

## RESISTANCE TO CHEMICAL ENVIRONMENT

The figures indicate the temperature of test medium resistance to continuing exposure by before page standardization.

| Chemical Environment                     | Concentration % | Temperature (°C) |       |
|------------------------------------------|-----------------|------------------|-------|
|                                          |                 | Epoxy            | Vinyl |
| ACETALDEHYDE                             |                 | NR               | NR    |
| ACETIC ACID                              | 10              | 79               | 93    |
| ACETIC ACID                              | 20              | 52               | 90    |
| ACETIC ACID                              | 50              | NR               | 71    |
| ACETIC ACID                              | 75              | NR               | 60    |
| ACETIC ACID, GLACIAL                     |                 | NR               | NR    |
| ACETONE                                  | 1               | 38               | -     |
| ACETONE                                  | 10              | NR               | NR    |
| ACRYLIC ACID                             | 25              | NR               | 38    |
| AIR, WET OR DRY                          |                 | 93               | -     |
| ALUMINUM CHLORIDE                        | 1               | 93               | 90    |
| ALUMINUM NITRATE                         | 25              | 66               | 71    |
| ALUMINUM SULPHATE                        | 25              | 68               | 60    |
| ALUM                                     | ALL             | 68               | 90    |
| AMMONIUM CHLORIDE                        | 25              | 66               | 90    |
| AMMONIUM HYDROXIDE (as NH <sub>3</sub> ) | 30              | -                | 40    |
| AMMONIUM HYDROXIDE (as NH <sub>3</sub> ) | 100             | -                | -     |
| AMMONIUM NITRATE                         | 25              | 66               | 90    |
| AMMONIUM PHOSPHATE                       | 25              | 66               | 90    |
| AMMONIUM SULPHATE                        | 25              | 66               | 90    |
| AMYL ACETATE                             | 1               | 24               | NR    |
| AMYL ACETATE                             | 10              | NR               | NR    |
| ANILINE                                  | ALL             | NR               | NR    |
| BARIUM CHLORIDE                          | 25              | 66               | 90    |
| BARIUM HYDROXIDE                         | 5               | 21               | 60    |
| BARIUM TETRASULFIDE                      | 25              | NR               | -     |
| BEER                                     |                 | 60               | 46    |
| BENZENE                                  | 1               | 52               | NR    |
| BENZENE                                  | 10              | 21               | NR    |
| BENEZENE SULFONIC ACID                   | 50              | NR               | 60    |
| BENZOIC ACID                             | ALL             | 60               | 90    |
| BLACK LIQUOR (PULP MILL)                 |                 | 38               | 79    |
| BORIC ACID (ORTHO)                       | 5               | 66               | 90    |
| BROMINE                                  | 5               | NR               | 40    |
| BROMINE WATER                            | 5               | NR               | 79    |
| BUTANE                                   | 100             | 24               | 37    |

| Chemical Environment     | Concentration<br>% | Temperature (°C) |       |
|--------------------------|--------------------|------------------|-------|
|                          |                    | Epoxy            | Vinyl |
| BUTANOL                  | ALL                | 24               | 37    |
| BUTYL ACETATE            | 100                | 24               | NR    |
| BUTYL CALLOSOLVE         |                    | 24               | NR    |
| BUTYRIC ACID             | 25                 | 24               | 71    |
| CALCIUM BISULFITE        | ALL                | 38               | 79    |
| CALCIUM CHLORIDE         | 37                 | 66               | 90    |
| CALCIUM HYPOCHLORITE     | 5                  | 38               | 71    |
| CALCIUM NITRATE          | 25                 | 66               | 90    |
| CARBON DIOXIDE, DRY      |                    | 93               | 99    |
| CARBON DIOXIDE, WET      |                    | 66               | 99    |
| CARBON TETRACHLORIDE     | 100                | NR               | 27    |
| CASTOR OIL               | 100                | 93               | 90    |
| CHLORACETIC ACID         | 10                 | NR               | 27    |
| CHLORINE GAS, WET        |                    | NR               | 82    |
| CHLORINATED WATER        | 1000 ppm           | 66               | 79    |
| CHLOROBENZENE            | 100                | NR               | NR    |
| CHLOROFORM               | 1                  | 24               | NR    |
| CHLOROFORM               | 10                 | NR               | NR    |
| CITRIC ACID              | 25                 | 66               | 90    |
| COPPER CHLORIDE          | 25                 | 93               | 90    |
| COPPER NITRATE           | 25                 | 38               | 90    |
| COPPER SULPHATE          | 25                 | 66               | 90    |
| CRUDE OIL, SWEET OR SOUR |                    | 93               | 90    |
| DICHLOROBENZENE (ORTHO)  | 100                | NR               | NR    |
| DIESEL FUEL              | 100                | 66               | 79    |
| DIETHYLENE TRIAMINE      | 1                  | 24               | NR    |
| DIETHYLENE TRIAMINE      | 10                 | NR               | NR    |
| ETHANOL                  | 100                | 24               | -     |
| ETHYL ACETATE            | 100                | NR               | NR    |
| ETHYLENE GLYCOL          | ALL                | 88               | 90    |
| FERRIC CHLORIDE          | ALL                | 66               | 90    |
| FERRIC NITRATE           | 10                 | 38               | 90    |
| FERRIC SULPHATE          | 10                 | 66               | 90    |
| FERROUS CHLORIDE         | 25                 | 66               | 90    |
| FERROUS SULPHATE         | ALL                | 66               | 90    |
| FORMALDEHYDE             | 37                 | NR               | 27    |
| FUEL OIL                 | 100                | 56               | -     |
| GASOLINE, ALL TYPES      | 100                | 60               | -     |
| GLUCOSE                  | ALL                | 52               | 90    |
| GLYCERIN                 | ALL                | 93               | 90    |

