



Protemp™ Automotive Window Film

Black Shade Series

1. Product Description

Protemp™ Black Shade automotive window films are non-metallized, dyed polyester films with an acrylic pressure sensitive adhesive and an abrasion resistant coating

2. Applications

Protemp™ Black Shade automotive window films are intended for interior application on flat to complex curved automotive glazing.

3. Typical Properties

Technical information provided consists of typical product data and should not be used for specification purposes. Unless otherwise noted, all tests are performed at room temperature.

Product construction	
Material base	Non-metallized, dyed polyester
Adhesive	Pressure sensitive acrylic
Protective liner	Heat shrinkable, siliconized PET

Typical Performance Properties according to EN 410								
Film Type Protemp	Visible Light			Total Solar Energy Rejected	G Value (SHGC)	UV Block	Heat Gain Reduction	Glare Reduction
	Reflected (interior)	Reflected (exterior)	Transmission					
	%	%	%	%		%	%	%
Clear glass (6mm)	9	8	89	19	0.82	38	NA	NA
Black Shade 5	5	5	6	43	0.57	99	30	93
Black Shade 15	5	5	14	40	0.60	99	26	84
Black Shade 30	6	6	31	35	0.65	99	20	65
Black Shade 45	5	5	44	32	0.68	99	16	50

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4. User Information

4.1 Shelf Life & Storage (prior to application)

Shelf life is 2 years from the manufacturing date. Material should be stored in its original packaging, laying in a horizontal orientation, away from direct sunlight. Heavy objects should not be placed on top of it to avoid damaging the product. Recommended storage conditions are 21°C and 40 – 50% relative humidity. Avoid extreme temperature ranges in storage.

4.2 Application

Recommended substrate	Automotive glazing
Recommended surface	Flat to complex curved glazing
Application method	Wet application. Use a heat gun to shrink and fit the film to simple and complex curves when necessary
Application temperature	From +4°C to +45°C
Service temperature	From -40°C to +70°C
Edge sealing	Not necessary
Drying time	Final adhesion is reached after approximately 15-20 days at 18°C and dry conditions. Please refer to local instructions for details.

3M Automotive Window Film is to be professionally applied by skilled, well-trained, 3M authorised installers. Windows can be considered operational after 24 hours.

4.3 Maintenance and Cleaning

Use a cleaning agent designed for high quality glass surfaces. The cleaning agent must be wet and non-abrasive with a pH value between 6 and 8 (neither strongly acidic nor strongly alkaline).

5. Additional Information

To request additional product information see address below.

Important Notice

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method or application.

Values presented have been determined by standard test methods and are average values not meant to be used for specification purposes.

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