

## **CHEMICAL RESISTANCE** **TABLES**

ADD Resins and Chemicals (Pty) Ltd Distribute a comprehensive range of unsaturated polyester resins for chemical resistance applications. The resins recommended for chemical resistance are

1. A008-WTA - General Purpose orthophthalic based resins
2. B011-WTA - DCPD based resin.
3. C002-UTA - Isophthalic acid based resin with good chemical resistance properties

### **LAMINATING RESINS:**

ORTHO SERIES	A008-WTA
DCPD SERIES	B011-WTA
ISO SERIES	C002-UTA

The chemical resistance table shows the maximum working temperatures to which the chemical resistance laminates should be exposed. The side of the laminate exposed to the chemical environment should always be a resin rich layer reinforced with synthetic tissue. The data has been determined from a number of sources including case histories, laboratory tests and practical experience. It is emphasised, however, that this information is only intended to serve as a guide to the resistance of fully cured laminates. It should be pointed out that the reinforcement type, fabrication technique, laminate quality, design, exposure conditions, loadings both static and dynamic, all play their part in environmental resistance.

Laminates must be post cured in order to develop their maximum chemical resistance and heat deflection temperature. Mouldings should be allowed to stand for at least 24 hours then post cured for minimum of 3 hours at 80°C. If operating temperature of the article is to be above 80°C then the post cure temperature must be at the operating temperature.

To the best of our knowledge, these are reliable but made without any representation of guarantee or warranty of accuracy and are made with reservation of all patent rights. Our products are sold on condition that the users themselves carry out their own tests to determine the applicability of the information and suitability of our resins for their particular requirements

**CHEMICAL RESISTANCE TABLE**
**MAXIMUM WORKING TEMPERATURES ° C**

<b>CHEMICAL</b>	<b>%</b>	<b>B011- WTA</b>	<b>A008- WTA</b>	<b>C002- UTA</b>
ACETIC ACID	GLACIAL	NR	NR	NR
ACETIC ACID	98 75 50 25 10	NR NR NR NR NR	NR NR NR NR NR	NR NR 20 40 60
ACETONE	100 10	NR NR	NR NR	NR 25
ALCOHOLS AMYL BUTYL ETHYL METHYL		20 20 NR NR	20 20 NR NR	40 35 30 30
ALUMINUM POTASSIUM SULPHATE*	SAT	40	40	60
AMMONIUM BROMATE*	SAT	40	40	65
AMMONIUM CARBONATE*	5 100	20 NR	20 NR	40 NR
AMMONIUM CHLORIDE	50 100	40 40	40 40	60 60
AMMONIUM NITRATE	100	30	30	60
AMMONIUM SULPHATE*	SAT	40	40	60
AMYL ACETATE	100	NR	NR	20
ANILINE	100	NR	NR	NR
ANTIMONY TRICHLORIDE	100	NR	NR	20
BARIUM CHLORIDE	100	40	40	60
BENZALDEHYDE	100	NR	NR	NR
BENZOIC ACID	AQUEOUS	40	40	60
BRINE		40	40	60
BUTYL ACETATE	100	NR	NR	NR

<b>CHEMICAL</b>	<b>%</b>	<b>B011- WTA</b>	<b>A008- WTA</b>	<b>C002- UTA</b>
CARBON DISULPHIDE	100	NR	NR	NR
CARBON TETRACHLORIDE	100	NR	NR	20
CHLORO ACETIC ACID	100 50 25	NR NR NR	NR NR NR	NR NR 20
CHLORINE WATER	SAT	NR	NR	25
CHLOROBENZENE	100	NR	NR	NR
CHROMIC ACID	10 20 50	25 NR NR	25 NR NR	40 20 20
CITRIC ACID	SAT	40	40	60
COPPER CHLORIDE	SAT	20	20	60
COPPER CYANIDE	SAT	20	20	60
COPPER SULPHATE	SAT	20	20	60
DIESEL OIL	100	30	30	40
DIETHYLENE GLYCOL	100	20	20	60
DIETHYL KETONE	100	NR	NR	NR
DIETHYL FORMAMIDE	100	NR	NR	NR
DIMETHYL FORMAMIDE	100	NR	NR	NR
DIMETHYL PHTHALATE	100	30	30	50
DIPROPYLENE GLYCOL	100	20	20	60
ETHYL ACETATE	100	NR	NR	NR
ETHYL ACRYLATE	100	NR	NR	NR
ETHYLENE CHLOROXYDRIN	50 100	NR NR	NR NR	60 60
ETHYLENE GLYCOL	100	30	30	60
FERRIC CHLORIDE	SAT	30	30	60
FERRIC NITRATE	SAT	30	30	60
FERROUS SULPHATE	SAT	30	30	60

