CASE STUDY: Energy efficiency problems solved

Building
Edison Plaza

Location
Detroit, Michigan, USA

Window Film
E-1220 SR CDF (Silver)

Type
Solar Control Film

SITUATION

The glass façade of the Edison Plaza building was a host of challenges for Jessica Sims, a property manager. "During the summer, we'd have to start our two 820-ton chillers at four in the morning to have the building cool enough by nine," said Sims, "and then we'd have to run at capacity for most of the day. The fact that one side of the building would be freezing while the other was hot, told us that the sun was preventing us from maintaining a consistent temperature throughout the building, and that the factory tint in the glass was not sufficient to do the job."

SOLUTION

After a lengthy investigation of available window films and installers, Sims chose LLumar® Low-E 1220 window film for all 80,000 square feet. "You could feel the difference when you stepped in front of one of the test panels and then back into an untreated area," said Sims. "Since LLumar window film was installed, the improvement in our ability to control and maintain temperature has been dramatic."

RESULT

Edison Plaza expects to reduce its annual energy use by at least 5%, partly due to a 80% reduction in summer solar heat gain and a lowering in its chiller capacity from 100% to 80%. Consistency in climate control has been achieved. With the reduced energy usages and a $24,000 energy rebate, the entire installation will be paid back in less than three years!

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	–	–	–
Low-E Series	Low-E films provide superior energy savings by helping to block summer solar heat gain and by reducing winter heat loss through windows. They are scratch-resistant, shield 99% of UV rays, and reduce glare. They are suitable for commercial and residential applications where summer and winter energy control are major concerns.															
E-1220 SR CDF (Silver)	9	57	34	12	62	65	0.78	0.19	>99	0.38	0.17	83	0.71	80	25	87

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