VIRACON®

GLASS IS EVERYTHING™

VRE-3117

ANNOUNCING VIRACON'S LATEST, INDUSTRY LEADING HIGH-PERFORMANCE LOW-EMISSIVITY COATING

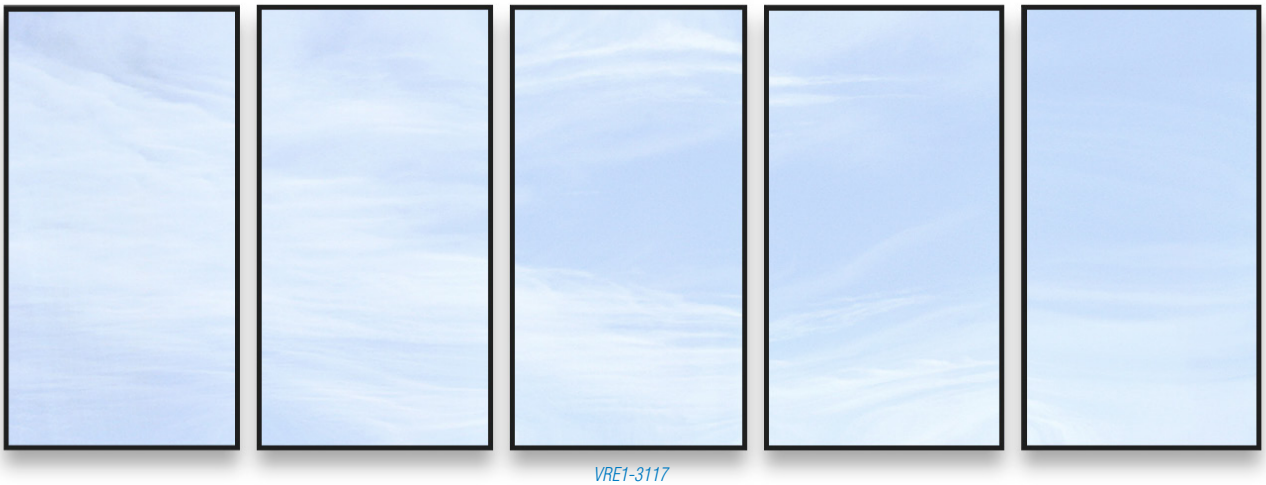
IN THE TRADITION OF VIRACON'S ICONIC VRE FAMILY OF COATINGS, VRE-3117 BALANCES MARKET-LEADING PERFORMANCE WITH A BRIGHT, NEUTRAL COOL-GRAPHITE APPEARANCE

Viracon's VRE-3117 is its highest-performance solar control architectural glass coating. With a Visible Light Transmission (VLT) of 31%, Solar Heat Gain Coefficient (SHGC) of 0.17, VRE-3117 is amongst the highest performing low-e coatings on the market. Featuring lower exterior reflectance and bright neutral cool-graphite reflected tones, once again Viracon affords architects yet another option to address demanding performance and aesthetic requirements.

VRE-3117 is part of our new VRE line, engineered via a recently patented process to respond to today's demanding requirements while preserving the VRE experience featured on over 2,000 buildings the world over. New VRE was developed to meet the requirements as expressed by Architects and Building Designers for neutral coatings with industry leading performance, and less exterior reflectance than previous VRE generations. Aesthetics were tailored to meld the traditional, vibrant appearance of Viracon's VRE coatings with current design trends. Now we bring this new, understated aspect to VRE-3117, the newest member of the latest generation of VRE coatings.

VRE-3117 KEY BENEFITS:

+ *Market leading performance and aesthetics – featuring lowest SHGC and low reflectance, with a vibrant, neutral cool-graphite appearance*
+ *Superior design – balanced VLT and SHGC attributes that improve occupant comfort and reduce energy costs*
+ *Greater design options – combine VRE-3117 with Viracon's broad selection of fabrication options to further enhance performance and aesthetics*



VRE1-3117
VLT 31%
SHGC 0.17

The reflected colors of the images above are viewed from the exterior and are provided as a reference for the visual aesthetics of Viracon VRE-3117. Sky conditions, viewing angle and other factors can influence perceived color. Viracon recommends viewing actual glass samples prior to final product selection. Visit viracon.com for more information.