| Chemical Environment                 | Concentration<br>% | Temperature (°C) |       |
|--------------------------------------|--------------------|------------------|-------|
|                                      |                    | Epoxy            | Vinyl |
| HYDRAZINE                            | 100                | -                | -     |
| HYDRAULIC FLUID (NEUTRAL)            |                    | 38               | 90    |
| HYDROBROMIC ACID                     | 10                 | 24               | 93    |
| HYDROBROMIC ACID                     | 50                 | NR               | 40    |
| HYDROCHLORIC ACID                    | 3                  | 66               | 99    |
| HYDROCHLORIC ACID                    | 10                 | 52               | 99    |
| HYDROCHLORIC ACID                    | 20                 | 24               | 93    |
| HYDROCHLORIC ACID                    | 37                 | LS               | 38    |
| HYDROFLUORIC ACID                    |                    | NR               | 21    |
| HYDROGEN CHLORIDE (DRY)              | 100                | 38               | 90    |
| HYDROGEN PEROXIDE                    | 10                 | NR               | 38    |
| HYDROGEN SULFIDE (DRY)               | 100                | 66               | 79    |
| HYDROGEN SULFIDE<br>(WET ,SATURATED) | 100                | 52               | 79    |
| ISOPROPYL ALCOHOL                    | 10                 | 38               | 27    |
| ISOPROPYL ALCOHOL                    | 100                | 24               | 27    |
| JET FUEL                             | 100                | 66               | 49    |
| KEROSENE                             |                    | 66               | 71    |
| LACTIC ACID                          | ALL                | 66               | 27    |
| LEAD ACETATE                         | ALL                | 88               | 79    |
| LINSEED OIL                          |                    | 93               | 90    |
| LIME SLURRY                          |                    | 38               | -     |
| MAGNESIUM CHLORIDE                   |                    | 93               | 90    |
| MAGNESIUM NITRATE                    | 10                 | 66               | 90    |
| MAGNESIUM SULPHATE                   | 10                 | 93               | 90    |
| MALEIC ACID                          | 10                 | 66               | 90    |
| METHANOL                             | 10                 | 38               | NR    |
| METHANOL                             | 100                | NR               | NR    |
| METHYLENE CHLORIDE                   | 1                  | NR               | NR    |
| METHYLENE CHLORIDE                   | 10                 | NR               | NR    |
| METHYL ETHYL KETONE                  | 1                  | 24               | NR    |
| METHYL ETHYL KETONE                  | 100                | NR               | NR    |
| METHYL ISOBUTYL KETONE               | 100                | NR               | NR    |
| MINERAL OIL                          |                    | 93               | 90    |
| MINERAL SPIRITS                      | 100                | 24               | 104   |
| MUD ACID (8 hr. maximum exposure)    | 5                  | 52               | -     |
| NAPHTHA                              | 100                | 38               | 46    |
| NATURAL GAS                          |                    | 79               | -     |
| NICKEL CHLORIDE                      | 25                 | 66               | 90    |
| NICKEL NITRATE                       | 25                 | 38               | 90    |

