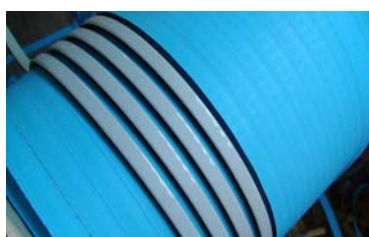■ Truspacer® insulating glass production process introduction and attention:

1. Production process introduction:

Insulating glass sealing spacer

Paste sealing spacer

Shear sealing spacer

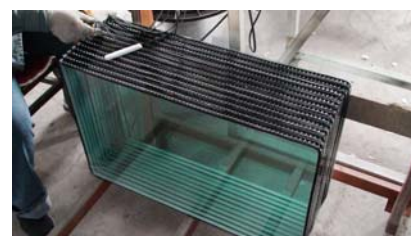Heat and compaction two glass

Come into thermocompressor

Merger two glass

Come out thermocompressor


Place one hour
(cooling and pressure release)

Final corner seals

2. Attention during the production process：

2.1 Paste sealing spacer:

2.1.1 Start the tape application about 6.5mm to 7.9mm from the edge of glass, lay the Truspacer straightly, ensure the tape parallel to the edge of the glass, ensure that Truspacer is applied 90° to the glass surface, also ensure the corner at 90° angle, please don't touch glass surface and adhesive surface of tape during the paste, ensure that there is a gap of 0.8-1.5mm at the 4th corner for air out, as shown in Figure 1:
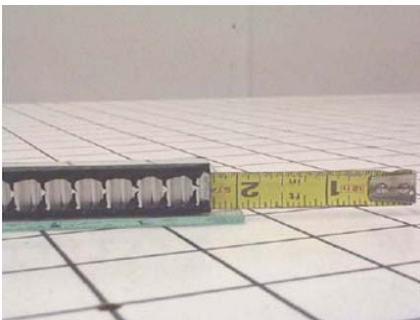
Start point of Spacer application should be 6.5mm to 7.9mm from glass edge.
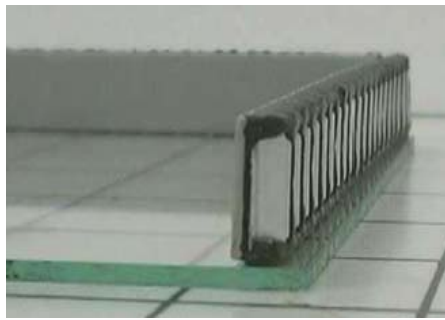
**Ensure that Truspacer is applied 90° to the glass surface.**
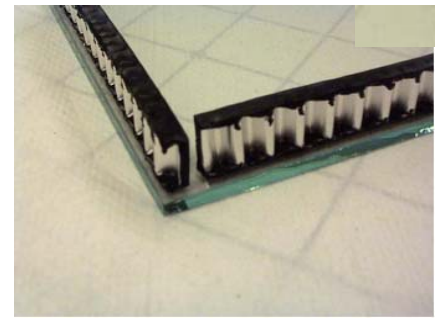
Ensure that there is a gap of 0.8-1.5mm at the 4th corner for air out.

2.1.2 Inclined pasted is **incorrect**, see Figure 2:
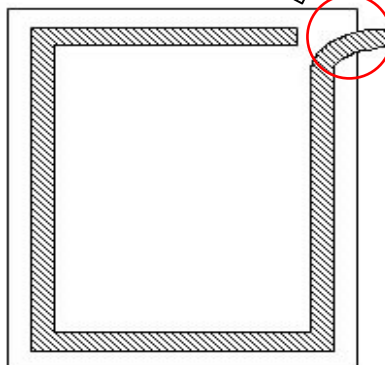
2.1.3 At the 4th corner, please cut the spacer align to the start point as Figure 1 shown, if the end reserved too long as Figure 3 shown is **incorrect.**

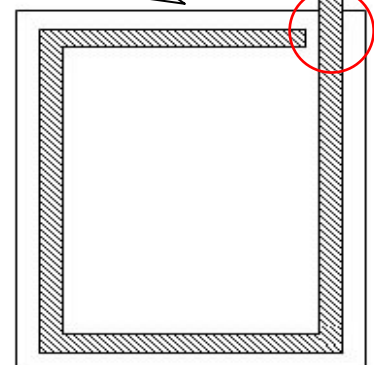Cut the spacer align to the start point and leave a gap of 0.8-1.5mm for air out

