# 3M™ NFRC Certified Whole Window Specifications for Window Film –

3M Film Type	Film/Glass combo	SHGC	VLT	Luminous Efficacy
Amber 35	Residentail Single Clear	0.20	0.25	1.3
Amber 35	Commercial Single Clear	0.24	0.27	1.1
Ambar 25 L 5	Residentail Single Clear	0.20	0.25	1.3
Amber 35 LE	Commercial Single Clear	0.23	0.27	1.2
0 ' 00	Residentail Single Clear	0.35	0.30	0.9
Ceramic 30	Commercial Single Clear	0.38	0.32	0.8
	Residentail Single Clear	0.4	0.37	0.9
Ceramic 40	Commercial Single Clear	0.44	0.40	0.9
	Residentail Single Clear	0.46	0.44	1.0
Ceramic 50	Commercial Single Clear	0.49	0.48	1.0
	Residentail Single Clear	0.27	0.13	0.5
Neutral 20	Commercial Single Clear	0.31	0.14	0.5
	Residentail Single Clear	0.38	0.30	0.8
Neutral 35	Commercial Single Clear	0.41	0.32	0.8
	Residentail Single Clear	0.49	0.43	0.9
Neutral 50	Commercial Single Clear	0.52	0.47	0.9
	Residentail Single Clear	0.60	0.58	1.0
Neutral 70	Commercial Single Clear	0.63	0.62	1.0
	Residentail Single Clear	0.37	0.42	1.1
Nickel 50	Commercial Single Clear	0.41	0.45	1.1
	Residentail Single Clear	0.23	0.43	0.5
Night Vision 15	Commercial Single Clear	0.27	0.12	0.5
	Residentail Single Clear	0.27	0.13	0.6
Night Vision 25	Commercial Single Clear	0.37	0.22	0.6
	Residentail Single Clear	0.40	0.22	0.7
Night Vision 35	Commercial Single Clear	0.44	0.30	0.7
	Residentail Single Clear	0.44	0.33	1.0
Prestige 40	Commercial Single Clear	0.34	0.36	0.9
	Residentail Single Clear	0.35	0.35	1.0
Prestige 40 Exterior	Commercial Single Clear	0.36	0.33	1.0
	Residentail Single Clear	0.30	0.37	1.1
Prestige 50	Commercial Single Clear	0.37	0.42	
	Residentail Single Clear	0.41	0.43	1.3
Prestige 60	Commercial Single Clear	0.44	0.55	1.3 1.3
	Residentail Single Clear	0.42	0.58	1.3 1.4
Prestige 70	Commercial Single Clear	0.42	0.63	1.3
	Residentail Single Clear	0.47	0.63	
Prestige 70 Exterior		_		1.4 1.4
Prestige 90 Exterior	Commercial Single Clear	0.44	0.62	
	Residentail Single Clear	0.57	0.73	1.3
	Commercial Single Clear	0.59	0.77	1.3
Silver 35	Residentail Single Clear	0.31	0.29	0.9
_	Commercial Single Clear	0.34	0.32	0.9
Silver P18	Residentail Single Clear	0.18	0.14	0.8
	Commercial Single Clear	0.22	0.15	0.7



# 3M<sup>™</sup> Window Film NFRC Certified Specifications

\*\*Please Note- NFRC certified specifications are slightly different than 3M printed specifications due to the fact that 3M publishes center of glass specifications, and NFRC publishes whole window specifications. For a detailed understanding of the difference between the two methods, consult 3M's technical bulletin on the difference between whole window specifications and center of glass specifications. In order to obtain NFRC specifications, 3M's center of glass specifications are utilized in a specific window type.

Additionally NFRC specifications should be utilized for utility rebate compliance for the following reasons:

- 1) Building codes such as IECC 2009, CA Title 24, LEED, all utilize whole window specifications
- 2) The Federal HomeStar bill included window films, and recommended utilizing NFRC specifications as the mechanism for determining a rebate
- 3) US DOE Recommended energy analysis software utilize whole window specifications (eQuest, Energy Plus, Trace 700, DOE-2, and the CA SPC program as well)
- 4) These specifications are certified by a 3<sup>rd</sup> party
- 5) The NFRC requires window film manufacturers to measure the performance of their films on a specific window type. There is no other way to compare one window film manufacturer's published specification to another's, as a manufacturer may choose to publish the performance of their film on any glass type, thereby changing the performance of the film.





## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-007		
Film Location:	Interior		
Film Tint:	Silver		
Film MFR Series:	Ultra Silver S20 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.19	0.74	0.13	1.07100
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.27	0.67	0.12	0.69800
Window Wall	6 mm (1/4in.) clear	0.75	0.22	0.80	0.14	1.01500
Window Wall	6 mm (1/4in.) grey	0.53	0.27	0.40	0.07	1.01500
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.31	0.71	0.13	0.58300
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.25	0.36	0.07	0.58300

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-013		
Film Location:	Interior		
Film Tint:	Clear		
Film MFR Series:	Ultra PR-S50 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.37	0.74	0.41	1.09900
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.45	0.67	0.38	0.70800
Window Wall	6 mm (1/4in.) clear	0.75	0.41	0.80	0.45	1.04300
Window Wall	6 mm (1/4in.) grey	0.53	0.36	0.40	0.23	1.04300
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.48	0.71	0.40	0.59100
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.35	0.36	0.20	0.59100

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-001		
Film Location:	Interior		
Film Tint:	Other		
Film MFR Series:	Ultra Neutral S50 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.48	0.74	0.42	1.107000
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.53	0.67	0.39	0.711000
Window Wall	6 mm (1/4in.) clear	0.75	0.52	0.80	0.46	1.052000
Window Wall	6 mm (1/4in.) grey	0.53	0.42	0.40	0.23	1.052000
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.54	0.71	0.41	0.594000
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.38	0.36	0.21	0.594000

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-002		
Film Location:	Interior		
Film Tint:	Other		
Film MFR Series:	Ultra Neutral S35 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.38	0.74	0.29	1.07400
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.46	0.67	0.27	0.70000
Window Wall	6 mm (1/4in.) clear	0.75	0.41	0.80	0.32	1.01800
Window Wall	6 mm (1/4in.) grey	0.53	0.36	0.40	0.16	1.01800
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.47	0.71	0.29	0.58400
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.34	0.36	0.14	0.58400

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-009		
Film Location:	Interior		
Film Tint:	Silver		
Film MFR Series:	Silver P-18 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.18	0.74	0.14	1.03000
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.26	0.67	0.13	0.68300
Window Wall	6 mm (1/4in.) clear	0.75	0.22	0.80	0.15	0.97300
Window Wall	6 mm (1/4in.) grey	0.53	0.26	0.40	0.07	0.97300
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.30	0.71	0.14	0.57000
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.25	0.36	0.07	0.57000

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-008		
Film Location:	Interior		
Film Tint:	Silver		
Film MFR Series:	Silver 35 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.31	0.74	0.29	1.02100
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.37	0.67	0.27	0.68000
Window Wall	6 mm (1/4in.) clear	0.75	0.34	0.80	0.32	0.96500
Window Wall	6 mm (1/4in.) grey	0.53	0.31	0.40	0.16	0.96500
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.40	0.71	0.29	0.56800
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.30	0.36	0.15	0.56800

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-027		
Film Location:	Exterior		
Film Tint:	Clear		
Film MFR Series:	Exterior Prestige 90		

RATINGS INFORMATION					
Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film
Fixed	3 mm (1/8in.) clear	0.72	0.57	0.74	0.73
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.64	0.52	0.67	0.67
Window Wall	6 mm (1/4in.) clear	0.73	0.59	0.78	0.77
Window Wall	6 mm (1/4in.) grey	0.52	0.43	0.39	0.39
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.63	0.52	0.69	0.69
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.41	0.35	0.35	0.35

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# DISCLAIMER OF LIABILITY:



## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-014		
Film Location:	Interior		
Film Tint:	Clear		
Film MFR Series:	PR-70 Interior Fim Attachment		

# RATINGS INFORMATION

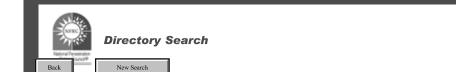
Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.42	0.74	0.58	1.079000
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.47	0.67	0.52	0.701000
Window Wall	6 mm (1/4in.) clear	0.75	0.47	0.80	0.63	1.023000
Window Wall	6 mm (1/4in.) grey	0.53	0.39	0.40	0.32	1.023000
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.51	0.71	0.56	0.585000
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.36	0.36	0.28	0.585000

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-026		
Film Location:	Exterior		
Film Tint:	Clear		
Film MFR Series:	Exterior Prestige 70		

RATINGS INFORMATION					
Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film
Fixed	3 mm (1/8in.) clear	0.72	0.43	0.74	0.59
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.64	0.36	0.67	0.54
Window Wall	6 mm (1/4in.) clear	0.73	0.44	0.78	0.62
Window Wall	6 mm (1/4in.) grey	0.52	0.34	0.39	0.31
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.63	0.36	0.69	0.56
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.41	0.25	0.35	0.28

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-015		
Film Location:	Interior		
Film Tint:	Clear		
Film MFR Series:	PR-60 Interior Film Attachement		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.40	0.74	0.50	1.07900
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.47	0.67	0.46	0.70100
Window Wall	6 mm (1/4in.) clear	0.75	0.44	0.80	0.55	1.02300
Window Wall	6 mm (1/4in.) grey	0.53	0.37	0.40	0.28	1.02300
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.50	0.71	0.49	0.58500
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.35	0.36	0.25	0.58600

