

# Compatibility and chemical resistance of A-Cast® cast acrylic

A-Cast® chemical resistance tests are based on a temperature of 23°C with stress-free material.

|                     |                               |    |                          |    |                             |    |
|---------------------|-------------------------------|----|--------------------------|----|-----------------------------|----|
| Chemical Resistance | <b>Paint</b>                  |    | Arsenic acid             | R  | Ethyl alcohol, to 15%       | R  |
|                     | Acrylic paints and lacquers   | LR | Battery acid             | R  | Ethyl alcohol, 15-30%       | LR |
|                     | Aromatic-free hydrocarbons    | R  | Benzaldehyde             | NR | Ethyl alcohol, absolute     | NR |
|                     | Nitrocellulose                | NR | Benzene                  | NR | Ethyl bromide               | NR |
|                     | Oil paints, pure              | R  | Bromine                  | NR | Ethyl butyrate              | NR |
|                     | Thinners, general             | NR | Butanol                  | LR | Ethylene bromide            | NR |
|                     | <b>Chemical process baths</b> |    | Butyl lactate            | NR | Ferric chloride             | R  |
|                     | Electroplating baths          | R  | Butyric acid, to 5%      | R  | Ferrous chloride            | R  |
|                     | Photographic baths            | R  | Calcium chloride         | R  | Ferrous sulphate            | R  |
|                     | <b>Building materials</b>     |    | Calcium hypochlorite     | R  | Formic acid, to 2%          | R  |
|                     | Bituminous emulsion           | NR | Carbon disulfide         | NR | Formic acid, to 40%         | LR |
|                     | Cement                        | R  | Carbon tetrachloride     | NR | Glycerol                    | R  |
|                     | Hot bitumen                   | LR | Chlorinated hydrocarbons | NR | Glycol                      | R  |
|                     | Mortar                        | R  | Chlorine, liquid         | NR | Heptane                     | R  |
|                     | Plaster of paris              | R  | Chlorine, water          | LR | Hexane                      | R  |
|                     | Red lead                      | R  | Chloroethyl acetate      | NR | Hydrochloric acid           | R  |
|                     | <b>Chemicals and solvents</b> |    | Chlorophenol             | NR | Hydrofluoric acid, to 20%   | R  |
|                     | Acetic acid, glacial          | NR | Chromic acid             | LR | Hydrogen peroxide, to 40%   | R  |
|                     | Acetic acid, to 25%           | LR | Citric acid, to 20%      | R  | Hydrogen peroxide, over 40% | LR |
|                     | Acetic acid, 5% (vinegar)     | R  | Copper sulphate          | R  | Iodine                      | R  |
|                     | Alum                          | R  | Cresol                   | NR | Isopropyl alcohol, to 50%   | LR |
|                     | Aluminium chloride            | R  | Cyclohexane              | R  | Lactic acid, to 80%         | LR |
|                     | Aluminium oxalate             | R  | Diacetone alcohol        | NR | Magnesium chloride          | R  |
|                     | Aluminium sulphate            | R  | Diamyl phthalate         | LR | Magnesium sulphate          | R  |
|                     | Ammonia, aqueous solution     | R  | Dibutyl phthalate        | NR | Manganese sulphate          | R  |
|                     | Ammonium sulphate             | R  | Diethylene glycol        | R  | Mercury                     | R  |
|                     | Amyl acetate                  | NR | Dioxane                  | NR | Methanol, absolute          | NR |
|                     | Aniline                       | NR | Ether                    | NR | Methanol, to 15%            | LR |
|                     | Arsenic                       | R  | Ethyl acetate            | NR | Methyl ethyl ketone         | NR |
|                     | Methylated spirits            | NR | Tartaric acid, to 50%    | R  | Ice cream                   | R  |

