

3.5 Specimens Preparation Equipments The equipment required for preparing the specimens of pure PMMA and SiO<sub>2</sub>/PMMA composites in sheet-form are glassy molds, glassy containers, and horizontal leveling platforms will be described in this section.

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3.5.2 Glassy Containers Ten glassy containers with dimensions of 250 mm length, 160 mm width and 100 mm height were made using 6 mm thickness glass sheets, adhesion material, and L- shaped aluminum corners of 20 x 20 mm, as shown in figure (3-11). The platforms are designed with dimensions that allow one glassy container to be placed on their surface.

3.5.3 Horizontal leveling platforms Ten horizontal leveling platforms were made with dimensions of 270 mm length and 180 mm width using wooden boards with a thickness of 18 mm. Each platform is provided with four legs adjustable up and down in order to level the platform horizontally to ensure that one thickness of PMMA samples is obtained.

3.5.1 Glassy Molds Two sets of glassy molds were made using 6 mm thickness glass sheets, adhesion material, and L-shaped aluminum corners of 20 x 20 mm. The number of molds in the first group is 10, which are used to obtain samples with dimensions of 4 mm thickness, 100 mm width, and 130mm length. The second objective is to provide a space saturated with solvent steam that prevents the top layer of the sample surface from solidifying for as long as possible during the evaporation process, which reduces the formation of bubbles.