

## 14

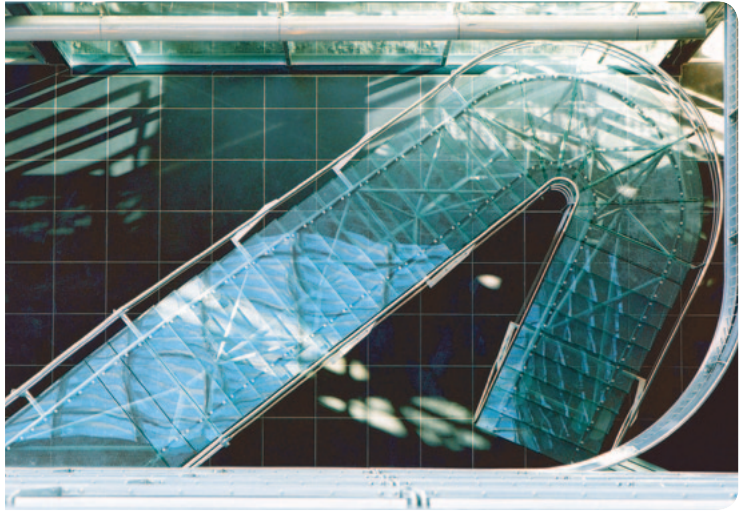
## flooring and aquaria

### Planchers et aquariums

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- aquariums
- observation side panels

Glass stair treads – photo courtesy of Taiwan Glass.



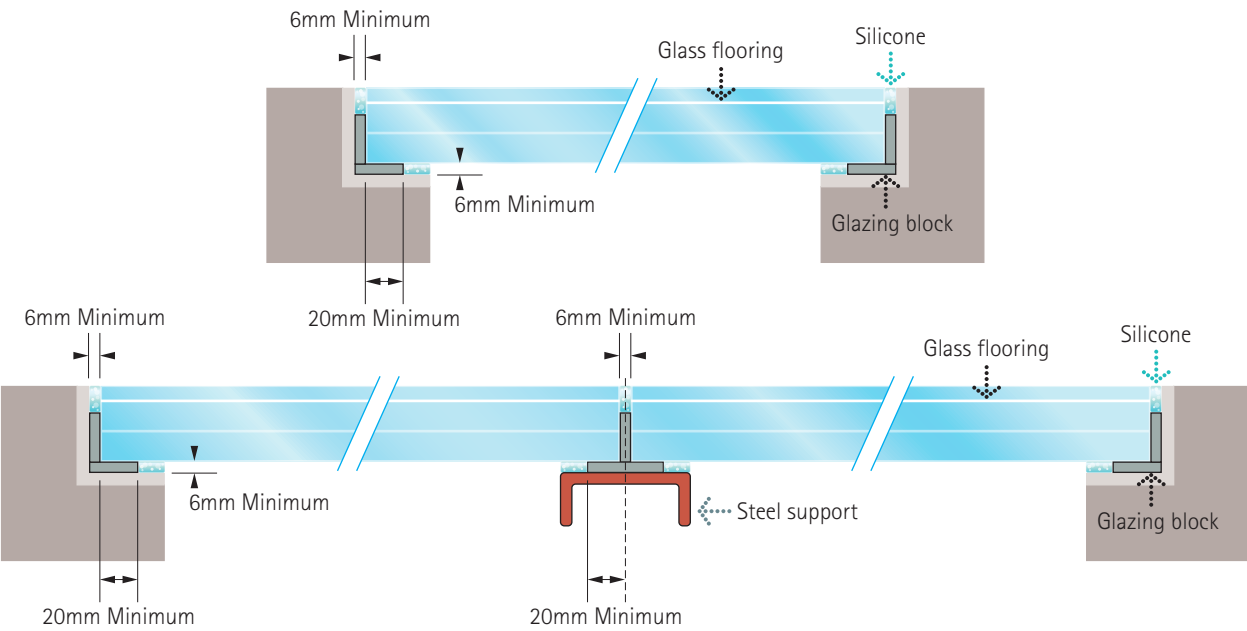
#### glass flooring

The glass supplied for these applications is usually a multi-laminated glass made-up of 2–3 panels of annealed glass and one panel of 6mm toughened glass with a non slip coating to the trafficable surface. The coating is ceramic fired paint for durability and wear.