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-016		
Film Location:	Interior		
Film Tint:	Clear		
Film MFR Series:	PR-50 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.37	0.74	0.42	1.07900
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.45	0.67	0.38	0.70100
Window Wall	6 mm (1/4in.) clear	0.75	0.41	0.80	0.45	1.02300
Window Wall	6 mm (1/4in.) grey	0.53	0.36	0.40	0.23	1.02300
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.48	0.71	0.40	0.58500
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.35	0.36	0.20	0.58500

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-017		
Film Location:	Interior		
Film Tint:	Clear		
Film MFR Series:	PR-40 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.34	0.74	0.33	1.07900
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.44	0.67	0.30	0.70100
Window Wall	6 mm (1/4in.) clear	0.75	0.38	0.80	0.36	1.02300
Window Wall	6 mm (1/4in.) grey	0.53	0.34	0.40	0.18	1.02300
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.47	0.71	0.32	0.58500
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.34	0.36	0.16	0.58500

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-025		
Film Location:	Exterior		
Film Tint:	Clear		
Film MFR Series:	Exterior Prestige 40		

RATINGS INFORMATION						
Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	
Fixed	3 mm (1/8in.) clear	0.72	0.35	0.74	0.35	
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.64	0.28	0.67	0.32	
Window Wall	6 mm (1/4in.) clear	0.73	0.36	0.78	0.37	
Window Wall	6 mm (1/4in.) grey	0.52	0.30	0.39	0.19	
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.63	0.28	0.69	0.33	
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.41	0.21	0.35	0.17	

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-019		
Film Location:	Interior		
Film Tint:	Other		
Film MFR Series:	NV-35 Interior Film Attachement		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.42	0.74	0.30	1.11000
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.49	0.67	0.27	0.71200
Window Wall	6 mm (1/4in.) clear	0.75	0.45	0.80	0.32	1.05400
Window Wall	6 mm (1/4in.) grey	0.53	0.38	0.40	0.16	1.05400
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.51	0.71	0.29	0.59400
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.36	0.36	0.15	0.59400

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-020		
Film Location:	Interior		
Film Tint:	Other		
Film MFR Series:	NV-25 Interior Film Attachement		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.33	0.74	0.20	1.08600
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.43	0.67	0.19	0.70300
Window Wall	6 mm (1/4in.) clear	0.75	0.37	0.80	0.22	1.03000
Window Wall	6 mm (1/4in.) grey	0.53	0.34	0.40	0.11	1.03000
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.45	0.71	0.20	0.58700
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.33	0.36	0.10	0.58700

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-021		
Film Location:	Interior		
Film Tint:	Other		
Film MFR Series:	NV-15 Interior Film Attachement		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.23	0.74	0.12	1.06900
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.33	0.67	0.12	0.69800
Window Wall	6 mm (1/4in.) clear	0.75	0.27	0.80	0.13	1.01300
Window Wall	6 mm (1/4in.) grey	0.53	0.29	0.40	0.07	1.01300
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.36	0.71	0.12	0.58200
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.28	0.36	0.06	0.58200

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-006		
Film Location:	Interior		
Film Tint:	Silver		
Film MFR Series:	Nickel 50 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.37	0.74	0.42	1.02100
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.41	0.67	0.38	0.68000
Window Wall	6 mm (1/4in.) clear	0.75	0.41	0.80	0.45	0.96500
Window Wall	6 mm (1/4in.) grey	0.53	0.35	0.40	0.23	0.96500
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.44	0.71	0.41	0.56800
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.32	0.36	0.21	0.56800

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-003		
Film Location:	Interior		
Film Tint:	Other		
Film MFR Series:	Neutral 70 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.60	0.74	0.58	1.109000
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.59	0.67	0.53	0.712000
Window Wall	6 mm (1/4in.) clear	0.75	0.63	0.80	0.62	1.054000
Window Wall	6 mm (1/4in.) grey	0.53	0.48	0.40	0.32	1.054000
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.60	0.71	0.56	0.594000
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.41	0.36	0.28	0.954000

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-004		
Film Location:	Interior		
Film Tint:	Other		
Film MFR Series:	Neutral 50 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.49	0.74	0.43	0.109000
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.53	0.67	0.39	0.712000
Window Wall	6 mm (1/4in.) clear	0.75	0.52	0.80	0.47	1.054000
Window Wall	6 mm (1/4in.) grey	0.53	0.42	0.40	0.24	1.054000
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.54	0.71	0.42	0.594000
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.38	0.36	0.21	0.594000

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## Film-Attachment Product Detail

