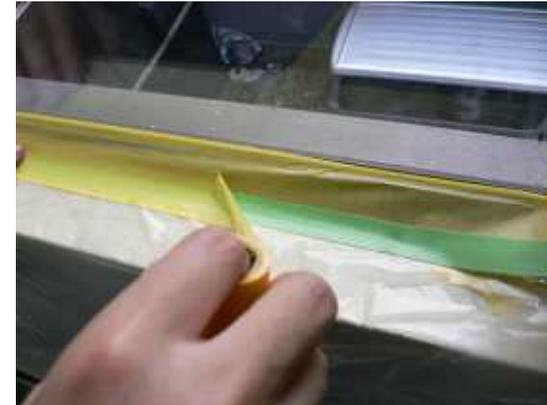
4. Preparing the Window Surface (Removing Grease and Stains)

1. Apply degreaser with damp buffer. While spraying window with water, clean entire window with firm polishing strokes.
 - Edges of window require special attention (more silicon).
 - Older glass with heavy stains or areas that are more hydrophobic requires extra attention.
 - A scraper may be necessary for stubborn stains. Be careful to avoid scratching glass surface.
2. Wash off degreaser with water.
3. Remove water with paper towels or a squeegee. Do not reuse paper towels.
4. Confirm cleanliness of surface by spraying entire surface with water. If there are no gaps where water is repelled, the surface is clean.
5. Remove water completely.
 - Broad strokes are necessary to confirm the consistency of the greasy membrane created by the degreaser before removal.
 - Please note that cleaning the window constitutes 80% of the work. The importance of cleaning the window cannot be overstated.



Click on the picture above for a **video** of the grease removal process.





5. *Primer*

1. Remove the masking tape and wipe up any remaining water.
 - Reapply masking tape to the window. This step is necessary because moisture and degreasing solution remain on tape.
2. Apply primer by wiping entire glass with cloth moistened with primer.
 - Do not use towel or cloth that breaks apart.
 - Ensure primer has fully vaporized.



6、 Blending coat liquid agent

To make liquid tray

Use two aluminum foil on surface and one at backside of tray to prevent leakage.

In case bringing container with liquid, put vinyl masker on top of aluminum foil to prevent leakage.

About roller and sponge

In case using roller many times without cleaning, liquid remains at metal portion, which becomes friction and affects rotation of roller. Be sure that Roller should be cleaned liquid off well by either alcohol or primer.

Roller with good rotation will be judged by easiness of both attaching and detaching of sponge.

Sponge should be cleaned dust by reverse side of 30m/m masker tape.

How to make coat liquid agent

In case of using 300 ml of Measuring cup

- 1) Put 10% of Hardener into 100ml Measuring cup
- 2) Put 90% of Main liquid into 300ml Measuring cup
- 3) Pour 1) into 2).
- 4) stir 3) around 20 times with stir sticks

In case making with 300ml. bottle (to keep odd out, to bring)

- 1) Put vacant bottle on measure.
- 2) Put Main liquid agent into 300ml Measuring cup, and Hardener agent into 100ml Measuring cup.
- 3) Pour Main liquid into vacant bottle from 300ml Measuring cup.
- 4) After 3) add Hardener liquid from 100ml Measuring cup.
- 5) Cover a cap and mix 4).

Be sure to finish using all liquid within 2 hours. Otherwise Hardener will harden it.

Clean hardener agent lid well after use, otherwise solidify. Putting liquid into sponge of roller

For the first retention soak it wholly and evenly. Do not leave white part white of sponge.

Roll back and forth well to soak liquid into center of roller evenly.

Approximately after $40m^2$ use, change roller. *Also after one hour, change one.



7、 Top coat painting

First drop liquid at the root part of sponge on glass a bit adequately as this part tends to become lines.

Use Roller vertically paint 4 side thoroughly first.

Do not use wrist snap in roller painting. Fix wrist and paint with even pressure.

Paint with strength to some extent , however too much power ends up with scattering ,liquid drop on glass surface and clear line .

Power moderation/control is essential After first paint ,always start only from either upper or lower end Do not start from center ,which leave streaks.

When painting ,paint all the way without any stop from one end to another. Stop always leaves streak.

From bottom to up first vertical paint of whole glass surface.

For first vertical paint , a bit freer but eliminate lines.

First paint ,pay attention to ampleness of liquid just to avoid drop.

During the course of painting , as liquid amount reduces ,starting part with weaker power and finishing part with a bit added power to squeeze out center liquid.

This even out deeper and thinner parts.

Keep always well in mind to maintain even coating

After finishing first vertical painting , start horizontal painting to even out coating.

Also for this horizontal painting ,mind not to leave streak lines .

And also not to leave any unpainted parts.

After finishing horizontal painting, start for final vertical painting.

Not to apply too much power ,but rolling roller well.

However for parts like thicker part (looks a bit blue) ,liquid drop, line streaks, oil floating , rub them off to result into even surface .

However not to manipulate too much ,which results frost glass type of failure result.Consider well liquid amount ,dryness.

Paint each process of first vertical ,second horizontal, final finishing vertical painting by 1 minutes each as an image.

Though as final check and adjustment may require +1minutes maximum within 4 minutes , finish top coat painting.