Glass flooring including stairs, landings and balconies require specialist engineering to determine glass thicknesses.

*Please consult our technical staff for more information.*

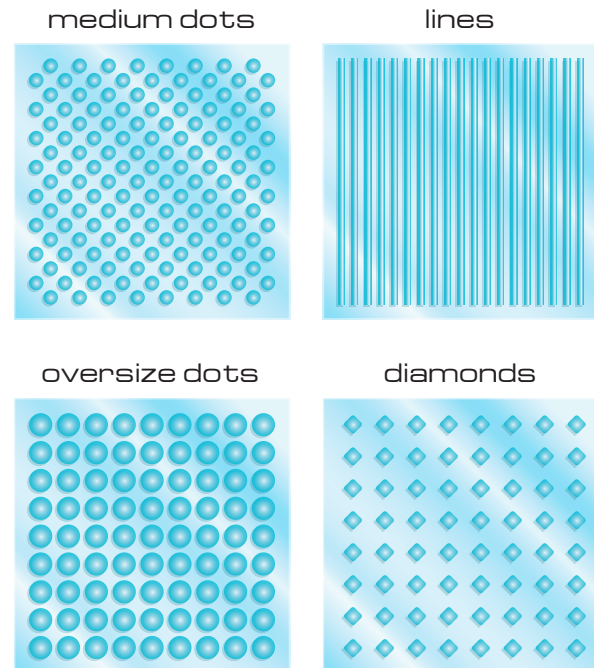
**diagram 14.1:** glass flooring installation details - 4 side support



**installation details**

- It is recommended that the glazing block shall have shore hardness 80 to 90;
- The joints between the floor panels and structure shall be 6mm minimum;
- It is recommended to use Dow Corning (DC-795) for the sealants around the floor panels;
- The recommended support width for the floor panels shall be 20mm minimum;
- Maximum allowable deflection in support framing is span over 500.

**diagram 14.2:** standard non-slip surface patterns







Glass stair treads – photo courtesy of Taiwan Glass.



Observation glass pool panel – photo courtesy of Saville Hotel Southbank Brisbane.

## aquariums

### recommendations **Recommandations**

For small frameless applications using silicone refer to **Tables 14a** and **14b**. Applications exceeding the largest dimensions in each table should not use silicone as the main structural support but instead, should consider steel framing to cope with water pressure loads.

Pour les petites applications collées au silicone, sans encadrement, se référer aux tableaux 14a et 14b. Pour les dimensions plus importantes, envisager une structure en acier pour faire face à la pression hydrostatique.

With regard to which type of glass to use, it is recommended that annealed glass be used. The main reason is that upon failure, an annealed glass panel may not totally collapse, thereby providing time to remove the aquarium contents safely. Toughened glass upon failure will totally collapse making it highly unsuitable for such an application.

Il est recommandé d'utiliser du verre recuit. En cas de rupture, le panneau ne s'effondrera pas totalement, laissant le temps d'enlever le contenu en toute sécurité. Le verre trempé qui se désintégrerait est inadapté.

Laminated glass may not be acceptable due to edge delamination if water makes contact with the PVB interlayer. However, for specialised situations, such as underwater observation panels, laminated glass may be suited due to the tendency for the interlayer to hold the panels in place if impacted.

Le verre feuilleté est inadapté si l'eau entre en contact avec l'intercalaire PVB. Mais pour des cas particuliers, comme les hublots d'observation sous-marine, l'intercalaire permet de maintenir des panneaux affectés.

### sealants **Joints**

Silicone used for small frameless glass aquariums such as in **Tables 14a** and **14b**, should be designed for these applications in accordance to manufacturers recommendations. All silicone joints should be fully cured before aquarium use. It is not recommended that acetic cure silicones be used with laminated glass.

