

RTTV Summary Sheet

Address: Tower 1, Proposed Residential Development at T.M.T.L. No. 497 So Kwun Wat Road Area 56, Tuen Mun, N.T.		BD Ref. No. 2/9030/16
Building Type:	Residential	
RTTV Calculated by:	<input checked="" type="checkbox"/> 1. Registered Professional Engineers Thomas Anderson & Partners Consulting Engineers Ltd. <input type="checkbox"/> 2. Architect <input type="checkbox"/> 3. Others, please specify:-	
No. of Storeys (Residential Units)	16	

Table 1

Deemed to Satisfy RTTV <sub>wall</sub>										Average		
Facade Orientation Facing	East Elevations		North Elevations		North East Elevations		South West Elevations		South East Elevations		West Elevations	South Elevations
Average Absorptivity	0.73		0.73		0.73		0.73		0.73		0.73	0.73
Average Window to Wall Ratio	0.40		0.04		0.43		0.08		0.41		0.38	0.04
Shading Coefficient of Glazing	0.62		0.57		0.63		0.60		0.63		0.63	0.57
Average Shading Coefficient of Facade	0.84		0.99		0.82		0.97		0.83		0.81	0.90
Visible Light Transmittance	59 %		60 %		58 %		59 %		58 %		58 %	60 %
External Reflectance	9 %		10 %		8 %		9 %		8 %		8 %	10 %

Table 2

RTTV <sub>wall</sub>																	
Facade Orientation Facing	East Elevations					North Elevations					North West Elevations						
Wall Orientation Factor	1.072					0.79					0.924						
Total External Wall Area (Residential Units)	1476.2 m <sup>2</sup>					159.8 m <sup>2</sup>					1562.2 m <sup>2</sup>						
Total Window Area	588.1 m <sup>2</sup> = 0.40					5.9 m <sup>2</sup> = 0.04					672.4 m <sup>2</sup> = 0.43						
Heat Conduction	0.84 W/m <sup>2</sup>					0.03 W/m <sup>2</sup>					0.85 W/m <sup>2</sup>						
Window	Glass Type	<input type="checkbox"/> Reflective	Area =	SC =	VLT = %	<input type="checkbox"/> Reflective	Area =	SC =	VLT = %	<input type="checkbox"/> Reflective	Area =	SC =	VLT = %	<input type="checkbox"/> Reflective	Area =	SC =	VLT = %
		<input checked="" type="checkbox"/> Tinted	588.15 m <sup>2</sup>	0.62	59 %	<input checked="" type="checkbox"/> Tinted	5.87 m <sup>2</sup>	0.57	60 %	<input checked="" type="checkbox"/> Tinted	672.45 m <sup>2</sup>	0.63	58 %	<input checked="" type="checkbox"/> Tinted	49.37 m <sup>2</sup>	0.60	59 %
		<input type="checkbox"/> Clear				<input type="checkbox"/> Clear				<input type="checkbox"/> Clear				<input type="checkbox"/> Clear			
		ER =	9 %		10 %	ER =	10 %		8 %	ER =	8 %		8 %	ER =	9 %		9 %
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						
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					
	Sidefin	<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					
Solar Radiation through Gazing	9.17 W/m <sup>2</sup>					0.68 W/m <sup>2</sup>					8.55 W/m <sup>2</sup>						
Average Absorptivity	0.73					0.73					0.73						
RTTV <sub>wall</sub> at each Facade	15.30 W/m <sup>2</sup>					6.65 W/m <sup>2</sup>					13.70 W/m <sup>2</sup>						
Facade Orientation Facing	South West Elevations					South East Elevations					West Elevations						
Wall Orientation Factor	1.092					1.051					1.131						
Total External Wall Area (Residential Units)	1691.6 m <sup>2</sup>					123.9 m <sup>2</sup>					1082.4 m <sup>2</sup>						
Total Window Area	694.4 m <sup>2</sup> = 0.41					0.0 m <sup>2</sup> = 0.00					406.1 m <sup>2</sup> = 0.38						
Heat Conduction	5.34 W/m <sup>2</sup>					8.20 W/m <sup>2</sup>					5.81 W/m <sup>2</sup>						
Window	Glass Type	<input type="checkbox"/> Reflective	Area =	SC =	VLT = %	<input type="checkbox"/> Reflective	Area =	SC =	VLT = %	<input type="checkbox"/> Reflective	Area =	SC =	VLT = %	<input type="checkbox"/> Reflective	Area =	SC =	VLT = %
		<input checked="" type="checkbox"/> Tinted	694.38 m <sup>2</sup>	0.6308	58.3783 %	<input checked="" type="checkbox"/> Tinted	0.00 m <sup>2</sup>	-	- %	<input checked="" type="checkbox"/> Tinted	406.11 m <sup>2</sup>	0.6317	58.354 %	<input checked="" type="checkbox"/> Tinted	20.30 m <sup>2</sup>	0.57	60 %
		<input type="checkbox"/> Clear				<input type="checkbox"/> Clear				<input type="checkbox"/> Clear				<input type="checkbox"/> Clear			
		ER =	8.37835 %		- %	ER =	- %		- %	ER =	8.35398 %		10 %	ER =	10 %		10 %
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						
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					
	Sidefin	<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					
Solar Radiation through Gazing	9.65 W/m <sup>2</sup>					0.00 W/m <sup>2</sup>					8.95 W/m <sup>2</sup>						
Average Absorptivity	0.73					0.73					0.73						
RTTV <sub>wall</sub> at each Facade	15.97 W/m <sup>2</sup>					8.20 W/m <sup>2</sup>					15.69 W/m <sup>2</sup>						
Overall RTTV <sub>wall</sub>	13.78 W/m <sup>2</sup>					13.78 W/m <sup>2</sup>					13.78 W/m <sup>2</sup>						