| Chemical Environment                | Concentration<br>% | Temperature (°C) |       |
|-------------------------------------|--------------------|------------------|-------|
|                                     |                    | Epoxy            | Vinyl |
| NITRIC ACID                         | 1                  | 49               | 90    |
| NITRIC ACID                         | 5                  | NR               | 71    |
| NITRIC ACID                         | 10                 | NR               | 49    |
| OLEIC ACID                          | ALL                | 66               | 90    |
| OXALIC ACID                         | ALL                | 66               | 90    |
| PERCHLOROETHYLENE                   | 100                | 21               | 27    |
| PHENOL                              | <1                 | 24               | 27    |
| PHENOL                              | >1                 | NR               | NR    |
| PHOSPHORIC ACID                     | 10                 | 52               | 99    |
| PHOSPHORIC ACID                     | 30                 | 38               | 99    |
| PHOSPHORIC ACID                     | 50                 | 21               | 99    |
| PICKLING ACID                       |                    | 38               | -     |
| POTASSIUM BICARBONATE               | 20                 | 38               | 46    |
| POTASSIUM BROMIDE                   | 25                 | 93               | 90    |
| POTASSIUM CARBONATE                 | 14                 | NR               | 46    |
| POTASSIUM CHLORIDE                  | 25                 | 93               | 90    |
| POTASSIUM DICHROMATE                | 3                  | 24               | 90    |
| POTASSIUM NITRATE                   |                    | 66               | 90    |
| POTASSIUM PERMANGANATE              | 5                  | 24               | 90    |
| POTASSIUM SULPHATE                  | 10                 | 38               | 90    |
| PROPANE                             |                    | 52               | -     |
| PROPYLENE GLYCOL                    | ALL                | 82               | 90    |
| SOAPS                               | ALL                | 93               | 60    |
| SODIUM ACETATE                      | 25                 | 93               | 90    |
| SODIUM BICARBONATE                  | 5                  | 52               | 46    |
| SODIUM BISULPHATE                   | ALL                | 82               | 90    |
| SODIUM BROMIDE                      | 25                 | 82               | 90    |
| SODIUM CARBONATE                    | 10                 | 24               | 82    |
| SODIUM CARBONATE                    | 25                 | NR               | 71    |
| SODIUM CHLORIDE                     | ALL                | 93               | 90    |
| SODIUM DICHROMATE                   | 25                 | 24               | 90    |
| SODIUM HYDROXIDE                    | 5                  | NR               | 71    |
| SODIUM HYDROXIDE                    | 10                 | NR               | 66    |
| SODIUM HYDROXIDE                    | 25                 | NR               | 66    |
| SODIUM HYDROXIDE                    | 50                 | NR               | 93    |
| SODIUM HYPOCHLORITE                 | ALL                | NR               | 66    |
| SODIUM NITRATE                      | 25                 | 38               | 90    |
| SODIUM NITRATE                      | 50                 | 38               | 90    |
| SODIUM PHOSPHATE (mono,bi.tribasic) | <0.5               | -                | 100   |
| SODIUM SULPHATE                     | 10                 | 38               | 90    |

| Chemical Environment                           | Concentration<br>% | Temperature (°C) |       |
|------------------------------------------------|--------------------|------------------|-------|
|                                                |                    | Epoxy            | Vinyl |
| SODIUM SULFIDE                                 | 10                 | 24               | 90    |
| SODIUM SULFITE                                 | 10                 | 38               | 90    |
| SODIUM THIOSULPHATE                            | 25                 | NR               | 90    |
| STANNIC CHLORIDE                               | 25                 | 38               | 90    |
| STERIC ACID                                    | ALL                | 63               | 99    |
| STYRENE                                        | 100                | NR               | NR    |
| SULFAMIC ACID                                  | 25                 | 26               | 66    |
| SULPHUR DIOXIDE, DRY                           |                    | 66               | 93    |
| SULPHUR DIOXIDE, WET                           |                    | 66               | 93    |
| SULPHURIC ACID                                 | 3                  | 52               | 99    |
| SULPHURIC ACID                                 | 10                 | 38               | 99    |
| SULPHURIC ACID                                 | 25                 | NR               | 99    |
| SULPHURIC ACID                                 | 50                 | NR               | 90    |
| TANNIC ACID                                    | 15                 | 66               | 90    |
| TARTARIC ACID                                  | 10                 | 66               | 90    |
| TARTARIC ACID                                  | 15                 | 66               | 90    |
| TOULENE                                        | 100                | NR               | NR    |
| TRANSFORMER OIL                                |                    | 24               | 90    |
| TRIETHANOLAMINE                                | 100                | NR               | 49    |
| TURPENTINE                                     | 100                | 26               | 66    |
| UREA                                           | 25                 | NR               | 66    |
| VINEGAR                                        |                    | 66               | 93    |
| WATER, CHLORINATE                              | 100 ppm.           | 77               | -     |
| WATER, DIONIZED                                |                    | 52               | 82    |
| WATER, DIMINERALIZED or<br>CLOSED LOOP HEATING |                    | 38               | 99    |
| WATER. DISTILLED                               |                    | 38               | 93    |
| WATER, BRINE                                   |                    | 77               | -     |
| WATER, HARD                                    |                    | 77               | -     |
| WATER, SALT.                                   | ALL                | 77               | -     |
| WATER, SEA                                     |                    | 77               | 99    |
| XYLENE                                         | 10                 | 23               | NR    |
| XYLENE                                         | 100                | NR               | NR    |
| ZINC CHLORIDE                                  | 25                 | 66               | 90    |
| ZINC SULPHATE                                  | 25                 | 66               | 90    |