GENERAL INFORMATION				
Manufacturer:	3M			
CPD Number:	MMM-M-005			
Film Location:	Interior			
Film Tint:	Other			
Film MFR Series:	Neutral 35 Interior Film Attachment			

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.38	0.74	0.30	1.07600
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.46	0.67	0.27	0.70000
Window Wall	6 mm (1/4in.) clear	0.75	0.41	0.80	0.32	1.02000
Window Wall	6 mm (1/4in.) grey	0.53	0.36	0.40	0.16	1.02100
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.47	0.71	0.29	0.58500
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.34	0.36	0.15	0.58500

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## Film-Attachment Product Detail

GENERAL INFORMATION			
Manufacturer:	3M		
CPD Number:	MMM-M-018		
Film Location:	Interior		
Film Tint:	Other		
Film MFR Series:	Neutral 20 Interior Film Attachment		

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.27	0.74	0.13	1.08000
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.41	0.67	0.12	0.70200
Window Wall	6 mm (1/4in.) clear	0.75	0.31	0.80	0.14	1.02500
Window Wall	6 mm (1/4in.) grey	0.53	0.30	0.40	0.07	1.02500
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.42	0.71	0.13	0.58600
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.31	0.36	0.06	0.58600

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## Film-Attachment Product Detail

GENERAL INFORMATION				
Manufacturer:	3M			
CPD Number:	MMM-M-024			
Film Location:	Interior			
Film Tint:	Clear			
Film MFR Series:	Ceramic 50 Interior Film Attachment			

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.46	0.74	0.44	1.115000
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.51	0.67	0.40	0.714000
Window Wall	6 mm (1/4in.) clear	0.75	0.49	0.80	0.48	1.061000
Window Wall	6 mm (1/4in.) grey	0.53	0.41	0.40	0.24	1.061000
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.53	0.71	0.43	0.596000
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.37	0.36	0.22	0.596000

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## Film-Attachment Product Detail

GENERAL INFORMATION				
Manufacturer:	3M			
CPD Number:	MMM-M-023			
Film Location:	Interior			
Film Tint:	Clear			
Film MFR Series:	Ceramic 40 Interior Film Attachment			

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.40	0.74	0.37	1.11100
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.48	0.67	0.34	0.71200
Window Wall	6 mm (1/4in.) clear	0.75	0.44	0.80	0.40	1.05600
Window Wall	6 mm (1/4in.) grey	0.53	0.38	0.40	0.20	1.05700
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.50	0.71	0.36	0.59500
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.35	0.36	0.18	0.59500

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## Film-Attachment Product Detail

GENERAL INFORMATION				
Manufacturer:	3M			
CPD Number:	MMM-M-022			
Film Location:	Interior			
Film Tint:	Clear			
Film MFR Series:	Ceramic 30 Interior Film Attachment			

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.35	0.74	0.30	1.10300
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.44	0.67	0.27	0.71000
Window Wall	6 mm (1/4in.) clear	0.75	0.38	0.80	0.32	1.04800
Window Wall	6 mm (1/4in.) grey	0.53	0.35	0.40	0.16	1.04800
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.46	0.71	0.29	0.59300
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.33	0.36	0.15	0.59300

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## Film-Attachment Product Detail

GENERAL INFORMATION				
Manufacturer:	3M			
CPD Number:	MMM-M-012			
Film Location:	Interior			
Film Tint:	Other			
Film MFR Series:	Amber 35 Interior Film Attachment			

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.20	0.74	0.25	
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.25	0.67	0.23	
Window Wall	6 mm (1/4in.) clear	0.75	0.24	0.80	0.27	
Window Wall	6 mm (1/4in.) grey	0.53	0.26	0.40	0.13	
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.30	0.71	0.25	
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.24	0.36	0.12	

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## Film-Attachment Product Detail

GENERAL INFORMATION				
Manufacturer:	3M			
CPD Number:	MMM-M-010			
Film Location:	Interior			
Film Tint:	Other			
Film MFR Series:	Amber 35 LowE Interior Film Attachment			

# RATINGS INFORMATION

Operator Type	Default Glazing Reference	SHGC No Film	SHGC with Film	VT No Film	VT with Film	U-Factor
Fixed	3 mm (1/8in.) clear	0.71	0.20	0.74	0.25	
Fixed	3 mm (1/8in.) clear 3 mm (1/8in.) clear	0.63	0.25	0.67	0.24	
Window Wall	6 mm (1/4in.) clear	0.75	0.23	0.80	0.27	
Window Wall	6 mm (1/4in.) grey	0.53	0.24	0.40	0.13	
Window Wall	6 mm (1/4in.) clear 6 mm (1/4in.) clear	0.65	0.29	0.71	0.25	
Window Wall	6 mm (1/4in.) grey 6 mm (1/4in.) clear	0.42	0.23	0.36	0.13	

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