Legend: R Resistant LR Limited Resistance NR Not Resistant

# Chemical resistance continued

## Chemical Resistance

|                          |    |                                 |    |                                    |    |
|--------------------------|----|---------------------------------|----|------------------------------------|----|
| Milk of lime             | R  | Thionyl chloride                | NR | Marinades                          | R  |
| Monobromonaphthalene     | R  | Toluene                         | NR | Meat and fish                      | R  |
| Motor fuel, benzene-free | R  | Triethylamine                   | R  | Salt, pepper, cinnamon, onions     | R  |
| Motor fuel, with benzene | NR | Trichloroacetic acid            | NR | Vinegar                            | R  |
| Nickel sulphate          | R  | Tricresyl phosphate             | R  | Beer, wine, spirits to 30%         | R  |
| Nitric acid, to 20%      | R  | Turpentine                      | LR | Coffee, tea, chocolate             | R  |
| Nitric acid, 20-70%      | LR | Turpentine substitute           | LR | Fruit juices, milk                 | R  |
| Nitric acid, over 70%    | NR | Urea, to 20%                    | R  | Water, mineral water, soda         | R  |
| Oxalic acid              | R  | Xylene                          | NR | <b>Gases and vapours</b>           |    |
| Paraffin                 | LR | Zinc sulphate, aqueous          | LR | Ammonia                            | R  |
| Perchloroethylene        | NR | Zinc sulphate, solid            | R  | Bromine vapour, dry                | LR |
| Petroleum ether          | R  | <b>Disinfectant</b>             |    | Carbon dioxide                     | R  |
| Phenols                  | NR | Aqueous hypochlorite solution   | R  | Carbon monoxide                    | R  |
| Phosphoric acid, to 10%  | R  | Bleaching powder, to 5%         | R  | Chloride vapour, dry               | LR |
| Phosphorus trichloride   | NR | Carbolic acid                   | NR | Exhaust gases, incl HCl            | R  |
| Phosphorus               | NR | Hydrogen peroxide, to 40%       | R  | Exhaust gases, incl HF             | R  |
| Picric acid, 1% in water | R  | Hydrogen peroxide, over 40%     | LR | Exhaust gases, incl sulphuric acid | R  |
| Potassium dichromate     | R  | Lugol solution                  | R  | Hydrogen sulphide                  | R  |
| Potassium carbonate      | R  | Mercuric chloride               | R  | Methane                            | R  |
| Potassium chloride       | R  | Surgical spirit                 | NR | Nitric oxide                       | R  |
| Potassium cyanide        | R  | Tincture of iodine, 5%          | NR | Oxygen                             | R  |
| Potassium hydroxide      | R  | <b>Greases, oils and waxes</b>  |    | Ozone                              | R  |
| Potassium nitrate        | R  | Animal                          | R  | Sulphur dioxide, dry               | R  |
| Potassium permanganate   | R  | Mineral                         | R  | Natural Gas, Butane                | R  |
| Silicon tetrachloride    | NR | Silicone oil                    | LR | <b>Cleaning agents</b>             |    |
| Silver nitrate           | R  | Vegetable                       | LR | Also refer chemicals & solvents    |    |
| Sodium bisulphite        | R  | <b>Plastics</b>                 |    | Alcohol, to 30%                    | R  |
| Sodium carbonate         | R  | Foams                           | R  | Alcohol, absolute                  | NR |
| Sodium chlorate          | R  | Foams, containing plasticizer   | NR | Petrol, pure                       | R  |
| Sodium chloride          | R  | Polyamide                       | R  | Petrol mixture, with benzene       | NR |
| Sodium hydroxide         | R  | Polyethylene                    | R  | Soap solution                      | R  |
| Sodium hypochlorite      | R  | PVC                             | R  | Soda solution                      | R  |
| Sodium sulphate          | R  | PVC, plasticized                | NR | Solvent stain removers             | NR |
| Sodium sulphide          | R  | Rubber                          | R  | Trichloroethylene                  | NR |
| Stearic acid             | R  | Rubber, containing plasticizer  | NR | <b>Pest control agents</b>         |    |
| Sulphur                  | R  | <b>Foodstuffs and beverages</b> |    | Aqueous solutions of pesticides    | LR |
| Sulphur dioxide, liquid  | NR | Aniseed, bay, nutmeg            | R  | <b>Other</b>                       |    |
| Sulphuric acid, to 30%   | R  | Cloves                          | NR | Nail polish, nail polish remover   | NR |
| Sulphurous acid, conc.   | LR | Coffee beans, unflavoured       | R  | Sea water                          | R  |
| Sulphurous acid, to 5%   | R  | Coffee beans, flavoured         | LR | Soaps                              | R  |
| Sulphuryl chloride       | R  | Honey, pure                     | R  | Sprays                             | LR |

