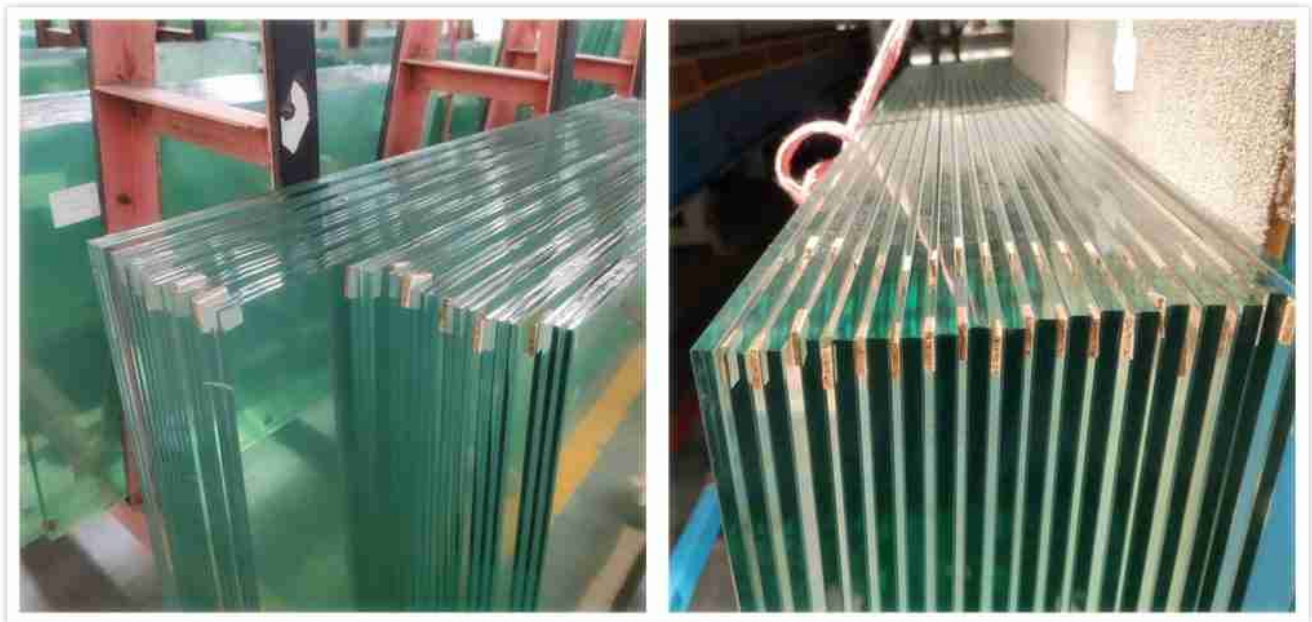


# 7 comparisons between laminated glass vs tempered glass, which one will you choose?



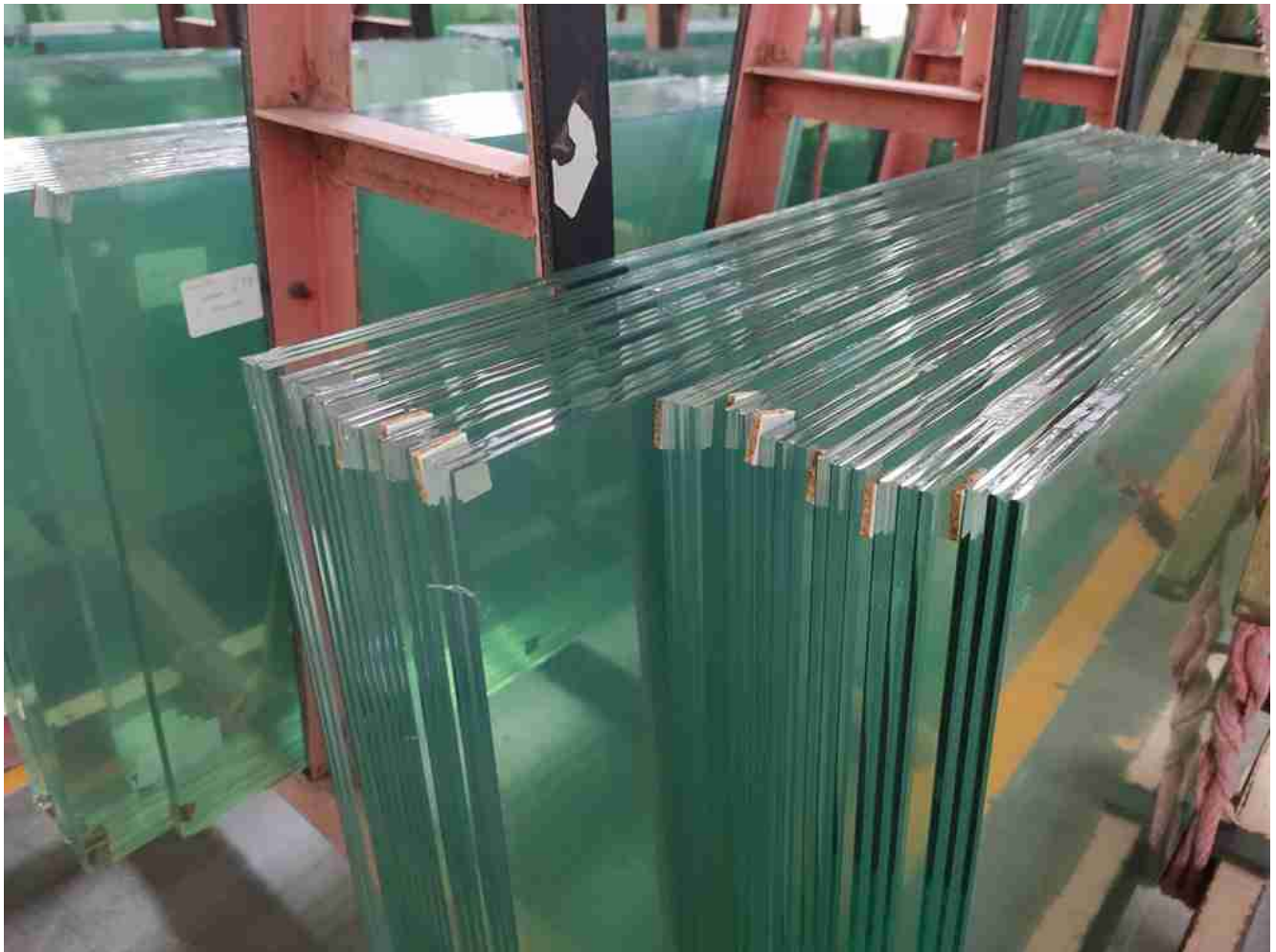
**Tempered glass** and **laminated glass** are both rated as safety glass. When most people are choosing safety glass for construction projects, they sometimes will dwell on this idea: laminated glass vs tempered glass, which one should I choose? Well, here in this article we are going to discuss 7 differences between tempered vs laminated glass and by the end, welcome to tell us which type fits you more.

## 1, Laminated glass vs tempered glass definitions:

### What is laminated glass?

Laminated glass is made by combining two pieces of tempered glass(or non-tempered glass) together **sandwiched by a PVB or**

**SGP or EVA** interlayer, in order to achieve a higher strength as well as soundproofing functions.



*What is laminated glass?*

## **What is tempered glass?**

Tempered glass is heating annealed glass after edgeworked to over 600° and then **cool down rapidly** in a tempering furnace. The tempering process is actually also called the quenching process. This process can increase tempered glass **5 times strength higher** than annealed glass before tempering.



*What is tempered glass?*

## 2, Laminated glass vs tempered glass strength properties:

Tempered glass is about **5 times tougher than annealed glass**. Normally tempered stress about 90Mpa~110Mpa.

