

Processing and maintenance notices of the polycarbonate tubes Esalux[®]

Polycarbonate is a "thermoplastic material", this means it appears rigid and homogeneous in room temperature, while becomes plastic after an enough high heating. Its hardness is classified between the wood and the iron ones, for this reason rather similar to soft metals one, like brass, aluminium or other light alloys. Polycarbonate is consequently suitable to be processed either with wood working machines, especially for the cutting, or with metal working machines, particularly for the turning, drilling, milling. However you need to pay attention to some shrewdnesses, to avoid the formation of abnormal heatings on the surfaces of the processing pieces, which should cause some fissures or crazes. They are: well sharp tools, good removal of machining-shavings, possible water or air cooling, to avoid a too high overheating.

Polycarbonate can be glued with cements suitable on purpose to it, and usually they are the solvent type. They are in only one component with a rather low rate of solvent, which evaporating during the setting it causes the adhesion of the pieces. However we dissuade for using generic glues for the plastic materials.

We have to underline that, due to the intrinsic properties of their production method, the extrusion, the Esalux® polycarbonate tubes can present a quantity of internal tensions.

It is suggested, before processing, particularly complicated or delicated, to temper the pieces to machine, by an annealing in an oven with a temperature of 90 °C for about 6-8 hours, being careful to cool the pieces before pulling out. This is extremely valid in glueing processes, because they should be able to guarantee the maximum mechanical stability.

The cleaning of the polycarbonate tubes must be done only with soap and water, or other detergent without abrasives. To fight the natural attitude of polycarbonate to attract the dust, due to its electrostatic charge, it could be useful to clean the surfaces with a soft cloth imbued with antistatic fluid once a month.

Besides it should be necessary to stock the polycarbonate tubes far from heat sources, possibly always in vertical position, to avoid possible deformations, and especially protected from the solar light, because even if they are UV stabilized, the additive present in the resin we use does not completely eliminate the effects of such exposure. These effects may include color shift (yellowing, darkening or bleaching), decreased ductility, decreased impact resistance, decreased mechanical properties, decreased surface gloss, and/or increased haze. The purpose of the UV stabilization is to slow down the rate at which these effects occur. Actual results may vary depending on application and other factors such as resin color, transparency and additives.

Will you please contact our technical department for any further problem or information.