

# 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.

Address: Proposed Residential & Commercial Development on T.M.T.L. No. 539, Hoi Wing Road and Hang Fu Street, Area 16, Tuen Mun, N.T.		BD Ref. No.
Building Type:	Residential (FOR TOWER 1)	
RTTV calculated by	<input type="checkbox"/> 1. Registered Professional Engineers	
	<input type="checkbox"/> 2. Architect	
	<input checked="" type="checkbox"/> 3. Others, please specify: BEAM Consultant	
No. of Storeys (Residential Units)	24	

Table 1

Deemed to Satisfy RTTV <sub>Wall</sub>								
Facade Orientation Facing	North	East	South	West				
Average Absorptivity	0.89	0.90	0.87	0.46				
Average Window to Wall Ratio	0.41	0.25	0.44	0				
Shading Coefficient of Glazing	0.48-0.49	0.48-0.49	0.48-0.63					
Average Shading Coefficient of Facade	0.48	0.48	0.49					
Visible Light Transmittance	52 %	52 %	50-53 %		%	%	%	%
External Reflectance	20 %	20 %	13-20 %		%	%	%	%

Table 2

RTTV <sub>Wall</sub>																	
Facade Orientation Facing		North				East				South				West			
Wall Orientation Factor		0.790				1.072				0.44				1.131			
Total External Wall Area (Residential Units)		3820.72 m <sup>2</sup>		Window to Wall Ratio = 0.41		1104.06 m <sup>2</sup>		Window to Wall Ratio = 0.25		4351.01 m <sup>2</sup>		Window to Wall Ratio = 0.44		959.47 m <sup>2</sup>		Window to Wall Ratio = 0	
Total Window Factor		1558.56 m <sup>2</sup>				276.69 m <sup>2</sup>				1929.63 m <sup>2</sup>				0 m <sup>2</sup>			
Heat Conduction	Opaque Wall	5.83 W/m <sup>2</sup>				10.13 W/m <sup>2</sup>				6.60 W/m <sup>2</sup>				7.30 W/m <sup>2</sup>			
	Window	0.38 W/m <sup>2</sup>				0.32 W/m <sup>2</sup>				0.56 W/m <sup>2</sup>				0 W/m <sup>2</sup>			
Window	Glass Type	<input checked="" type="checkbox"/> Reflective	Area= 1558.56 m <sup>2</sup>	SC= 0.48	VLT= 52 % ER= 20 %	<input checked="" type="checkbox"/> Reflective	Area= 276.69 m <sup>2</sup>	SC= 0.48	VLT= 52 % ER= 20 %	<input checked="" type="checkbox"/> Reflective	Area= 1929.63 m <sup>2</sup>	SC= 0.49	VLT= 50-53 % ER= 13-20 %	<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"/> Tinted	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Tinted	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"/> Clear	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Clear	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Clear	Area= m <sup>2</sup>	SC=	VLT= % ER= %
Double Glazing		<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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
External Shading		Overhang <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Overhang <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Overhang <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Overhang <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Overhang <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Overhang <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Overhang <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Overhang <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
		Sdefin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Sdefin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Sdefin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Sdefin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Sdefin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Sdefin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Sdefin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Sdefin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Solar Radiation through Glazing		6.52 W/m <sup>2</sup>				5.41 W/m <sup>2</sup>				8.84 W/m <sup>2</sup>				0 W/m <sup>2</sup>			
Average Absorptivity		0.89				0.90				0.87				0.46			
RTTV <sub>Wall</sub> at each facade		4.75 W/m <sup>2</sup>				1.71 W/m <sup>2</sup>				6.80 W/m <sup>2</sup>				0.68 W/m <sup>2</sup>			
Overall RTTV <sub>Wall</sub>		13.95 W/m <sup>2</sup>															

Table 3

RTTV <sub>Roof</sub>											
Roof Orientation Factor		2.16									
Total Roof Area (Residential Units)		360.59 m <sup>2</sup>									
Total Skylight Area		- m <sup>2</sup>									
Heat Conduction	Roof	2.67 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"/> Tinted	Area= m <sup>2</sup>	SC=	VLT= %	ER= %	<input type="checkbox"/> Clear	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 checked="" type="checkbox"/> No									
External Shading		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Solar Radiation through Glazing		- W/m <sup>2</sup>									
Average Absorptivity (roof)		0.70									
Overall RTTV <sub>Roof</sub>		2.67 W/m <sup>2</sup>									