Especially in summer time with west strong sun beam ,4 minutes is really maximum as caking comes very fast.

Basically two person pair is ideal : painter and checker Especially for beginner painter tends to oversee check points.

Adjustment during non dry status like dust attach , eliminate with rag or pincette and paint only to cover that part .

In case coat liquid happens to attach to frame or floor , clean them by rubbing well with rag with alcohol or primer

checkpoints after finish painting liquid drop : Especially in case side part unpainted and added part.four corners: check unpainted part roller sliding: Roller should rotate evenly well .

Prevent roller sliding.
lines horizontally ,
vertically
oil film floating
dust attachment
glass frame , floor



Important checkpoints

Outside Temperature condition must be

5 ~ 35 humidity less than 70%

Approximately 30-60 minutes until dry by finger , differ from room temperature and/or humidity

Be sure to confirm these factors before removing masking etc.--.

8. Drying and Ventilation

Drying

- 1. Until the surface hardens to the touch (so that fingerprints will show), inspect the surface for gaps, imperfections and dust.**
- 2. If inspection reveals unacceptable imperfections, the coating should be promptly removed. Small organisms or tiny pieces of dust should be removed with tweezers. Whether or not the coating has hardened to the touch can be tested on coating that has covered part of the protective masking tape.**
- 3. Periods for hardening:**

Hardens to the touch:	30 minutes	
Dries (2-3 H):	24 hours	
Complete hardening (4-5):	30 days	
Elimination of Odor:	2-3 hours after	hardening to touch
- 4. Other tools to have on hand for cleaning the surface: tweezers, a piece of felt or microfiber cloth, glass scraper and grease remover.**

Ventilation and Deodorization

- Inhalation of vapors from the coating solution should be avoided by proper ventilation. Fans and air conditioning may be used to remove the odor of the vapors. Caution should be used to not stir up airborne dust that might attach to the coated surface before it dries. Once the coating has dried to the touch, doors or windows may be opened to remove the odor from the vapors of the coating solution. Be careful of letting in outdoor precipitation and high humidity.**
- Ozone filters may be useful in removing strong odors.**

9. Cleaning Up (Removing Tape and Gathering Trash)

1. Confirm in an inconspicuous part of the glass that the coating has dried to the touch. If dried, the masking tape may be removed.
2. Collect all used masking tape and other trash.
3. Make sure all containers of chemicals are closed and prepare for return to office.



10. Wrapping Up Application

1. After cleaning up, take photographs of coated surfaces.
2. Complete the Application Record (including date, start and end times, physical conditions, amount of liquid used and other pertinent information).
3. Obtain the client's signature on the Application Record.
4. Explain to the client the proper care of the treated windows.

Tips and points of EGC (Eco Glass Coating) Painting

Procedure	Tools	work
(1) Coverage	Vinyl Masker	Cover at bottom part of Glass by vinyl masker Even in case with Curtain or blind ,use vinyl masker as needed (?) Tapeは ?
(2) Removing Oil film /(stains)	Water Spryay bottle Oil slick remover pad Oil slick remover buff Oil remover agent kitchen paper (squeeze) ?	Spray water on glass by spray bottle. put oil film remover buff on the Pad and little agent (one line on either side along long edge) And clean Oil film repelling part. Especially wipe off carefully on the corners. This is the most important part of whole process. 80% of the whole process is this one. Clean off oil film completely by kitchen paper.
(3) Second coverage	Masking tape Vinyl Masker	Take off coverage ,and put new masking tape and vinyl masker again
(4) Primer	Ben cotton Primer	Put little primer on Ben cotton ,and expand over whole glass evenly.
(5) Blending coating agent	EGC liquid agent EGC hardener liquid agent (Measuring cup) (sput) (Weight measurement)	Put *10g hardener liquid into bottle of *90g EGC liquid to make *100g blend Blend well by shaking well * (10g=0.35os 90g=3.17os 100g=3.53os) Prepare tray and pour 20g(0.71os) of blend in it. (taking off dust from sponge well) First soak roller sponge in 20g liquid and let it absorb evenly by rolling number of times (this 20g is for roller retention) Next make another blend for actual Glass painting portion. Calculate 20-30g(0.71-1.06os) per 1m ² (10.76sq ft ²)
(6) Coating		Coating consists of 3 parts. 1) first coat (base painting) 2) Horizontal painting 3) Finishing: from bottom to up Avoid unevenness, liquid dropping down. In case with blur,dropping down coat again right away on top of them
Cleaning Easy removing of coating agent after hardening complete	Garbage bag Masker brush removing agent(pink) counter agent(blue) sklaper water spray bottle	Leave one hour,feeling dryness,then detach cover tape and masking tape. Clean up using garbage bag. Coating finished. To remove coating agent after hardening. First do covering by Masker Prepare 2 brush, one for removing agent(Pink), the other for counter agent(Blue). Soak one brush into counter agent(blue) and put on 4 corners Use the other brush into removing agent(pink) and rubbing onto glass evenly. make sure of the effect of removing by nail peeling (Top,middle,bottom x left,center,right : check these total 9 points) After confirming the effect,again paint counter agent(blue) on to neutralize Spray water and remove coating agent by sklaper (45 degree).