Inclined pasted is **incorrect**
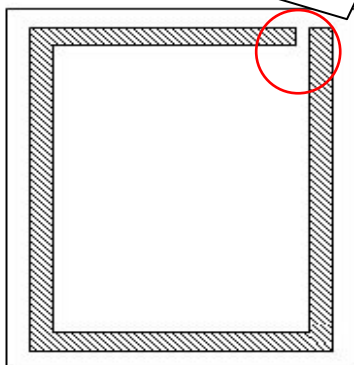
The end reserved too long is **incorrect.**
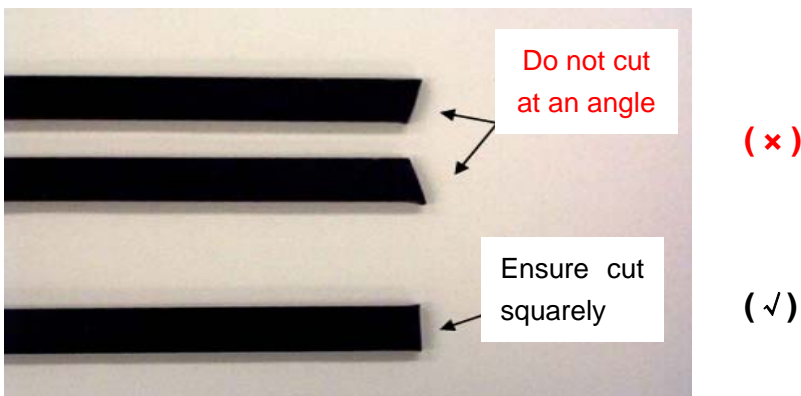
Figure 1 （✓） **Figure 2**（✕） **Figure 3**（✕）

2.2 Sealing spacer cutting:

Ensure that the spacer has a squarely cut end at any time. This will facilitate the final corner sealing operation and thus promote good IG unit seal quality, see below figure:


Do not cut at an angle

(×)

Ensure cut squarely

(√)

2.3 Place one hour (for cooling and pressure release) :

2.3.1 After hot-press, all IG units should be handled on 90° racks for one hour cooling with the 4th corner on top, then start to seal the final corner when the internal of IG fall to the indoor temperature. And the base of racks should be tilted back 5° to 7°, see Figure 4:

2.3.2 The glass placement should not exceed 310mm in length, to prevent glass edge damage.

2.3.3 <u>If not to cool the glass but seal the gap immediately after the hot press,</u> the glass will damages or the sealing spacer will be out of shape easily when the internal of IG fall to the indoor temperature, this operation is **incorrect**, see Figure 5:
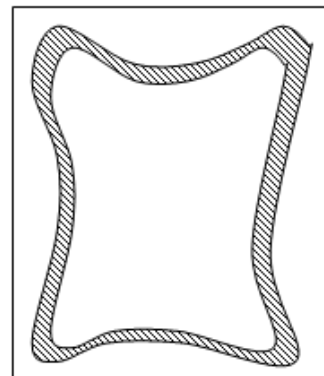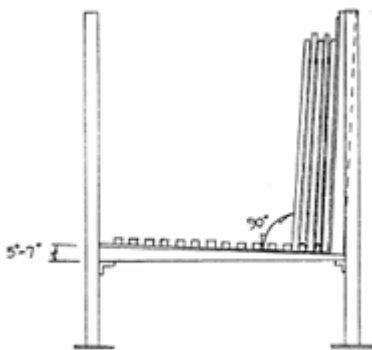

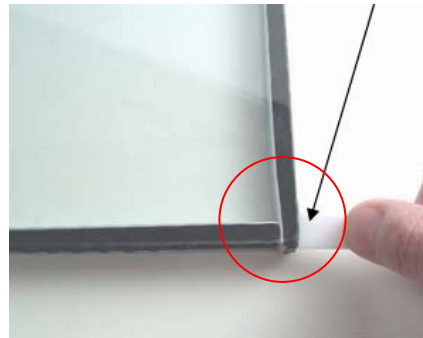**Figure 4 One hour cooling on racks（ √)**　　　**Figure 5 Sealing spacer will be out of shape if no cooling（ ×)**

2.4 The correct way of final corner seals:

2.4.1 When the internal of IG fall to the indoor temperature, reheat only the 4th corner area to 40~50℃ with the hot air spot heater before sealing, it will warm the sealant and make the corner to be closed, and please ensure the 4th corner on top when sealing to prevent the glass damages or the sealing spacer warped, see Figure 6:

2.4.2 Push the tail end and start point together to eliminate any hairline voids. Be careful to not push too far into sightline. Now complete the IG production, see Figure 7:
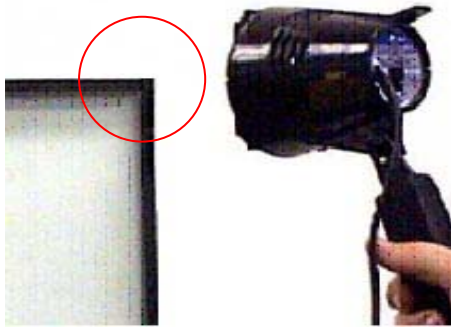
Figure 6 Reheat the 4th corner   **Figure 7 Final corner seals**

2.4.3 As the tape end reserved too long, and overlap sealed as shown in Figure 8, this operation is **incorrect**, so the right operation is that you should ensure the spacer end cut on the same level with the start point, no need keep too long.

