

AUTOMOTIVE WINDOW TINT

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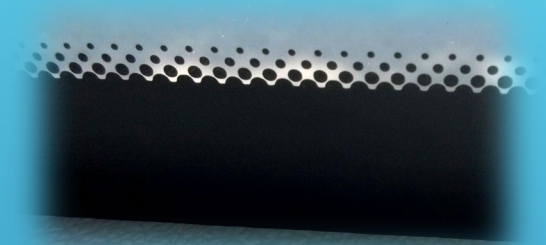
Terms

Frit – Paint baked into the edge of automotive glass usually forming a gradient of dots. Helps adhesive bond to glass. Gradient dots improve aesthetics and provide shade in some cases.

VLT – Visible Light Transmission. Represents a ratio of the amount of total visible light that is allowed to pass through the tint. Ex: 35% VLT allows 35% of the total visible light to pass through. – lower is “darker”.

AS-1 Line – a line marked on the side of the windshield, or a line 5” from the top of the windshield parallel to the top.

Hard Card – a mildly flexible plastic tool used to work air out of film and position film behind trim & window seals.



Common Types of Tint

Dyed – Dyed window film is made by placing a layer of dye between an adhesive layer and a protective polyester top coating.

Advantages:

- ▶ Low Cost
- ▶ Does not block radio waves

Disadvantages:

- ▶ Bubbled appearance if installed incorrectly
- ▶ Film layers can delaminate
- ▶ Prolonged UV exposure can change color to a purple or brown hue

Common Types of Tint

Metalized – Usually comprised of several layers of material including base adhesive layer, UV protectant layer, metalized layer and top coat layer.

Advantages:

- ▶ Very effective at blocking heat, glare, and UV rays
- ▶ Does not fade
- ▶ Durable

Disadvantages:

- ▶ May interfere with Radio transmissions (Radio, TPMS, Cell phone, etc.)
- ▶ Higher cost than dyed film

Common Types of Tint

Ceramic – Adhesive layer bonded to thin ceramic layer and top coat layer.

Advantages:

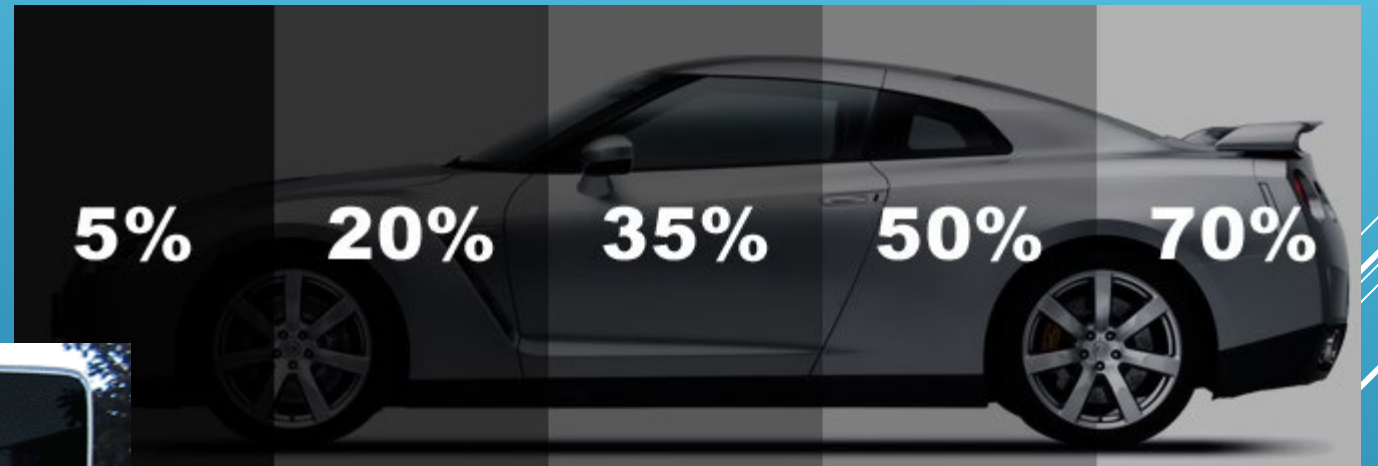
- ▶ Very effective at blocking heat, glare, and UV rays
- ▶ Does not fade
- ▶ Does not interfere with Radio transmissions

Disadvantages:

- ▶ Most expensive option

Selecting the Right Tint for Your Vehicle

It's important to pay attention to not only how it looks on your vehicle, but how it changes the view from inside your vehicle.