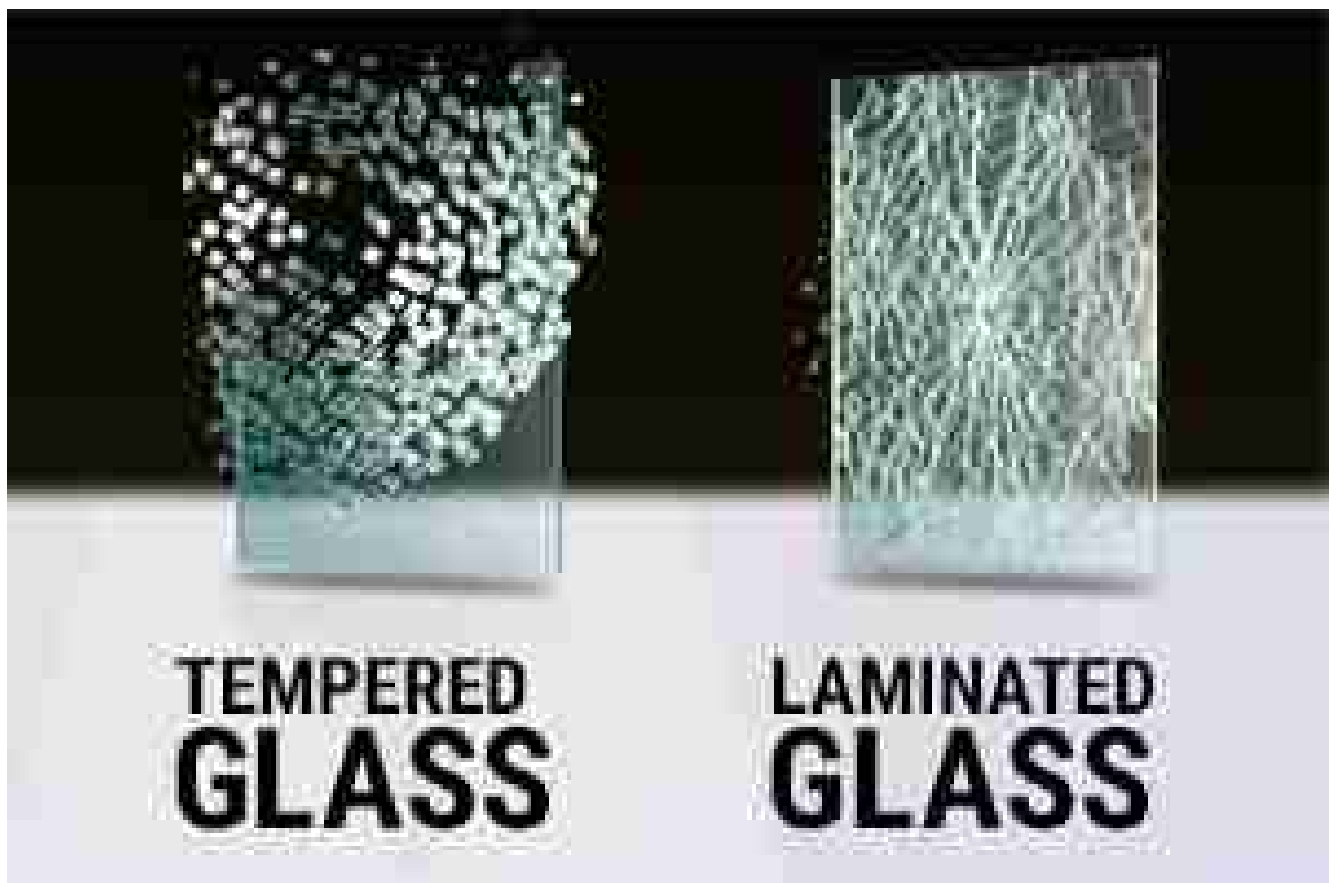
Tempered laminated glass offers **double strength than tempered glass**, plus the anti impact function of PVB or SGP or EVA interlayer, the tempered laminated glass strength is much higher than single tempered glass panel. Laminated glass anti impact stress about 160~220Mpa.