2.4.4 When completed sealing, the correct sealing effect should be as shown in Figure 9:

Overlap sealed is **incorrect**   The correct sealed effect
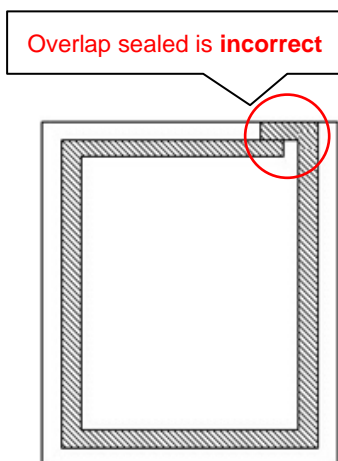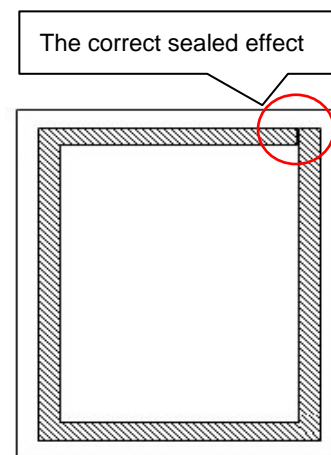
Figure 8（×）   **Figure 9 （√）**

2.5 Special Note:

◆ Without compatibility test, Truspacer is not allowed to use with any kinds of sealant, especially the solvent and water is strictly prohibited.
◆ Without use the polysulfide rubber, please don't apply Truspacer to the glass curtain walls. Also the compatibility test is needed if using polysulfide rubber on Truspacer, ensure they are compatible each other before use.

3. Insulating glass seals and installation notes:

3.1 Insulating glass seals:
3.1.1   Secondary seals:

Aim: To prevent the large size glass "warp" or "dislocation" during the store, transportation, installation.

■ When insulating glass dimensions≥2.5 ㎡（1500mm×1800mm）, the four corners of the insulating glass and the middle of two long sides, total six points need secondary seals. As shown in Figure 10:
■ When insulating glass dimensions≥2.7 ㎡（1500mm×2000mm）,the full short sides with all corners and the middle of two long sides need secondary seals. As shown in Figure 11:
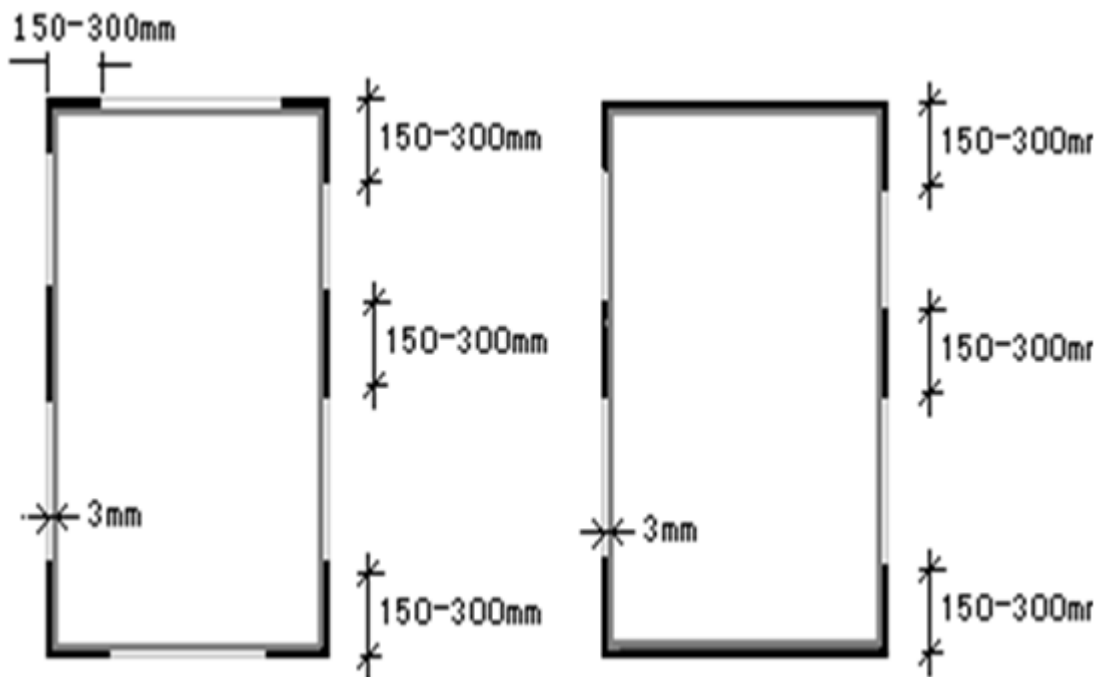

