

Penjerex comparison to double glazing

	Penjerex	Retrofit Double Glazing
Thermal Performance	<p>Penjerex improves the insulating performance of 3mm glass by 44% which is equal to 95% performance of conventional double glazing.</p> <p>This equals 80% performance of 4/12/4 double glazing.</p> <p>The thermal transmission value (U) is $3.28 \text{ W/m}^2 \cdot ^\circ\text{C}$</p> <p>Solar Heat Gain reduction up to 40%</p> <p>Reduces solar heat gain by 27% over clear single panes.</p> <p>Penjerex can also be applied to existing tinted and double glazed windows as well.</p> <p>Technical specification details are available from Penjerex brochures</p>	<p>Double glazing comes in either 3/6/3 for narrow frames or 4/12/4 which is the current standard for Double glazing.</p> <p>The average Thermal insulation performance of 3/6/3 double glaze units is $3.3 \text{ W/m}^2 \cdot ^\circ\text{C}$ while 4/12/4 units increase performance to approximately $2.7 \text{ W/m}^2 \cdot ^\circ\text{C}$</p> <p>Solar Heat Gain reduction of 20%</p> <p>Double glazing offers approximately 2/3 the solar heat gain reduction performance when compared to Penjerex.</p>
Appearance	<p>Penjerex has a visual transmission rating of 79% compared to 3mm clear glass of 89%.</p> <p>It is virtually indistinguishable from clear glass.</p> <p>As Penjerex is installed direct to the existing glass pane, there is no change to the look of your windows.</p>	<p>Double glaze visual light transmission is about the same as Penjerex</p> <p>Retrofit double glaze units usually have low visual appearance impact. Sometime the additional thickness of the double glaze unit requires frame modification that can protrude outside the original exterior frame surface</p>
Installation	<p>Penjerex is installed from the interior of the building negating any need for working at heights and only requires simple low trestles and ladders.</p>	<p>Needs to be installed from the outside of the building using additional frame modification when retrofitting double glaze units into existing windows.</p> <p>Any installations at heights above chest height may require scaffolding and working at height safety measures. This is required for multi-</p>

		story building installations.
Cost	<p>Penjerex is easy to price based on window frame condition and total window area.</p> <p>It is quoted as an inclusive installed price.</p> <p>The cost is approximately half of retrofit double glazing.</p>	<p>Retrofit Double Glazing can include separate pricing for</p> <ul style="list-style-type: none"> <input type="checkbox"/> Glazing units <input type="checkbox"/> Window frame modification components <input type="checkbox"/> Labour for modification <input type="checkbox"/> Scaffolding
Durability	<p>The film has a scratch resistant hard surface but this can be damaged by scratching with sharp objects. Using a ball point pen on the film surface can create a dent also.</p> <p>Penjerex has a 12 year replacement warranty against film discolouration and lamination failure</p>	<p>Double Glaze retrofit units are highly durable as are normal glass panes. The quality of the units is important as the hermetic seals that join the glass panes and create the vacuum seal can fail.</p> <p>This will cause the insulating performance to fail as well and lead to water condensation inside the panes</p>
Window Frame Impact	<p>70 micron polyester film on the window pane surface weighs nearly nothing resulting in no impact to the existing window frames</p>	<p>Heavy double glaze units (particularly 4/12/4 units) can damage wooden and aluminium frames, hinges and window stays over time.</p> <p>Often the hinges and stays have to be strengthened to manage the extra weight of the additional glass</p>
Condensation	<p>Penjerex reduces the volume of condensation on the window surface but does not stop condensation.</p> <p>Any condensation that forms are in a lesser volume than a standard window and it appears in a more even area in finer spray like a mist.</p> <p>(please see our Condensation FAQ's page for more information)</p>	<p>Double glaze units have a good ability to reduce condensation on window panes due to having an additional piece of glass removed from the direct outside temperature.</p>
Other Benefits	<p>Penjerex does not reduce sound levels from outside.</p> <p>Penjerex reduces UV by better than 99%</p> <p>Penjerex makes single pane non safety glass safe for children as it prevents glass from shattering when broken</p>	<p>Double Glazing reduces exterior sound intrusion</p> <p>Double glazing only reduces UV by approx. 55%</p> <p>Double Glaze units need to be made from safety glass to be safe against injury when broken</p>