Table 3

RTTV <sub>Roof</sub>											
Roof Orientation Factor	2.16										
Total Roof Area (Residential Units)	511.10 m <sup>2</sup>										
Total Skylight Area	m <sup>2</sup>										
Heat Conduction	2.63 W/m <sup>2</sup>										
Skylight	Glass Type	<input type="checkbox"/> Reflective	Area =	SC =	VLT = %	ER = %	<input type="checkbox"/> Reflective	Area =	SC =	VLT = %	ER = %
		<input type="checkbox"/> Tinted					<input type="checkbox"/> Tinted				
		<input type="checkbox"/> Clear					<input type="checkbox"/> Clear				
		ER =					ER =				
Double Glazing	<input type="checkbox"/> Yes <input type="checkbox"/> No										
External Shading	<input type="checkbox"/> Yes <input type="checkbox"/> No										
Solar Radiation through Gazing	W/m <sup>2</sup>										
Average Absorptivity (Roof)	0.7										
Overall RTTV <sub>Roof</sub>	2.63 W/m <sup>2</sup>										

ER = External Reflectance; SC = Shading Coefficient & VLT = Visible Light Transmittance

RTTV Summary Sheet

Address: Tower 2, Proposed Residential Development at T.M.T.L. No. 497 So Kwun Wat Road Area 56, Tuen Mun, N.T.		BD Ref. No. 2/9030/16
Building Type:	Residential	
RTTV Calculated by:	<input checked="" type="checkbox"/> 1. Registered Professional Engineers Thomas Anderson & Partners Consulting Engineers Ltd. <input type="checkbox"/> 2. Architect <input type="checkbox"/> 3. Others, please specify:-	
No. of Storeys (Residential Units)	18	

Table 1

Facade Orientation Facing	Deemed to Satisfy RTTV <sub>wall</sub>				Average
	East Elevations	North Elevations	West Elevations	South Elevations	
Average Absorptivity	0.73	0.73	0.73	0.73	0.73
Average Window to Wall Ratio	0.28	0.05	0.38	0.14	0.29
Shading Coefficient of Glazing	0.62	0.57	0.63	0.63	0.62
Average Shading Coefficient of Facade	0.81	0.99	0.83	0.73	0.82
Visible Light Transmittance	59 %	60 %	58 %	58 %	59 %
External Reflectance	9 %	10 %	8 %	8 %	9 %

Table 2

Facade Orientation Facing		RTTV <sub>wall</sub>			
Wall Orientation Factor		East Elevations	North Elevations	West Elevations	South Elevations
Total External Wall Area (Residential Units)		3174.2 m <sup>2</sup>	573.7 m <sup>2</sup>	2983.9 m <sup>2</sup>	749.8 m <sup>2</sup>
Total Window Area		882.2 m <sup>2</sup>	29.8 m <sup>2</sup>	1144.9 m <sup>2</sup>	101.3 m <sup>2</sup>
Window to Wall Ratio		0.28	0.05	0.38	0.14
Heat Conduction	Opaque Wall	6.36 W/m <sup>2</sup>	5.88 W/m <sup>2</sup>	5.74 W/m <sup>2</sup>	6.58 W/m <sup>2</sup>
	Window	0.60 W/m <sup>2</sup>	0.05 W/m <sup>2</sup>	0.92 W/m <sup>2</sup>	0.28 W/m <sup>2</sup>
Window	Glass Type	<input type="checkbox"/> Reflective	Area = m <sup>2</sup> , SC =, VLT = %	<input type="checkbox"/> Reflective	Area = m <sup>2</sup> , SC =, VLT = %
		<input checked="" type="checkbox"/> Tinted	Area = 882.21 m <sup>2</sup> , SC = 0.62, VLT = 59 %, ER = 9 %	<input checked="" type="checkbox"/> Tinted	Area = 29.83 m <sup>2</sup> , SC = 0.57, VLT = 60 %, ER = 10 %
		<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"/> 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
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 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
Solar Radiation through Gazing		6.22 W/m <sup>2</sup>	0.97 W/m <sup>2</sup>	9.38 W/m <sup>2</sup>	2.51 W/m <sup>2</sup>
Average Absorptivity		0.73	0.73	0.73	0.73
RTTV <sub>wall</sub> at each Facade		13.17 W/m <sup>2</sup>	6.89 W/m <sup>2</sup>	16.03 W/m <sup>2</sup>	9.37 W/m <sup>2</sup>
Overall RTTV <sub>wall</sub>		13.45 W/m <sup>2</sup>			

Table 3

Roof Orientation Factor		RTTV <sub>Roof</sub>	
Total Roof Area (Residential Units)		519.00 m <sup>2</sup>	2.16
Total Skylight Area		m <sup>2</sup>	
Heat Conduction	Roof	2.63 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 Gazing		W/m <sup>2</sup>	
Average Absorptivity (Roof)		0.7	
Overall RTTV <sub>Roof</sub>		2.63 W/m <sup>2</sup>	

ER = External Reflectance; SC = Shading Coefficient & VLT = Visible Light Transmittance