Processing and maintenance notices of the extruded acrylic tubes Esacril®

P.M.M.A. 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. P.M.M.A. 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.

P.M.M.A. can be glued with cements suitable on purpose to the acrylic, and they can be found in two different types: solvents or by polymerization. The first ones are usually in only one component with a rather low rate of solvent, which evaporating during the setting it causes the adhesion of the pieces. They are suggested for glueing pieces in little dimensions or where little setting is needed. The second ones are composed by two or more components, which the most important has a basis of methacrilate polymer, which with the action of catalytic agents polymerizes producing a joint among the pieces. They are suggested for glueing pieces in big dimensions or where strong setting is needed. 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 acrylic tubes Esacril® have a higher quantity of internal tensions than the cast acrylic.

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 70 °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 extruded acrylic tubes must be done only with soap and water, or other detergent without abrasives. To fight the natural attitude of acrylic 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 tubes far from heat sources and possibly always in vertical position, to avoid possible deformations, that could be anyway present in some particular cases.

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