Here is a video completely showing you the differences between tempered glass VS pvb laminated glass vs [sgp laminated glass](#):

### 3, Laminated glass vs tempered glass safety functions:

Tempered glass can endure a very high impact without breakage. But that doesn't mean it is totally unbreakable. When tempered glass is broken by an extremely strong impact, it will still break into small obtuse angles particles but will do no harm to humans.

Laminated glass offers higher safety functions comparing to tempered glass. It not only can offer higher strength, when the laminated glass is broken by extreme impact, but the broken pieces of glass will also still glue together with the PVB interlayer, which will still provide fencing functions before replacement.



*Laminated glass versus tempered glass breakage patterns.*



## 4, Laminated glass vs tempered glass soundproofing functions:

Typical Sound Transmission Loss (dB)

Glass Configuration			Frequency in Hertz (Hz)																	
	STC	OITC	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
1/4"	31	29	23	25	25	24	28	26	29	31	33	34	34	35	34	30	27	32	37	41
1/2"	36	33	26	30	26	30	33	33	34	36	37	35	32	32	36	40	43	46	50	51
1/8"- 0.030" PVB - 1/8"	35	31	25	26	28	27	29	29	30	32	34	35	35	36	36	35	35	38	43	46
1/4"- 0.030" PVB - 1/4"	37	33	28	31	29	31	32	33	32	33	35	36	36	35	36	40	43	46	48	51
1/4"- 0.060" PVB - 1/4"	37	33	27	28	27	30	31	31	33	35	36	37	37	37	36	37	41	44	48	51
1/8"- 3/8"as - 1/8"	31	26	26	23	23	20	23	19	23	27	29	32	35	39	44	47	48	41	36	43
1/4"- 1/2"as - 1/4"	35	28	29	22	26	18	25	25	31	32	34	36	39	40	39	35	36	46	52	58
1/8"-1/2"as-1/8"- .030PVB - 1/8"	37	31	27	29	25	24	25	27	29	31	35	38	40	41	42	43	46	50	49	53
1/4"-1/2"as-1/8"- .030PVB - 1/8"	39	32	27	27	24	28	26	33	34	35	38	40	42	43	42	40	42	47	51	54
1/4"-1/2"as-1/4"- .030PVB - 1/4"	41	35	30	26	30	30	29	36	37	37	39	39	41	42	43	44	46	51	53	55

NOTE: Using acoustical PVB designed specifically for sound attenuation will typically improve STC and OITC rating by 1 dB.

*Sound deduction function for tempered vs laminated glass.*

## 5, Laminated glass vs tempered glass price differences:

Item	10mm tempered glass	12mm tempered glass	5+5mm tempered laminated glass	6+6mm tempered laminated glass
FOB Price(USD/SQM)	11.5~13.5	13.5~17.2	20~25	22~28

*Tempered vs laminated glass price difference.*

As we can see from the above price table. For the **same thickness configuration, the price is doubled for laminated glass vs tempered glass**. It is no doubt that the laminated glass has higher strength and a super good safety function. When it comes to budget cost, tempered glass still will be a good choice for economic concern if architecture design is allowed.

## 6, Laminated glass vs tempered glass applications:

Tempered glass due to its high strength and safety, is widely used as a facade, curtain wall, windows, doors, railing, shower doors, etc. Tempered glass is very economic.

Laminated glass can cover almost all the applications of tempered glass. But it has further safety functions such as when the glass is broken, it will still glue together with the interlayer, therefore laminated glass can also be used as applications where the human can stand on, such as roofs, canopies, skylights, [glass floors](#) & [floating glass stairs](#), etc.