SOLAR OPTICAL PROPERTIES AND THERMAL CHARACTERISTICS (AIR)

(1" OA) - 1/4"(6mm) on designated substrate - 1/2"(13.2mm) Airspace - 1/4"(6mm) Clear (or Low-Iron)

Nomenclature	Transmittance			Reflectance			U-Value					
	Visible	Solar	UV	Vis-out	Vis-in	Solar	Winter	Summer	SC	SHGC	RHG	LSG
VRE1-3117	31%	12%	5%	28%	20%	38%	0.29	0.26	0.19	0.17	42	1.82
VRE2-3117	26%	9%	2%	21%	20%	15%	0.29	0.26	0.19	0.16	41	1.63
VRE3-3117	16%	6%	2%	10%	20%	15%	0.29	0.26	0.15	0.13	34	1.23
VRE19-3117	23%	9%	3%	17%	20%	21%	0.29	0.26	0.17	0.15	39	1.53
VRE24-3117	33%	14%	7%	30%	21%	52%	0.29	0.26	0.19	0.17	42	1.94
VRE26-3117	20%	8%	3%	14%	20%	17%	0.29	0.26	0.17	0.15	37	1.33
VRE27-3117	15%	6%	1%	10%	20%	9%	0.29	0.26	0.15	0.13	34	1.15
VRE31-3117	33%	14%	7%	30%	21%	54%	0.29	0.26	0.19	0.17	42	1.94
VRE33-3117	23%	9%	3%	18%	20%	21%	0.29	0.26	0.18	0.15	39	1.53
VRE35-3117	32%	13%	6%	30%	21%	48%	0.29	0.26	0.19	0.17	42	1.88

SOLAR OPTICAL PROPERTIES AND THERMAL CHARACTERISTICS (ARGON)

(1" OA) - 1/4"(6mm) on designated substrate - 1/2"(13.2mm) Airspace - 1/4"(6mm) Clear (or Low-Iron)

Nomenclature	Transmittance			Reflectance			U-Value					
	Visible	Solar	UV	Vis-out	Vis-in	Solar	Winter	Summer	SC	SHGC	RHG	LSG
VRE1-3117	31%	12%	5%	28%	20%	38%	0.24	0.20	0.19	0.16	40	1.94
VRE2-3117	26%	9%	2%	21%	20%	15%	0.24	0.20	0.17	0.15	37	1.73
VRE3-3117	16%	6%	2%	10%	20%	15%	0.24	0.20	0.14	0.12	31	1.33
VRE19-3117	23%	9%	3%	17%	20%	21%	0.24	0.20	0.16	0.14	35	1.64
VRE24-3117	33%	14%	7%	30%	21%	52%	0.24	0.20	0.18	0.16	40	2.06
VRE26-3117	20%	8%	3%	14%	20%	17%	0.24	0.20	0.16	0.14	34	1.43
VRE27-3117	15%	6%	1%	10%	20%	9%	0.24	0.20	0.14	0.12	30	1.25
VRE31-3117	33%	14%	7%	30%	21%	54%	0.24	0.20	0.18	0.16	40	2.06
VRE33-3117	23%	9%	3%	18%	20%	21%	0.24	0.20	0.16	0.14	36	1.64
VRE35-3117	32%	13%	6%	30%	21%	48%	0.24	0.20	0.19	0.16	40	2.00

Viracon's solar and optical performance data represent center-of-glass information based on the National Fenestration Rating Council measurement standards, and are calculated using Lawrence Berkeley National Laboratory's (LBNL) WINDOW 7 software. Values are nominal—values in as-delivered product may vary according to manufacturing quality tolerances.

1. The performance data above applies to insulating glass with two plies (coated outboard; uncoated inboard) of 1/4" (6mm) glass and a 1/2" (13.2mm) space. Viracon VRE-3117 is applied to the second (#2) surface. When low iron glass is used (Optiwhite™ (#24); UltraClear® (#31); Pure Mid Iron™ (#35)), both plies of the unit are composed of the given low iron substrate.
2. VRE-3117 can only be used with heat treated glass.
3. Available in maximum dimensions of 130" x 236" (3302mm x 5994mm).

[1] SC = Shading Coefficient; RHG = Relative Heat Gain; SHGC = Solar Heat Gain Coefficient; LSG = Light to Solar Heat Gain ratio

[2] VRE Nomenclature: Example = VRE1-3117, where the number following "VRE" is a color code for the outboard substrate as per following:
Outboard Glass Substrate Color Codes = 1-Clear, 2-Green, 3-Gray, 19-CrystalGray®, 24-Optiwhite™, 26-Solarblue®, 27-Pacifica®, 31-UltraClear®, 33-Majestic Grey, 35-Pure Mid Iron™. Performance of VRE on additional glass substrates can be viewed on viracon.com.

Complete flexibility – specify VRE-3117 on any of your preferred glass substrates.
Greater design options – combine VRE-3117 on the same surface as printing (whether silk-screen patterns or DigitalDistinctions™.
Superior aesthetics – the coating is applied after heat treating, augmenting flatness compared to architectural glass that is heat treated after the coating application.

VIRACON®

Architectural Glass Solutions for Your Next Landmark Project Start By Visiting viracon.com or By Calling 800.533.2080.