

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 in the city's Chaoyang Business District. A thirty story modern high-rise, it was constructed with high-performance "low-E" insulating glass windows. Designed as a "green" building for low energy costs a primary design concern, the building was also intended to provide a high-quality office environment for employees. The building's low-E 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.

SOLUTION

After reviewing possible options, the building owner selected LLumar N-1040 SR CDF solar control window film as the solution. The film's state-of-the-art sputter-coated 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 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-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