*Laminated glass applications where tempered glass is not appropriate.*

## 7, Tempered glass vs laminated glass manufacturing process difference:

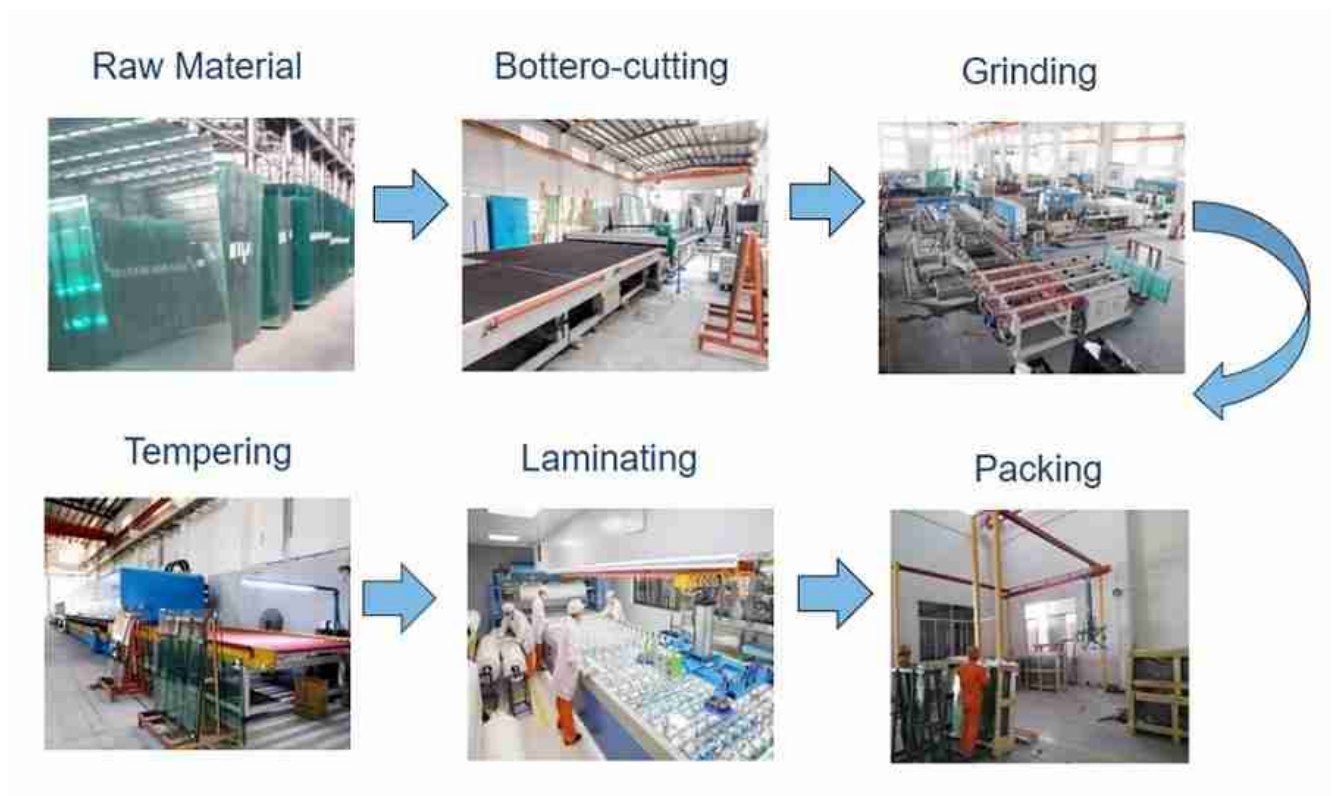
[Shenzhen Dragon Glass](#) tempered glass is produced by heating edgeworked annealed glass to over 600 degrees temperature and cool down rapidly with strong wind jet to form a compression on the glass surface whereas the interior is still in tension. This thermal treatment will make the annealed glass strength increase 5 times and has a tendency for breaking into small pieces with obtuse angles which will do no harm to human beings.



*Shenzhen Dragon Glass glass tempering process.*

[Shenzhen Dragon Glass](#) laminated glass is produced by combining two or pieces of glass panels sandwiched by an interlayer of PVB, EVA, SGP, etc. This treatment can make the laminated glass permanently combined together. Laminated glass is to achieve soundproofing and super high strength functions. Sometimes colored or pattern glass will be adopted to enhance

the laminated glass decoration effects.



*Shenzhen Dragon Glass tempered glass lamination process.*

So do you decide to use tempered glass or laminated glass for your new projects? [Welcome to share your ideas with us!](#)