

Appendix C: Corrigendum (Envelope components constraints)

Referring to the Green Design Standard for Public Buildings in Shanghai (DGJ 08-2143-2021& DGJ 08-107-2015), the design of the building's envelope for this competition should be within the following constraints:

		Area constraints		Thermal transmittance coefficient constraints (W/m ² ·K)	Shading factor SC (East, West, South/North)
Transparent envelope	External windows	Window-to-wall ratio (WWR) for Single façade for each orientation	≤0.4	≤2.0	≤0.40/0.50
			>0.4 & ≤0.5	≤2.0	≤0.35/0.45
			>0.5 & ≤0.7	≤1.8	≤0.30/0.40
			>0.7	≤1.5	≤0.25/0.35
	Translucent Roof	Less than 20% of the total roof area	≤2.2	≤0.30	
Non-transparent envelope	External walls		≤0.8		
	Roof		≤0.5		
Interior materials	Transparent door		<3.5		
	Non-transparent door		<2.5		
	Internal wall		≤2.0		
	Internal floor		≤2.0		

Recommended materials are as follows: (These materials are for reference only and may be substituted)

		Recommended materials and their properties	
		Name	Conductivity W/(m·K)
Transparent envelope	External windows	High transmittance Low-e+20Ar+5	1.6
		High transmittance Low-e+20Ar+5	1.6
	Translucent Roof	High transmittance Low-e+20Ar+5	1.6
Non-transparent envelope	External walls	Gypsum-based inorganic insulation mortar	0.2
	Roof	Foamed Cement Board	0.08
Interior materials	Transparent door	Lower light transmittance Low-e+20Ar+5	1.2
	None-transparent door	Wood	0.15
	Internal wall	XPS	0.03
	Internal floor	XPS	0.03