

Energy producer is also energy conserver



SITUATION: Exxon USA headquarters in Houston, a 30-year-old, 43-story building with 6,200 windows, was retrofitted with high-tech, solar control Llummar Window Film. A detailed analysis of the building's environmental characteristics led to the fitting of Llummar Solar Control Film N-1020 Neutral. The installation of Llummar N-1020 Window Film (all 150,000 square feet - 13,935 square meters) provided energy savings and improved exterior aesthetics.

SOLUTION: Llummar Solar Control Window Film is a laminate of strong polyester and a Llummalloy metal alloy coating infused with ultraviolet inhibitors, bonded by a proprietary clear, distortion-free adhesive and finished with a patented scratch-resistant (SR) finish. High-tech solar control films are manufactured using a state-of-the-art sputtering process which applies metal alloys to the base film. The durable, scratch-resistant, crystal clear coating provides carefree maintenance with most conventional methods of window cleaning.

RESULTS: Llummar blocks out 99% of the damaging UV rays that fade office interiors. It also deflects harsh, uncomfortable glare, thereby improving comfort for office occupants. The installation is expected to create sufficient energy savings to pay for itself in three years, and the appearance of the building is improved by its modern, uniform, gunmetal, shining exterior.

Building
Exxon USA Headquarters
Location
Houston, Texas
Film
N-1020 SR CDF (Neutral)
Type
Solar Control Film

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Performance Data

Neutral Series

N-1020 SR CDF (Neutral)

% Total Solar Transmittance	% Total Solar Reflectance	% Total Solar Absorbance	% Visible Light Transmittance	% Visible Reflectance (exterior)	% Visible Reflectance (interior)	Winter Merit U-Value	Shading Coefficient	% Ultraviolet Reflected	Emissivity	Solar Heat Gain Coefficient	% Total Solar Energy Reflected	Light-to-Solar Heat Gain Ratio	% Summer Solar Heat Gain Reduction	% Winter Heat Loss Reduction	% Glare Reduction
21	26	53	24	29	28	1.03	0.44	99	0.84	0.37	63	0.65	56	0	73

Neutral films reduce glare, provide moderate heat rejection and are specified where a soft, neutral appearance is desired. These films are made with sputtered technology, creating a film that allows for very uniform visible light transmission. Neutral films are scratch-resistant and shield 99% of UV rays.