FAQ´s & special technical information

What is the difference between »acrylic couture« panels and “acrylic panels”?

Our panels are casted starting by only optical-class methyl methacrylate virgin monomer, manufactured in the EU under EU rules and standards. This is the original and the only monomer, that can be used to manufacture polymethylmethacrylate omopolymer (PMMA) since 1933.

Unfortunately the term “acrylic” authorizes a lot of suppliers to use resins done with large amounts of other monomers, styrene (which is cancerogenic) is the main one. Our panels are produced using 99,7% of MMA and therest of 0,3% are process additives. Let's say our panels are PURE CAST METHACRYLATES.

PMMA is toxic? Cangerogenic? Mutagenic?

No, PMMA is COMPATIBLE WITH the HUMAN BODY: First class methacrylates can be applied in contact with the human body like a prosthesis: PMMA is skull, bone and teeth replacement material since the 50's. Since our plant produces goods for technical markets, our PMMA was certified according to CE 93/42 (number of authorization IT 0068/QPR-DM/053-2011) for medical use like, for example, orthodontic prosthesis: it passed all tests (cancerogenic, mutagenic, residual monomer, cell growth).

PMMA is recyclable?

Yes, 100%; one of the few plastic materials that can be turned again into monomer in a reliable process called “cracking process”. Just to go a bit deeper, PMMA is one of the few materials, that comes back into the original liquid form and can be reused for second choice applications like paints, automotive parts and acrylic textiles or recycled acrylic sheets, good for several purposes.

What is the difference between our panels and some other kind of eco/green/ambient friendly-resin?

It is difficult to simplify this question but... »acrylic couture« panels are produced 99,7% with a 100% recyclable nontoxic monomer. We believe THIS IS GREEN! This raw material costs far more than the recycled one, but guarantees a total traceability of the eventual pollutants (manufacturers of monomer give a certificate of analysis batch after batch) and express evidently more stable and uniform properties. Recycled “materials” (no one, in the end, knows from what raw material source they're done!) contains huge proportion of “recycled plastics”. Most of them come from far east plants and contain, evidently, a lot of polymers that are very difficult to control. So batch after batch there are different properties, different compositions and, in the end, different pollutants (styrene, PVC like polymers and antimony and heavy metals like pollutants derived by plastic composition that were allowed to be produced years ago). All our factory wastes are sent to recycling plants with a traced register.

What is main difference between our panels and other “acrylic panels” on the market?

As mentioned above, “acrylic” is a generic name that can hide some dirty secrets: »acrylic couture« panels are CAST METHACRYLATES. Some producers use toxic co-monomers to reduce raw material price, some other producers use granulates (like the one used in paint/extrusion) to enhance the suspension ability of the polymer. These granulates contain plasticizers (most of them mutagenic phthalates), thiols (sulfur containing cancerogenic compounds) and other monomers (mainly some toxic acrylic monomers and styrene). Dissolving these granulates into monomer these compounds are distributed in the polymer matrix and finally in the related panels.

Tel. (02) 9417 6111 Fax. (02) 9417 6169 Email. sales@allplastics.com.au
Address. Unit 20/380 Eastern Valley Way, Chatswood, NSW 2067 AUSTRALIA. www.allplastics.com.au

Do we use any plasticizer?

No, no plasticizer (phthalates) or other unsafe monomers are present. All chemicals used are selected by the one approved for human use. Polymers obtained were applied in live cells culture and they fully passed any hazard test.

What about UV?

CAST PMMA is the “leader” of plastic for outdoor use: highly opaque to UV is often stabilized with the economic benzophenones compounds (some of these are suspected carcinogenic). We protect our panels with high-cost FOOD GRADE UV stabilizers. Our panels will not become opaque within 30 years. The most of the polyesters and “eco” panels produced worldwide will last one tenth of this time below the sun reporting quickly hazing and yellowing.

What is Molecular Weight? How this value can affect quality?

Average molecular weight is the average number of monomer joined together for one single polymer chain. As long is the chain, as stable and rigid is the polymer (shiny surface). Just to give some examples, granulates used by some other producers and in the extrusion process have a MW of 100.000-200.000; some eco-resins and some polyesters resin 30.000-50.000; A good European-class cast acrylate must target for 1.200.000 like minimum; »acrylic couture« panels were reported an average molecular weight (Mz) of 3.800.000 Dalton. This value, together with residual monomer concentration, is the responsible of a long lasting polymer.

Residual Monomer? What is this?

As mentioned, our panels are manufactured by pure MMA polymerized entirely in our plants and converted in PMMA; typical residual unconverted monomer present in CAST PMMA ranges by 1,2 till 2% (often above...); our panels were tested during the abovementioned certification to contain an unconverted monomer quantity of 0,37%, an excellent value that can be achieved only if working with all care.

Are our panels fireproof like some of the resins on the market?

No, our panels can be burned. We had to decide if it is better to have a very low-burning ratio panels (emitting only water and CO2 like pollutants) or to realize something that doesn't burn but can kill you with the smokes (halogens, bromide, antimony...). We chose the first option.

Can I use »acrylic couture« panels in contact with chlorinated water? Salt water? Food?

Yes, sure.

How should I clean you panels?

Water and soap. Gasoline, Solvents, Alcohols, strong acids and alkali can damage surface of the panels.