



# RTTV Summary Sheet

**Notes:**  
 ER = External Reflectance  
 SC = Shading Coefficient  
 VLT = Visible Light Transmittance  
 Window and skylight data should represent the major proportion of its use in the development.

**PNAP  
 APP-156  
 Appendix A**

Address: <b>Proposed Site J Development at Area 86, TKOTL RP, Tseung Kwan O, New Territories</b>		BD Ref. No. <b>2/7192/97/6(J)</b>
Building Type:	<b>Residential (Tower 2) (Sheet 1 of 2)</b>	
RTTV calculated by	<input checked="" type="checkbox"/> 1. Registered Professional Engineers <input type="checkbox"/> 2. Architect <input type="checkbox"/> 3. Others, please specify:	
No. of Storeys (Residential Units)	<b>56</b>	

**Table 1 (N/A)**

Deemed to Satisfy RTTV <sub>Wall</sub>									
Facade Orientation Facing									
Average Absorptivity									
Average Window to Wall Ratio									
Shading Coefficient of Glazing									
Average Shading Coefficient of Facade									
Visible Light Transmittance	%	%	%	%	%	%	%	%	%
External Reflectance	%	%	%	%	%	%	%	%	%

**Table 2**

RTTV <sub>Wall</sub>																	
Facade Orientation Facing		Southeast				Southeast				South				Southwest			
Wall Orientation Factor		1.051				1.051				0.975				1.092			
Total External Wall Area (Residential Units)		2616.1 m <sup>2</sup>		Window to Wall Ratio = 0.637		2616.1 m <sup>2</sup>		Window to Wall Ratio = 0.637		111.5 m <sup>2</sup>		Window to Wall Ratio = 0		1572.7 m <sup>2</sup>		Window to Wall Ratio = 0.222	
Total Window Factor		4610.0 m <sup>2</sup>				4610.0 m <sup>2</sup>				0 m <sup>2</sup>				449.8 m <sup>2</sup>			
Heat Conduction	Opaque Wall	1.58 W/m <sup>2</sup>				1.58 W/m <sup>2</sup>				6.13 W/m <sup>2</sup>				3.40 W/m <sup>2</sup>			
	Window	1.09 W/m <sup>2</sup>				1.09 W/m <sup>2</sup>				0 W/m <sup>2</sup>				0.25 W/m <sup>2</sup>			
Window	Glass Type	F1 - Curtain Wall IGU Glass with Double Low-E Coating	Area= 2836 m <sup>2</sup>	SC= 0.33	VLT= 50 % ER= 14 %	F5 - Glass Wall (12mm + 1.52 PVB + 12mm) Clear Tempered Laminated Glass	Area= 6.9 m <sup>2</sup>	SC= 0.78	VLT= 81 % ER= 8 %	<input type="checkbox"/> Reflective	Area= m <sup>2</sup>	SC=	VLT= % ER= %	F1 - Curtain Wall IGU Glass with Double Low-E Coating	Area= 220 m <sup>2</sup>	SC= 0.33	VLT= 50 % ER= 14 %
		F2 - Glass for Sliding Door (10mm Crystal Grey)	Area= 1143 m <sup>2</sup>	SC= 0.66	VLT= 50 % ER= 6 %	F6 - Glass Door (6mm Tempered Glass)	Area= 2.85 m <sup>2</sup>	SC= 0.96	VLT= 88.63% ER= 6.80 %	<input type="checkbox"/> Tinted	Area= m <sup>2</sup>	SC=	VLT= % ER= %	F3 - Window Glass (6mm Clear YR-FG#2 + 12AS + 6mm Clear)	Area= 229 m <sup>2</sup>	SC= 0.35	VLT= 53 % ER= 14 %
		F3 - Window Glass (6mm Clear YR-FG#2 + 12AS + 6mm Clear)	Area= 621 m <sup>2</sup>	SC= 0.35	VLT= 53 % ER= 14 %		Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Clear	Area= m <sup>2</sup>	SC=	VLT= % ER= %		Area= m <sup>2</sup>	SC=	VLT= % ER= %
Double Glazing	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No				
External Shading	Overhang	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
	Sidefin	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Solar Radiation through Glazing		11.63 W/m <sup>2</sup>				11.63 W/m <sup>2</sup>				0 W/m <sup>2</sup>				3.45 W/m <sup>2</sup>			
Average Absorptivity		0.622				0.622				0.744				0.500			
RTTV <sub>Wall</sub> at each facade		14.31 W/m <sup>2</sup>				14.31 W/m <sup>2</sup>				6.13 W/m <sup>2</sup>				7.10 W/m <sup>2</sup>			
Overall RTTV <sub>Wall</sub>		10.83 W/m <sup>2</sup>															

**Table 3**

RTTV <sub>Roof</sub>											
Roof Orientation Factor		2.16									
Total Roof Area (Residential Units)		329.9 m <sup>2</sup>									
Total Skylight Area		/ m <sup>2</sup>									
Heat Conduction	Roof	1.62 W/m <sup>2</sup>									
	Skylight	W/m <sup>2</sup>									
Skylight (N/A)	Glass Type	<input type="checkbox"/> Reflective	Area= m <sup>2</sup>	SC=	VLT= %	ER= %	<input type="checkbox"/> Tinted	Area= m <sup>2</sup>	SC=	VLT= %	ER= %
		<input type="checkbox"/> Clear	Area= m <sup>2</sup>	SC=	VLT= %	ER= %	<input type="checkbox"/> Double Glazing	<input type="checkbox"/> Yes <input type="checkbox"/> No			
		<input type="checkbox"/> External Shading	<input type="checkbox"/> Yes <input type="checkbox"/> No								
Solar Radiation through Glazing		/									
Average Absorptivity (roof)		0.5									
Overall RTTV <sub>Roof</sub>		1.62 W/m <sup>2</sup>									



