

Site

The Great House at Castle Hill

Location

Ipswich, Massachusetts

Window Film

SpectraSelect VS60

Product Series

Spectrally-Selective Series



SITUATION

Castle Hill provides a dramatic setting for the Crane family's quintessential, self-sufficient American Country Place Era estate. Their 59 room Stuart-style mansion known as the Great House, its myriad support buildings, and 165 acres of natural designed landscapes were declared a National Historic Landmark in 1998.

The property was originally granted to John Winthrop Jr., son of the Massachusetts Bay Colony's first Governor in 1637. It was purchased by Manasseh Brown in 1843 and was acquired by Richard T Crane, Jr., in 1910. It was Crane who completely transformed the farming estate to create the magnificent house that marks Castle Hill.

Crane was a Chicago industrialist whose prosperous company produced steam engines and luxury bathroom fixtures. Typical of the wealthy industrialists of the era, Crane was motivated by the desire to create a lavish summer retreat for his family.

Originally Crane built an Italian Renaissance Revival Villa which he decided to replace in 1924 with a Stuart-style mansion. He commissioned Chicago architect David Adler to see the new Great House to its completion by 1928. David Adler brought to bear his considerable inventiveness and eclectic style to fashion an estate that would come to exemplify the American Country Place Era, a period of design that emphasized the integration of indoor and outdoor spaces. Geometrically designed garden "rooms" defined living areas outdoors, while oversize windows and screened porches brought light and air indoors. Castle Hill is one of the few remaining intact Country Place Era estates in the nation.

SOLUTION

The Trustees of Reservations, the oldest private statewide conservation and preservation organization, set about restoring the over 1,200 glass windows to enhance the building aesthetics, improve interior viewing, and protect the precious English antiques, priceless draperies, and carpeting that bedeck the interior from the ravages of sunlight. Working under the leadership of Historic Resource Manager, Susan Hill Dolan, a committee was established to research the best local resource for the window revitalization. After competitive presentations the area Vista™ by LLumar® Window Film dealer was chosen for the task.

A unanimous decision was quickly reached to take the dealer's recommendation to install Vista™ VS60 Spectra-Select on the multi-paned casement windows.

RESULT

The virtually invisible window film dramatically lessens glare and reflectivity while letting in just the right amount of daylight to bring the interior into bright focus. The high-tech complex solar control window film blocks more than 99 percent ultraviolet rays, helping protect against premature fading* and reduces heat within the house by more than half.

Upon completion the mansion's 1,500 square foot project achieved more than 99 percent ultraviolet protection and ideal viewing. "It is comforting to know that the pristine heritage of our antiques and valuable carpets and draperies are protected from the damaging rays of the sun," says Susan Hill Dolan. "Furthermore our visitors will never even know that the film is on the job!"



Performance Data

	% Total Solar Transmittance	% Total Solar Reflectance	% Total Solar Absorbance	% Visible Light Transmittance	% Visible Reflectance (exterior)	% Visible Reflectance (interior)	Winter U-value	Shading Coefficient	% Ultraviolet Ray Protection (wavelengths 280-380nm)	Emissivity	Solar Heat Gain Coefficient	% Total Solar Energy Rejected	Light-to-Solar Heat Gain Ratio (LSG)	% Summer Solar Heat Gain Reduction	% Winter Heat Loss Reduction	% Glare Reduction
Clear Glass	83	8	9	90	8	8	1.03	1.00	29	0.84	0.86	14	1.05	-	-	-
Spectrally-Selective Series																
SpectraSelect VS60 SR CDF	35	28	37	66	10	10	0.88	0.52	>99	0.55	0.45	55	1.47	48	15	27

EASTMAN

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The solar performance data reported for LLumar architectural window films was captured using the National Fenestration Rating Council's (NFRC) standard guidelines for window film solar performance measurement as measured on single pane, 1/8 inch (3 mm), clear glass. Reported values are taken from representative product samples and are subject to normal manufacturing variances. Actual performance will vary based on a number of factors, including glass type and properties. *Films do not eliminate fading—they reduce it. UV rays and heat are contributing factors to fading but other factors exist. For further information see LLumar.com/download-library. © 2008, revised 2016 Eastman Chemical Company. VISTA™, the VISTA® logo, LLumar®, the LLumar® logo and Enerlogic® are trademarks of Eastman Chemical Company or one of its wholly owned subsidiaries. As used herein, ® denotes registered trademark status in the U.S. only. (11/16) SP1102