



CASE STUDY: Energy producer is also energy conserver

Building

Exxon USA Headquarters

Location

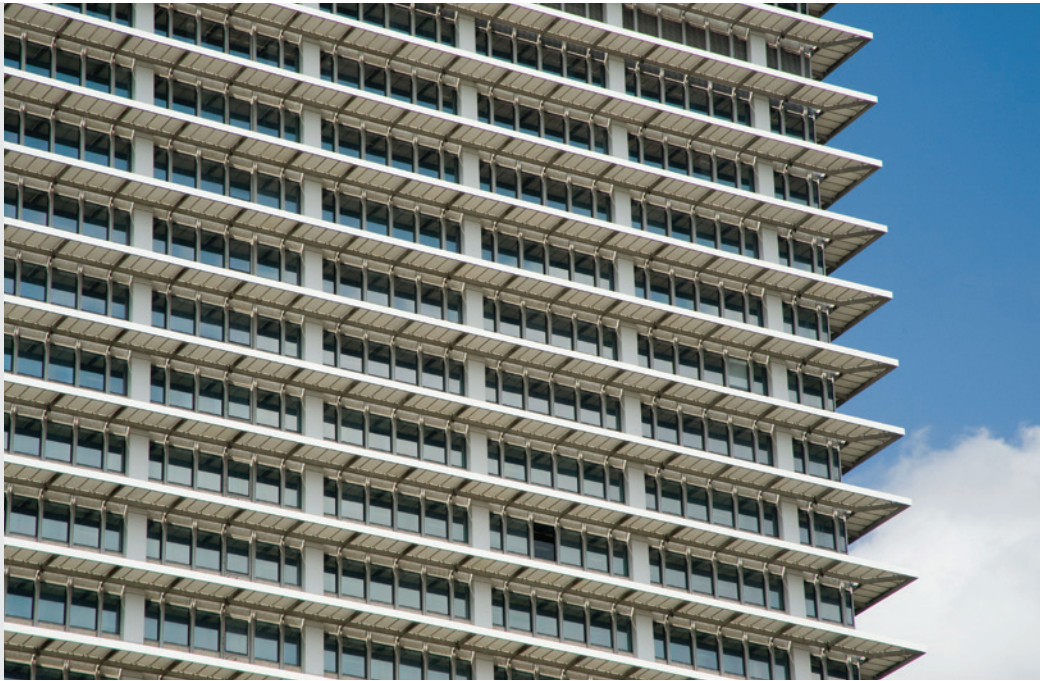
Houston, Texas, USA

Window Film

N-1020 SR CDF (Neutral)

Type

Solar Control Film



SITUATION

Exxon USA headquarters in Houston, Texas is a 30-year-old, 43-story building with 6,200 windows. The expansive amount of glass provide a stylish appearance, but made it difficult to control interior temperature in the older building. Exxon was looking for a cost-effective solution to provide energy savings while preserving exterior aesthetics.

SOLUTION

A detailed analysis of the building's environmental characteristics led to the professional installation of LLumar solar control window film N-1020 Neutral. The high-tech solar control window film provided energy savings and improved exterior aesthetics, exceeding Exxon's expectations.

RESULT

LLumar blocks >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.

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 Reflected	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	-	-	-
Neutral Series																
Neutral films reduce glare, provide good heat rejection and are specified where a soft, neutral appearance is desired. These films are made with sputtered technology. Neutral films are scratch-resistant and shield >99% of UV rays.																
N-1020 SR CDF (Neutral)	21	27	52	23	30	27	1.03	0.42	>99	0.82	0.37	63	0.62	57	1	74

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. © 2016 Eastman Chemical Company. LLumar® and the LLumar® logo 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. (06/16) L1781