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 VLT = Visible Light Transmittance  
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**APP-156**  
 Appendix **A**

Address: Proposed Site J Development at Area 86, TKOTL RP, Tseung Kwan O, New Territories		BD Ref. No. 2/7192/97/6(J)
Building Type:	Residential (Tower 2) (Sheet 2 of 2)	
RTTV calculated by	<input checked="" type="checkbox"/> 1. Registered Professional Engineers <input type="checkbox"/> 2. Architect <input type="checkbox"/> 3. Others, please specify:	
No. of Storeys (Residential Units)	56	

Table 1 (N/A)

Deemed to Satisfy RTTV <sub>Wall</sub>									
Facade Orientation Facing									
Average Absorptivity									
Average Window to Wall Ratio									
Shading Coefficient of Glazing									
Average Shading Coefficient of Facade									
Visible Light Transmittance		%	%	%	%	%	%	%	%
External Reflectance		%	%	%	%	%	%	%	%

Table 2

RTTV <sub>Wall</sub>																	
Facade Orientation Facing	Northwest			Northwest			Northeast			Northeast							
Wall Orientation Factor	0.965			0.965			0.924			0.924							
Total External Wall Area (Residential Units)	1961.9 m <sup>2</sup>		Window to Wall Ratio = 0.682	1961.9 m <sup>2</sup>		Window to Wall Ratio = 0.682	2262.8 m <sup>2</sup>		Window to Wall Ratio = 0.317	2262.8 m <sup>2</sup>		Window to Wall Ratio = 0.317					
Total Window Factor	4216.1 m <sup>2</sup>			4216.1 m <sup>2</sup>			1059.7 m <sup>2</sup>			1059.7 m <sup>2</sup>							
Heat Conduction	Opaque Wall	1.21 W/m <sup>2</sup>			1.21 W/m <sup>2</sup>			2.47 W/m <sup>2</sup>			2.47 W/m <sup>2</sup>						
	Window	1.10 W/m <sup>2</sup>			1.10 W/m <sup>2</sup>			0.48 W/m <sup>2</sup>			0.48 W/m <sup>2</sup>						
Window	Glass Type	F1 - Curtain Wall IGU Glass with Double Low-E Coating	Area= 2531 m <sup>2</sup>	SC= 0.33	VLT= 50 % ER= 14 %	F7 - Window Glass (8mm Crystal Grey Tinted Tempered Glass)	Area= 4.03 m <sup>2</sup>	SC= 0.72	VLT= 56 % ER= 6 %	F1 - Curtain Wall IGU Glass with Double Low-E Coating	Area= 588 m <sup>2</sup>	SC= 0.33	VLT= 50 % ER= 14 %	F5 - Glass Wall (12mm +1.52 PVB+12mm Clear Tempered Laminated Glass)	Area= 2.7 m <sup>2</sup>	SC= 0.78	VLT= 81 % ER= 8 %
		F2 - Glass for Sliding Door (10mm Crystal Grey)	Area= 1121 m <sup>2</sup>	SC= 0.66	VLT= 50 % ER= 6 %		Area=	SC=	VLT=	F2 - Glass for Sliding Door (10mm Crystal Grey)	Area= 260 m <sup>2</sup>	SC= 0.66	VLT= 50 % ER= 6 %	F7 - Window Glass (8mm Crystal Grey Tinted Tempered Glass)	Area= 2.12 m <sup>2</sup>	SC= 0.72	VLT= 56 % ER= 6 %
		F3 - Window Glass (8mm Clear YR-FC#2 + 12AS + 6mm Clear)	Area= 563 m <sup>2</sup>	SC= 0.35	VLT= 53 % ER= 14 %		Area=	SC=	VLT=	F3 - Window Glass (8mm Clear YR-FC#2 + 12AS + 6mm Clear)	Area= 207 m <sup>2</sup>	SC= 0.35	VLT= 53 % ER= 14 %		Area=	SC=	VLT=
	Double Glazing	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No						
External Shading	Overhang	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
	Sidewall	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Solar Radiation through Glazing	11.57 W/m <sup>2</sup>			11.57 W/m <sup>2</sup>			5.13 W/m <sup>2</sup>			5.13 W/m <sup>2</sup>							
Average Absorptivity	0.643			0.643			0.500			0.500							
RTTV <sub>Wall</sub> at each facade	13.88 W/m <sup>2</sup>			13.88 W/m <sup>2</sup>			8.08 W/m <sup>2</sup>			8.08 W/m <sup>2</sup>							
Overall RTTV <sub>Wall</sub>	10.83 W/m <sup>2</sup>																

Table 3

RTTV <sub>Roof</sub>						
Roof Orientation Factor						
Total Roof Area (Residential Units)	m <sup>2</sup>					
Total Skylight Area	m <sup>2</sup>					
Heat Conduction	Roof	W/m <sup>2</sup>				
	Skylight	W/m <sup>2</sup>				
Skylight	Glass Type	<input type="checkbox"/> Reflective	Area=	m <sup>2</sup>	SC=	VLT= % ER= %
		<input type="checkbox"/> Tinted	Area=	m <sup>2</sup>	SC=	VLT= % ER= %
		<input type="checkbox"/> Clear	Area=	m <sup>2</sup>	SC=	VLT= % ER= %
	Double Glazing	<input type="checkbox"/> Yes <input type="checkbox"/> No				
External Shading	<input type="checkbox"/> Yes <input type="checkbox"/> No					
Solar Radiation through Glazing	W/m <sup>2</sup>					
Average Absorptivity (roof)						
Overall RTTV <sub>Roof</sub>	W/m <sup>2</sup>					