Figure 10 Six points secondary seals　　**Figure 11 Up and down & left and right secondary seals**

3.1.2 Secondary seals attention:

a. The sealant thickness of secondary seals about 3-3.5mm is the best;
b. The polysulfide rubber which used for secondary seals need the compatibility test with Truspacer before application, please ensure they are compatible each other before use.
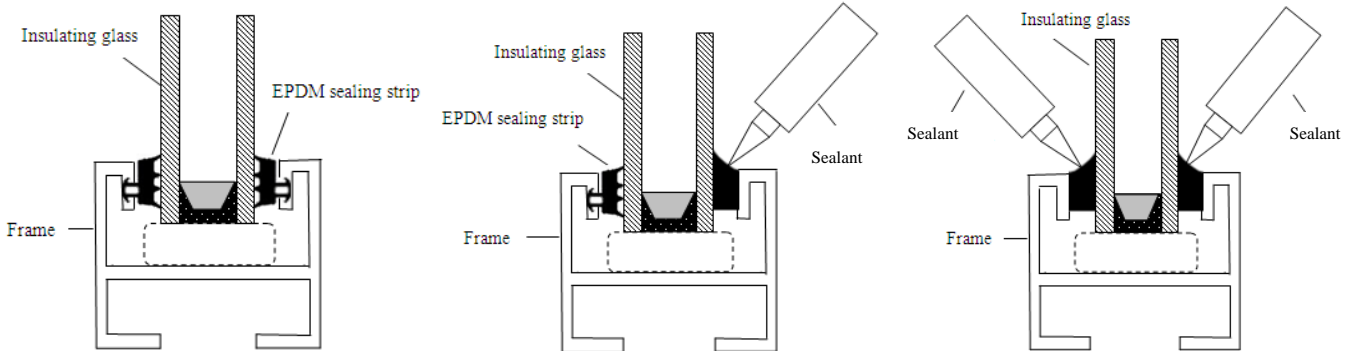
3.2 Sealing between the insulating glass and window frames:

After the sealant was fully cured, the original volume of sealant will be shrink, so it will cause the tape to be pulled, finally lead the sealing of insulating glass failure, so to prevent this happen, please pay attention as following several points when install the insulating glass:

3.2.1 Advise without the sealant, use EPDM sealing strip only, one side or both sides are OK, see Figure 12:
3.2.2 Only one side use sealant, the other side use EPDM sealing strip, to prevent the sealing spacer pulled it's correct, see Figure 13:
3.2.3 If both sides use sealant, the sealing spacer will be pulled, it's **incorrect**, see Figure 14:

Figure 12（√）
Use EPDM sealing strip only

Figure 13（√）
One side EPEM one side sealant

Figure 14（×）
Both sides use sealant are incorrect
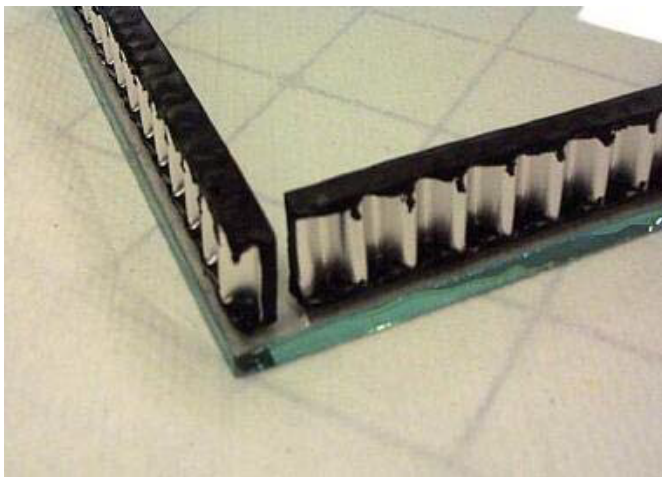
3.3 Insulating glass installation notes:

When install the insulating glass to doors and Windows, ensure the final sealed corner on top of the doors and windows, in order to prevent the glass damages due to the extrusion of frame materials, and the drainage holes, groove of the doors and windows must be clear, ensure there is no water in the frames of doors and windows.

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Two ways of filling gas:

1. Filling with one hole

We can apply the Truspacer sealing spacer on glass, leave the last corner a litter bigger gap, in this way we can put the filling tube into the IG, the tube down to the bottom of the IG, the sensor also put at the gap, the sensor will alarm once finish, then use hot air gun to heat the Truspacer around the gap (corner), then use tools to close it.

1).

2).

3).

4).