CASE STUDY: Creating a comfortable interior environment



Building Siemens Center

Location Beijing, China

Window Film N-1040 SR CDF (Neutral)

Type Solar Control Film

SITUATION

The headquarters of Siemens Ltd., China,

the Siemens Center, Beijing, is located

A thirty story modern high-rise, it was

Designed as a "green" building for low

energy costs a primary design concern,

the building was also intended to provide

windows, while providing good insulation against heat loss during the heating season, permit excessive solar heat gain during the cooling months, creating an uncomfortable interior environment that led to numerous tenant complaints.

constructed with high-performance

"low-E" insulating glass windows.

a high-quality office environment

for employees. The building's low-E

in the city's Chaoyang Business District.



SOLUTION

After reviewing possible options, the building owner selected LLumar N-1040 SR CDF solar control window film as the solution. The film's stateof-the-art sputtercoated technology enables it to reject 51% of the sun's energy and protect from 99% of harmful ultraviolet rays while helping to reduce unwanted glare. The LLumar film provides these benefits without a highly reflective appearance and does not alter the look of the building's façade.

RESULT

LLumar N-1040 SR CDF window film completely resolved the excessive solar heat gain and glare issues of the existing windows, effectively improving the overall comfort level of the building's interior. Additionally, LLumar window film helped further reduce energy costs by decreasing the building's need for air conditioning.

Performance Data	% Total Solar Transmittance	% Total Solar Reflectance	% Total Solar Absorptance	% 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	-	-	-
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-1040 SR CDF (Neutral)	34	17	49	37	19	16	1.05	0.56	99	0.85	0.49	51	0.76	43	-1	59

EASTMAN

LLumar.com 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) L1859