Legal Considerations

SEDAN	IA	IN	IL	WI
Windshield	Above AS-1	70% VLT	Top 6"	Above AS-1
Front Sides	30% VLT	70% VLT	35% VLT	50% VLT
Rear Sides	30% VLT	Any	35% VLT	35% VLT
Rear Window	30% VLT	Any	35% VLT	35% VLT


SUV/VANS	IA	IN	IL	WI
Windshield	Above AS-1	70% VLT	Top 6"	Above AS-1
Front Sides	30% VLT	70% VLT	50% VLT	50% VLT
Rear Sides	Any	Any	Any	35% VLT
Rear Window	Any	Any	Any	35% VLT

*** Most require non-reflective tint*

Violations

- ▶ Penalties vary by state
 - ▶ Laws apply to state vehicle is registered in
 - ▶ In Illinois, for example, \$50-\$500 fine for first offense, subsequent violations \$100-\$500 fine
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- A decorative graphic consisting of several parallel white lines of varying lengths and orientations, located in the bottom right corner of the slide.

Installation Options


- ▶ Shop specializing in automotive window tinting
pricing varies widely by material brand & type, size of vehicle,
etc. Expect to pay a few hundred \$\$
 - ▶ DIY option
various brands of material available (3M, others)
Total cost should be < \$100
Film available in bulk or precut for your specific vehicle
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MY EXAMPLE

- ▶ 2016 Chevy Volt
- ▶ Side & rear window precut tint
- ▶ 35% VLT Carbon Ceramic
- ▶ Purchased from *filmvantage* on eBay for \$59.95
- ▶ Kit included precut film, squeegee, application solution, hard card
- ▶ Purchased inexpensive spray bottle separately



Fiero Options from filmvantage

- ▶ Dyed film, 3Y warranty \$39.95
 - ▶ Carbon Ceramic, lifetime warranty - \$59.95
 - ▶ Nano Ceramic, lifetime warranty - \$89.95
 - ▶ 3M Dyed, lifetime warranty - \$89.95
 - ▶ 3M Nano Carbon, lifetime warranty - \$152.95
 - ▶ Windshield strips from \$15-\$25
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- A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.

Installation

- ▶ <https://www.youtube.com/watch?v=j3Poe6csCNU>
- ▶ Clean inside and outside of glass. Then clean again. Then clean again. Use razor blade over entire surface to remove any stubborn dirt or debris. *Did I mention cleaning again?*
- ▶ Clean and optionally cover door panel before installation.
- ▶ Unless glass is completely flat, I recommend heat shrinking film on outside of glass before installation.
- ▶ On framed window glass, remove window seal if at all possible.
- ▶ Use heat gun to remove creases or wrinkles in film.
- ▶ Firmly squeegee glass to remove liquid & any air pockets.

My Results & Tips

- ▶ *Meh!*
- ▶ *Film on driver door touched door panel, which I thought was clean. Minor dirt specs now trapped behind film.*
- ▶ *I thought I could get by without preshrinking material as back window appeared relatively flat.*
- ▶ *Do not crease material. Once a crease is made in the film, you will see it in the final installation.*
- ▶ *Even when it appears there are no bubbles, squeegee firmly one last time to try & force out any remaining air.*
- ▶ *Film is less likely to adhere to frit. Spend extra time with squeegee to force material to stick to glass.*
- ▶ *Don't worry too much about water on door panel.*
- ▶ *Manual spray bottle works, but pressurized constant spray bottle is best.*
- ▶ *Clean and optionally cover door panel before installation.*
- ▶ *Leave a 1/16" gap at edge of glass.*