

CONSIDERATION	BOARD SYSTEM (Trespa type)	ALUMINIUM R/SCREEN	RENDER
Life Cycle Costing	c. £45k per annum. Mid range initial prime cost. Mid range life expectancy and maintenance costs required to be factored into WLC.	c. £32k per annum. Highest initial prime cost but longest service life and minimal maintenance.	c. £60k per annum. Lowest initial prime cost but shortest life span and high maintenance.
Life expectancy	Estimated 40 years prior to major maintenance.	60 years prior to significant maintenance due to inert single skin aluminum construction.	30 years prior to significant maintenance (ongoing maintenance necessary due to sealants etc).
U Value	Building regs can be achieved (0.35)	Building regs easily achieved (0.35) or can be exceeded	Building regs can be achieved (0.35)
Cost	140	180	70
Fire rating	Varies, limited combustibility	Non-combustible	Non-combustible
Warranty	Typically 10 years (manufacturers).	20 years throughout (d+b - single point).	Typically 10 years (manufacturers).
Programme and sequencing of work	Site cutting of boards inevitable. "cut and shut" production slower than cassettes. Window pods required and windows being moved forward.	System drawn and manufactured off site. Simple "mechano" system on site - no cutting, zero weather dependency.	Wet trade process. Temperature can become an issue. Access needs to be scaffold, which has implications in terms of erection times/strip times/inspection regimes can affect progress.
Disruption Implications	Minimal disruption to tenants as all work carried out from outside and windows can be replaced whilst maintaining watertightness and integrity (windows moved forward of existing).	Minimal disruption to tenants as all work carried out from outside and windows can be replaced whilst maintaining watertightness and integrity (windows moved forward of existing).	Generally window replacement will require decanting of tenants. New window installed as old window taken out. Hence disruption, weather dependency and risk.
Maintenance	Board systems are more prone to pattern staining as they do not have open drained joints to disperse water. Over time these panels attract detritus and stain particularly prevalent around fixings. Cleaning regime required.	Aluminium cassettes systems have no sealant or gaskets. The joints are open drained and the panels are self-cleaning. There is NO maintenance requirement.	Render systems rely on sealants and gaskets around the openings. There is always risk of impact damage. Maintenance for cleaning and re-sealing is necessary.
Council attendances and space requirements	Regular inspections by council to check on quality of cut and shut. Relatively large space requirement for storage	Hold points for inspections can be agreed with client. Relatively large space requirement for storage. Secure storage required.	Regular inspections by client (multiple layered construction). Temperature. Dry storage facilities required.
Environmental Impact	Board systems generally employ aluminium substructure, which has high residual value and is re-usable. Medium impact environmentally.	Aluminium has high residual value and in its manufacture includes minimum of 50% recycled billet. Low environmental impact.	EWI systems not conjusive with recycling and have zero end value. High environmental impact.
Recycling Potential	Only able to recycle aluminium substructure Trespa boards would almost certainly end up in landfill. Insulation recyclable.	Very high. Only component not recoverable is the stainless steel fixing embedded into concrete. Insulation recyclable.	Very low. Multiple layer system that would be "broken" during dismantle with zero recycle component.
Water management	None within system - reliance on sealants - pattern staining.	Managed within system - no pattern staining.	None within system - reliance on sealants - pattern staining.
Associated works considerations	Available panel modules unlikely to match existing building module.	Bespoke rainscreen module readily adapted to existing building module.	Readily adapted to existing building module. Considerable mess/debris arising.
Programme considerations	Medium length build period & not weather dependant	Shortest build period & not weather dependant	Longest build period & weather dependant
Access considerations	All access types suitable (preferred system MCP's)	All access types suitable (preferred system MCP's)	Generally only fully enclosed scaffold suitable
Fixing method	Face	Secret	Secret
NHBC approval	No	Yes	Yes (up to 12 storeys max.)
Weight	25kg/m ₂	10kg/m ₂	25kg/m ₂
Storey height Spanning	Yes	Yes	No

COMPARATIVE ANALYSIS OF WINDOW OPTIONS – NARRATIVE

Note: The following is based on standard products. High spec/specials are available for most systems however these attract a considerable premium and do not therefore lend themselves to general comparison.

SYSTEM	COST APPRAISAL	ADVANTAGES/DISADVANTAGES
UPVC	Cheapest "prime cost" solution.	<ul style="list-style-type: none"> • Shortest life expectancy circa 10 years • Typically 1 year guarantee only. • On-site works affected by weather/temperature, as they do not come to site pre-glazed. • Highest reliance on installation skills. • Available in white • Dual colour option not available. • Medium thermal performance through frame • Low acoustic performance through frame • Low air/water tightness
Aluminium Timber Composite	Middle "prime cost" system	<ul style="list-style-type: none"> • Long life expectancy circa 30 years • Typically 10 year guarantee • On-site works un-affected by weather/temperature as they come to site pre-glazed. • Lowest reliance on installation skills. • Available in any RAL colour • Dual colour option available at no surcharge. • Highest thermal performance through frame • Highest acoustic performance through frame • Highest air/water tightness
Thermally Broken Aluminium	Most expensive "prime cost" solution	<ul style="list-style-type: none"> • Middle life expectancy circa 20 years • Typically 5 year guarantee • On-site works affected by weather/temperature, as they do not come to site pre-glazed. • Middle reliance on installation skills. • Available in any RAL colour • Dual colour option available at extra cost. • Poor thermal performance through frame • Poor acoustic performance through frame • Medium air/water tightness