Address: Proposed Residential & Commercial Development on T.M.T.L. No. 539, Hoi Wing Road and Hang Fu Street, Area 16, Tuen Mun, N.T.		BD Ref. No.
Building Type:	Residential (FOR TOWER 2)	
RTTV calculated by	<input type="checkbox"/> 1. Registered Professional Engineers	
	<input type="checkbox"/> 2. Architect	
	<input checked="" type="checkbox"/> 3. Others, please specify: BEAM Consultant	
No. of Storeys (Residential Units)	22	

**Table 1**

Deemed to Satisfy RTTV <sub>Wall</sub>									
Facade Orientation Facing	North	East	South	West					
Average Absorptivity	0.78	0.78	0.88	0.45					
Average Window to Wall Ratio	0.44	0.29	0.34	0.05					
Shading Coefficient of Glazing	0.48-0.97	0.48-0.49	0.48-0.97	0.48-0.49					
Average Shading Coefficient of Facade	0.59	0.48	0.53	0.48					
Visible Light Transmittance	52-89 %	52 %	52-89 %	52 %	%	%	%	%	%
External Reflectance	8-20 %	20 %	8-20 %	20 %	%	%	%	%	%

**Table 2**

RTTV <sub>Wall</sub>																	
Facade Orientation Facing		North				East				South				West			
Wall Orientation Factor		0.790				1.072				0.44				1.131			
Total External Wall Area (Residential Units)		1776.95 m <sup>2</sup>		Window to Wall Ratio = 0.41		1421.70 m <sup>2</sup>		Window to Wall Ratio = 0.25		1137.43 m <sup>2</sup>		Window to Wall Ratio = 0.44		1601.74 m <sup>2</sup>		Window to Wall Ratio = 0.05	
Total Window Factor		776.63 m <sup>2</sup>				419.05 m <sup>2</sup>				386.79 m <sup>2</sup>				84.50 m <sup>2</sup>			
Heat Conduction	Opaque Wall	4.89 W/m <sup>2</sup>				8.27 W/m <sup>2</sup>				7.95 W/m <sup>2</sup>				6.79 W/m <sup>2</sup>			
	Window	0.60 W/m <sup>2</sup>				0.37 W/m <sup>2</sup>				0.48 W/m <sup>2</sup>				0.07 W/m <sup>2</sup>			
Window	Glass Type	<input checked="" type="checkbox"/> Reflective	Area= 776.63 m <sup>2</sup>	SC= 0.59	VLT= 52-89% ER= 8-20 %	<input checked="" type="checkbox"/> Reflective	Area= 419.05 m <sup>2</sup>	SC= 0.48	VLT= 52 % ER= 20 %	<input checked="" type="checkbox"/> Reflective	Area= 386.79 m <sup>2</sup>	SC= 0.53	VLT= 52-89% ER= 8-20 %	<input checked="" type="checkbox"/> Reflective	Area= 84.50 m <sup>2</sup>	SC= 0.48	VLT= 52 % ER= 20 %
		<input type="checkbox"/> Tinted	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Tinted	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Tinted	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"/> Clear	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Clear	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Clear	Area= m <sup>2</sup>	SC=	VLT= % ER= %
		Double Glazing	<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		<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
External Shading	Overhang	<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		<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	
	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		<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		8.54 W/m <sup>2</sup>				6.39 W/m <sup>2</sup>				7.40 W/m <sup>2</sup>				1.20 W/m <sup>2</sup>			
Average Absorptivity		0.78				0.78				0.88				0.45			
RTTV <sub>Wall</sub> at each facade		3.40 W/m <sup>2</sup>				2.91 W/m <sup>2</sup>				2.45 W/m <sup>2</sup>				1.76 W/m <sup>2</sup>			
Overall RTTV <sub>Wall</sub>		13.78 W/m <sup>2</sup>															

**Table 3**

RTTV <sub>Roof</sub>											
Roof Orientation Factor		2.16									
Total Roof Area (Residential Units)		225.2 m <sup>2</sup>									
Total Skylight Area		- m <sup>2</sup>									
Heat Conduction	Roof	2.67 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"/> Reflective	Area= m <sup>2</sup>	SC=	VLT= %	ER= %
		<input type="checkbox"/> Tinted	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"/> Clear	Area= m <sup>2</sup>	SC=	VLT= %	ER= %
	Double Glazing	<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		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
External Shading	<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		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Solar Radiation through Glazing		- W/m <sup>2</sup>									
Average Absorptivity (roof)		0.70									
Overall RTTV <sub>Roof</sub>		2.67 W/m <sup>2</sup>									