<b>CHEMICAL</b>	<b>%</b>	<b>B011- WTA</b>	<b>A008- WTA</b>	<b>C002- UTA</b>
FORMALDEHYDE	10	20	20	60
FURFURAL	5 25	NR NR	NR NR	NR NR
GLYCERINE	100	40	40	60
HEPTANE	100	20	20	30
HEXANE	100	20	20	30
HYDROBROMIC ACID	20 48	30 20	30 20	60 50
HYDROCHLORIC ACID	10 25 35	30 25 NR	30 25 NR	60 50 30
HYDROGEN CHLORIDE GAS	100	30	30	60
HYDROGEN PEROXIDE	20 VOL 100 VOL	NR NR	NR NR	30 NR
HYDROGEN SULPHIDE GAS	100	35	35	50
IODINE	2	NR	NR	NR
ISO-OCTANE	100	20	20	30
ISO PROPYL GLYCOL	100	NR	NR	20
KEROSENE (DOMESTIC)	100	25	25	40
LACTIC ACID	50	30	30	50
LEAD ACETATE	SAT	35	35	60
LINSEED OIL	100	55	55	80
LUBRICATING OIL	100	30	30	60
MAGNESIUM CARBONATE	SAT	35	35	60
MAGNESIUM CHLORIDE	SAT	35	35	60
MAGNESIUM NITRATE	SAT	35	35	60
MALEIC ACID SOLN	SAT	30	30	60
METHYLENE CHLORIDE	100	NR	NR	NR
METHYL ETHYL KETONE	100	NR	NR	NR

<b>CHEMICAL</b>	<b>%</b>	<b>B011- WTA</b>	<b>A008- WTA</b>	<b>C002- UTA</b>
METHYL METHACRYLATE	100	NR	NR	NR
MONOCHLORO BENZENE	100	NR	NR	NR
NAPHTHALENE	100	20	20	35
NICKEL CHLORIDE SOLN	SAT	35	35	60
NICKEL NITRATE SOLN	SAT	35	35	60
NICKEL SULPHATE SOLN	SAT	35	35	60
NITRIC ACID	5 10 20 40	30 20 NR NR	30 20 NR NR	50 40 NR NR
NITRO BENZENE	100	NR	NR	NR
OLEIC ACID	100	35	35	50
OLEUM		NR	NR	NR
OXALIC ACID SOLN	SAT	35	35	55
PERCHLORIC ACID SOLN	25	NR	NR	NR
PETROL LEAD FREE	100	NR	NR	NR
PHENOL SOL	SAT	NR	NR	NR
PHOSPHORIC ACID	50 65	35 35	35 35	60 60
PHTHALIC ANHYDRIDE SOLN	SAT	35	35	55
POTASSIUM CARBONATE SOLN	10 40	NR NR	NR NR	20 NR
POTASSIUM CHLORIDE SOLN	SAT	35	35	60
POTASSIUM CHROMATE SOLN	SAT	25	25	60
POTASSIUM FERRICYANIDE	SAT	35	35	60
POTASSIUM FERROCYANIDE	SAT	35	35	60
POTASSIUM HYDROXIDE	30	NR	NR	NR
POTASSIUM PERMANGANATE SOLN	SAT	NR	NR	20
POTASSIUM PHOSPHATE SOLN	SAT	35	35	60

CHEMICAL	%	B011- WTA	A008- WTA	C002- UTA
POTASSIUM SULPHATE SOLN	SAT	35	35	60
PROPOLENE GLYCOL	100	30	30	60
PYRIDINE	100	NR	NR	NR
SILVER NITRATE SOLN	SAT	NR	NR	30
SODIUM ACETATE SOLN	SAT	35	35	60
SODIUM BICOBINATE SOLN	SAT	35	35	60
SODIUM CARBONATE SOLN	10 25	NR NR	NR NR	25 20
SODIUM CHLORIDE SOLN	SAT	35	35	60
SODIUM FERRICYANIDE	SAT	30	30	60
SODIUM HYDROXIDE SOLN	5	NR	NR	NR
SODIUM HYPROCHLORITE AQUEOUS SOLUTION (14%ACTIVECl <sub>2</sub> )		NR	NR	NR
SODIUM NITRATE SOLN	SAT	NR	NR	60
SODIUM NITRITE SOLN	SAT	NR	NR	60
SODIUM PERBORATE	SAT	NR	NR	60
SODIUM PERCHLORATE	SAT	NR	NR	60
SODIUM PHOSPHATE	SAT	35	35	60
SODIUM SULPHATE	SAT	40	40	65
SODIUM SULPHIDE	SAT	40	40	65
SODIUM SULPHITE	SAT	40	40	65
STANNOUS CHLORIDE	SAT	35	35	60
STEARIC ACID		35	35	60
STYRENE	100	NR	NR	NR
SULPHURIC ACID	25 50 75 98	35 35 NR NR	35 35 NR NR	60 60 NR NR
TANNIC ACID SOLN	SAT	35	35	60

<b>CHEMICAL</b>	<b>%</b>	<b>B011- WTA</b>	<b>A008- WTA</b>	<b>C002- UTA</b>
TARTARIC ACID SOLN	SAT	35	35	60
TETRACHLOROETHYLENE	100	NR	NR	NR
TETRAHYDROFURAN	100	NR	NR	NR
THIONYL CHLORIDE	100	NR	NR	NR
WATER	100	35	35	60
WHITE SPIRIT	100	25	25	35
XYLENE	10	NR	NR	NR
ZINC CHLORIDE SOLN	SAT	35	35	60
ZINC NITRATE SOLN	SAT	NR	NR	60
ZINC SULPHATE SOLN	SAT	35	35	60