Le silicone utilisé pour les petits aquariums selon les tableaux 14a et 14b, doit être conçu pour cette application, conformément aux recommandations des fabricants. Les joints doivent être complètement polymérisés avant l'utilisation de l'aquarium. Le silicone acétique n'est pas recommandé avec le verre feuilleté.

### observation side panels **Faces latérales**

Refer to **Table 14c** for situations where vertical annealed glass is supported on all four edges, where the head of water level does not exceed the top edge of the vertical panel and the only loading imposed is water pressure. For panels in swimming pools, large commercial aquariums and other underwater observation situations where loads other than water pressure exist and/or where the top edge of the vertical panel is below the head of water level, specialist engineering is required to determine glass type and thickness (This product will generally be a multi-laminated glass).

Le tableau 14c s'applique aux glaces en verre recuit, verticales, en appui sur quatre côtés, le niveau d'eau restant inférieur au bord supérieur et uniquement soumis à la pression de l'eau. Pour les autres cas : piscines, grands aquariums commerciaux..., solliciter un bureau d'ingénierie pour déterminer le type de verre et l'épaisseur (en général, il s'agira d'un verre multi-feuilleté).

### example: using table 14c

|                |        |
|----------------|--------|
| Panel width    | 1500mm |
| Panel height   | 800mm  |
| Glass required | 19mm   |

### special note **Notes spéciales**

Some sealants used for pool observation glass require UV protection. Protection can be achieved through black ceramic banding on the perimeter of the glass edge. Size of banding must cover rebate size.

Certains produits d'étanchéité utilisés pour le verre d'observation de piscine requièrent une protection UV. La protection peut être obtenue grâce à une bague en céramique noire sur le périmètre du verre. La bague doit recouvrir le joint.

**table 14a:** clear glass bases

Thickness of clear glass bases for frameless aquaria of various dimensions:

Epaisseur du verre clair pour fonds d'aquariums, sans encadrement.

| Base dimensions<br>(mm) Dimensions du fond | Head of water<br>Hauteur d'eau (mm) | Recommended<br>glass thickness<br>Ep. recommandée (mm) |
|--|-------------------------------------|--|
| 1500 x 500                                 | 300                                 | 10   |
|  | 450                                 | 12   |
|  | 600                                 | 15   |
| 1000 x 500                                 | 300                                 | 10   |
|  | 450                                 | 10   |
|  | 600                                 | 12   |
| 500 x 500                                  | 300                                 | 6  |
|  | 450                                 | 10   |
|  | 600                                 | 10   |
| 600 x 600                                  | 300                                 | 10   |
|  | 450                                 | 10   |
|  | 600                                 | 10   |
| 600 x 450                                  | 300                                 | 6  |
|  | 450                                 | 10   |
|  | 600                                 | 10   |
| 600 x 300                                  | 300                                 | 6  |
| 450 x 300                                  | 300                                 | 6  |
| 300 x 300                                  | 300                                 | 6  |

**table 14b:** clear glass sides

Thickness of clear glass sides for frameless aquaria of various dimensions:

Epaisseur du verre clair pour faces latérales d'aquariums, sans encadrement.

| Height (mm)<br>Hauteur | Longueur Length (mm) |     |     |     |     |      |
|------------------------|----------------------|-----|-----|-----|-----|------|
|                        | 300                  | 350 | 450 | 600 | 900 | 1200 |
| 150                    | 3                    | 3   | 3   | 4   | 6   | 6    |
| 200                    | 3                    | 4   | 4   | 4   | 6   | 6    |
| 300                    | 4                    | 4   | 4   | 6   | 6   | 6    |
| 350                    | -                    | -   | 6   | 6   | 6   | 10   |
| 450                    | -                    | -   | -   | 6   | 10  | 10   |
| 600                    | -                    | -   | -   | 10  | 10  | 12   |

**table 14c:** vertically glazed four edges Vitrage vertical en appui sur 4 côtés.

Recommended thickness for vertically glazed four edges supported annealed transparent glass where the waterline is level with the top edge of the glass.

Epaisseurs recommandées pour vitrage vertical en verre recuit, appui sur 4 côtés remplis d'eau jusqu'au niveau supérieur.