Address: Proposed Residential & Commercial Development on T.M.T.L. No. 539, Hoi Wing Road and Hang Fu Street, Area 16, Tuen Mun, N.T.		BD Ref. No.
Building Type:	Residential (FOR TOWER 2)	
RTTV calculated by	<input type="checkbox"/> 1. Registered Professional Engineers <input type="checkbox"/> 2. Architect <input checked="" type="checkbox"/> 3. Others, please specify: BEAM Consultant	
No. of Storeys (Residential Units)	22	

Table 1

Deemed to Satisfy RTTV <sub>Wall</sub>								
Facade Orientation Facing	South East	North East						
Average Absorptivity	0.90	0.90						
Average Window to Wall Ratio	0.46	0.03						
Shading Coefficient of Glazing	0.48-0.63	0.48						
Average Shading Coefficient of Facade	0.49	0.48						
Visible Light Transmittance	50-52 %	52 %	%	%	%	%	%	%
External Reflectance	13-20 %	20 %	%	%	%	%	%	%

Table 2

RTTV <sub>Wall</sub>																	
Facade Orientation Facing		South East					North East										
Wall Orientation Factor		1.051					0.924										
Total External Wall Area (Residential Units)		1243.55 m <sup>2</sup>	Window to Wall Ratio = 0.46			155.75 m <sup>2</sup>	Window to Wall Ratio = 0.03			m <sup>2</sup>	Window to Wall Ratio =			m <sup>2</sup>	Window to Wall Ratio =		
Total Window Factor		576.69 m <sup>2</sup>				4.28 m <sup>2</sup>				m <sup>2</sup>				m <sup>2</sup>			
Heat Conduction	Opaque Wall	7.11 W/m <sup>2</sup>					11.33 W/m <sup>2</sup>					W/m <sup>2</sup>					
	Window	0.63 W/m <sup>2</sup>					0.03 W/m <sup>2</sup>					W/m <sup>2</sup>					
Window	Glass Type	<input checked="" type="checkbox"/> Reflective	Area= 576.69 m <sup>2</sup>	SC= 0.49	VLT= 50-52% ER= 13-20%	<input checked="" type="checkbox"/> Reflective	Area= 4.28 m <sup>2</sup>	SC= 0.48	VLT= 52 % ER= 20 %	<input type="checkbox"/> Reflective	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<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"/> Tinted	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Tinted	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"/> Clear	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Clear	Area= m <sup>2</sup>	SC=	VLT= % ER= %	<input type="checkbox"/> Clear	Area= m <sup>2</sup>	SC=	VLT= % ER= %
		Double Glazing		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Overhang <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Overhang <input type="checkbox"/> Yes <input type="checkbox"/> No		Overhang <input type="checkbox"/> Yes <input type="checkbox"/> No									
	Sidefin	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Sidefin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Sidefin <input type="checkbox"/> Yes <input type="checkbox"/> No		Sidefin <input type="checkbox"/> Yes <input type="checkbox"/> No									
Solar Radiation through Glazing		10.01 W/m <sup>2</sup>					0.51 W/m <sup>2</sup>					W/m <sup>2</sup>					
Average Absorptivity		0.90					0.90										
RTTV <sub>Wall</sub> at each facade		3.01 W/m <sup>2</sup>					0.25 W/m <sup>2</sup>					W/m <sup>2</sup>					
Overall RTTV <sub>Wall</sub>		13.78 W/m <sup>2</sup>															

Table 3

RTTV <sub>Roof</sub>										
Roof Orientation Factor		2.16								
Total Roof Area (Residential Units)		225.2 m <sup>2</sup>								
Total Skylight Area		- m <sup>2</sup>								
Heat Conduction	Roof	2.67 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 checked="" type="checkbox"/> No							
External Shading		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Solar Radiation through Glazing		- W/m <sup>2</sup>								
Average Absorptivity (roof)		0.70								
Overall RTTV <sub>Roof</sub>		2.67 W/m <sup>2</sup>								