



CITY OF VANCOUVER
COMMUNITY SERVICES GROUP
Current Planning

December 16, 2010

Mr. Nick Milkovich, MAIBC
Nick Milkovich Architects Inc.
#303 - 375 West 5th Avenue
Vancouver, BC V5Y 1J6

Dear Mr. Milkovich:

Following our comparative evaluation of glass samples in several different lighting conditions, interior and exterior, the City of Vancouver (CoV) Planning Department **APPROVES** the following specific glass assembly (including exactly all the specifications, films, coatings, and performance characteristics, itemized below and detailed on the attached, CoV Date Stamped: "DEC 15 2011" specification sheet), as a suitable "in kind" replacement for the Tower glass, located at the southwest corner of Hornby & Nelson Streets, Vancouver, BC.

"SN62 Crystal Gray - CLEAR - SN68 CLEAR": Triple glazed assembly as follows:

Outside: surface #1 = 0; 6mm Crystal Gray; surface #2 = Guardian SunGuard SuperNeutral 62; 12mm airspace = 100% Argon; surface #3 = 0; 6mm Clear; surface #4 = 0; 12mm airspace = 100% Argon; surface #5 = Guardian SunGuard SuperNeutral 68; 6mm Clear; surface #6 = 0; Inside.

As soon as possible, you must provide the city a 12 x 12 inch (minimum) sample of the above exact assembly, which will be retained and used to confirm the future on-site mock-up, and subsequent installation. The city retains the right to reject future on-site mock-ups or work as not matching the approved sample.

This letter also confirms the City supports the 31st floor glass also be replaced at the same time as that above, with a glass that meets City approval, possibly but not automatically the one above.

Thank you for facilitating a careful and well-researched effort to obtain sophisticated samples, which meet the CoV objectives for appearance, energy performance, and occupant amenity.

Regards,

Garry Papers, MArch NCARB
Senior Development Planner
Urban Design & Development Planning Centre
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ATTACHMENT: "SN62 Crystal Gray - CLEAR - SN68 CLEAR" specification sheet: Date stamped
"Received: City of Vancouver, Dec 15 2011"

cc: Brent Toderian, Director of Planning
Kent Munro, Assistant Director, Current Planning Division
John Greer, Assistant Director, Processing Center, Development Services

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Current Planning tel: 604.829.2014 fax: 604.873.7060

SN62 CRYSTAL GREY - CLEAR - SN68 CLEAR

Make-up Name	Make-up	Outboard Substrate & Coating	Transmission			Reflectance			U-Value		RHG (Btu/hr-ft²)	SC	SHGC	LSG
			Visible Light %	UV %	Solar Energy %	Visible Out %	Visible in %	Solar Energy Out %	Winter Night (Btu/hr-ft²-F)	Summer Day (Btu/hr-ft²-F)				
SN62CG - CL - SN68CL		Guardian SunGuard® SuperNeutral 62 on CrystalGray®	34	5	13	9	13	17	0.12	0.12	48	0.23	0.20	1.69

Calculation Standard: NFRC 2004

SN62CG - CL - SN68CL

Outdoors				Thermal Stress Guideline
LITE	CrystalGray® Thickness = 1/4" = 6mm		#1 ---- #2 Guardian SunGuard® SuperNeutral 62	(°F) Stop 172.5
GAP		100% Argon, 1/2" = 12mm		
LITE	Clear Thickness = 1/4" = 6mm		#3 ---- #4 ----	Go 141.2
GAP		100% Argon, 1/2" = 12mm		
LITE	Clear Thickness = 1/4" = 6mm		#5 Guardian SunGuard® SuperNeutral 68 #6 ----	Go 95.3
Total Unit = 1.663 in / 42.24 mm		Slope = 90°		
Indoors				

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Important Notes

Calculations and terms in this report are based on NFRC 2004. The performance values shown above represent **NOMINAL VALUES** for the center of glass with no spacer system or framing. Slight variations may occur due to manufacturing tolerances, point of manufacture, and type of instrumentation used to measure the optical properties.

For configurations which include ceramic frit coating, the actual values may vary significantly based upon the thickness and composition of the frit. For configurations with diffuse optical properties the solar transmission is per ASTM 1084-86. For configurations with coatings laminated facing the PVB, there may be a noticeable color change. Guardian recommends that a full size mock-up be approved.

Please note that the **THERMAL STRESS GUIDELINE** is only a rough reference to the thermal safety of a glazing. Other factors such as the size of glass areas, shapes and patterns, glass thickness, glass damaged during shipping, handling or installation, orientation of the building, exterior shading, overhangs/fins that reduce wind speed, and areas with high daily temperature fluctuations can all increase the probability of thermal breakage. The results shown are not for any specific glazing installation and do not constitute a warranty against glass breakage.

Explanation of Terms

% Transmittance Visible is the percentage of visible light at normal incidence (90° to surface) directly transmitted through the glass. Visible Light is defined as radiant energy in the wavelength range of 380 nm to 780 nm with Ill. D65 and CIE 2° observer

% Ultraviolet (UV) Transmittance is the percentage of ultraviolet light at normal incidence (90° to surface) directly transmitted through the glass. Ultraviolet Light is defined as radiant energy from the sun having a wavelength range of 300 nm to 380 nm at ASTM air mass of 1.5

% Solar Energy Direct Transmittance is the percentage of solar energy at normal incidence (90° to surface) directly transmitted through the glass. Solar Energy is the radiant energy from the sun having a wavelength range of 300 nm to 2500 nm at ASTM air mass of 1.5.