

ADDupol™ A002-WTA

**FAST WET-OUT,
GENERAL - PURPOSE,
POLYESTER RESIN**

DESCRIPTION

A002-WTA is a rigid, medium reactivity, thixotropic, orthophthalic unsaturated polyester resin that is **LLOYDS APPROVED**. A002-WTA is pre-accelerated and of medium cure rate.

A002-WTA is designed for hand lay-up and spray applications. This resin is ideal for use in marine applications, automotive components and general industrial mouldings.

FEATURES

- Low viscosity
- Thixotropic
- Non air-inhibited
- Specially promoted
- Lloyds approved
- SABS 713-1974 Grade R approved
- Heat Distortion Temperature above 80 °C
- Good colour

BENEFITS

- Excellent glassfibre wet-out
- Minimal drainage
- Cures to a tack-free finish
- Predictable geltime and cure rate
- Meets international quality standards
- Meets national quality standards
- Good heat resistance
- Readily pigmentable

The information herein is to assist customers in determining whether our products are suitable for their applications. Our products are intended for sale to industrial and commercial customers. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute any other warranty expressed or implied, including any warranty of merchantability or fitness, nor is protection from any law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is replacement of our materials, and in no event shall we be liable for special, incidental, or consequential damages. Our standard conditions of contract will apply to all sales

TYPICAL LIQUID PROPERTIES

PROPERTY	SPECIFICATION
Relative density 25°/25°C	1,09 - 1,11
Viscosity @ 25°C, mPa.s	390 - 600
Thixotropic index, ratio	1.8 – 3.0
Acid value, mg KOH/g	< 27
Volatile content, %	43 - 46
Geltime @ 25°C, using 2 phr* BUTANOX M50, minutes	10 - 13
Liquid appearance	Opaque pink
Stability in the dark @ 25°C,	6 minimum

*phr = parts per hundred resin, by mass.

CURING CHARACTERISTICS

A002-WTA needs only the addition of catalyst to start the curing reaction. The resin must be allowed to attain workshop temperature (23°C) before being formulated for use. The correct amount of catalyst is therefore added and thoroughly stirred into the resin shortly before use.

The ambient temperature and the amount of catalyst control the geltime of the resin formulation. This can be approximately determined from the table below which shows the geltime of 100 parts by mass of A002-WTA, containing 1 to 2 phr BUTANOX M50.

GELTIME (MINUTES)

Parts of BUTANOX M50 to 100 Parts A002-WTA	1	1.5	2
Geltime @ 15°C, minutes	NR	45	33
Geltime @ 20°C, minutes	42	25	19
Geltime @ 25°C, minutes	23	14	11
Geltime @ 30°C, minutes	14	9	7

Curing should not be carried out at temperatures below 15°C. Ideally, the catalyst level should range between 1 and 2 phr.

POST-CURING

Many satisfactory laminates can be made from A002-WTA by curing at ambient temperature (but not less than 15°C). When optimum properties and long-term performance are required however, the laminate should be post-cured.

After release from the mould, laminates should be allowed to mature for 24 hours at workshop temperature (23°C). They should then be post-cured for 3 hours at 80°C, although a longer period at a lower temperature will give almost the same result. The post-cure is most effective if it is carried out immediately after the 24 hour maturing period.

PIGMENTS AND FILLERS

A002-WTA can be pigmented by the addition of up to 5% PIGMENT PASTE, but lower quantities consistent with achieving adequate hiding power are preferred if the physical properties of the cured laminate are to be maintained.

The addition of fillers to A002-WTA is likely to change the hardening characteristics of the resin and will affect the properties of the laminate. Fillers should be accurately checked for moisture content and effect on geltime and cure rate before use.

TYPICAL PHYSICAL PROPERTIES

Typical Properties of A002-WTA (unfilled castings) Prepared, post-cured and tested in accordance with SABS 713-1974, as amended	
Temperature of deflection - under load (1,80 MPa), °C	90
Water absorption:	
a) Increase in mass after 28 days immersion, mg	100
b) Loss in mass after drying, mg	45
Barcol (GYZJ 934-1) hardness	45
Tensile strength, MPa	76
Flexural strength, MPa	84
Flexural modulus, MPa	3 930
Compressive strength, MPa	152

Typical Properties of Cured A002-WTA Standard Glass Cloth Laminate	
Prepared, post-cured and tested in accordance with SABS 713-1974, as amended	
Glass content, % m/m	60-65
Flexural Strength:	
a) At 23°C - original, MPa	600
b) At temperature of deflection - after ageing, MPa	500

STORAGE AND HANDLING

To ensure maximum stability and maintain optimum resin properties, polyester resins should be stored in closed containers maintained below 25°C and away from heat sources and sunlight. All storage should conform to local fire and building codes. Drum stock should be kept to a reasonable minimum with first-in, first-out stock rotation.

Where bung-in-head containers are stored outside it is recommended that these be stored in a horizontal position to avoid the ingress of water.

STANDARD PACKAGE

Non-returnable metal drums.
 Bulk supplies can be delivered by road tanker.

**ADD RESINS BRANCHES AT:
 JOHANNESBURG / DURBAN / CAPE TOWN**

POLYESTER SAFETY INFORMATION

All sales of products supplied by ADD Resins (Pty) Ltd and described herein are made solely on condition that our customers comply with applicable health and safety laws, regulations and orders relating to the safe handling of our products in the workplace. Before using, read the following information and both the product label and Material Safety Data Sheet pertaining to each product.

Most polyester products contain styrene. Styrene can cause eye, skin and respiratory tract irritation. Avoid contact with eyes, skin and clothing. Impermeable gloves, safety eyewear and protective clothing should be worn during use to avoid skin and eye contact. Wash personal protective equipment thoroughly after use.

Styrene is a solvent and may be harmful if inhaled. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Extended exposure to styrene at concentrations above the recommended exposure limits may cause central nervous system depression causing dizziness, headaches or nausea and if overexposure is continued indefinitely, loss of consciousness, liver and kidney damage.

Do not breathe or ingest vapour, spray mists and dusts caused by applying, sanding, grinding and sawing polyester products. Wear an appropriate OSHA approved, properly fitted respirator during application and use of these products until vapours, mists and dusts are exhausted, unless air monitoring demonstrates vapours, mists and dusts are below applicable exposure limits. Follow respirator manufacturer's directions for respirator use.

The International Agency for Research on Cancer (IARC) has reclassified styrene as Group 2B "possibly carcinogenic to humans". This new classification is not based on new health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Centre does not agree with the reclassification and has published the following statement: Recently published studies tracing 50 000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene.

Styrene is classified by OSHA and the Department of Transport as a flammable liquid. Flammable polyester products should be kept away from heat, sparks and flame. Lighting and other electrical systems in the workplace should be vapour-proof and protected from breakage.

Vapours from styrene may cause flash fire. Styrene vapours are heavier than air and may concentrate in the lower levels of moulds and the work area. General clean air dilution or local exhaust ventilation should be provided in volume and pattern to keep vapours well below the lower explosion limit and all air contaminants (vapour, mists, dusts) below the current permissible exposure limits in the mixing, application, curing and repair areas.

Some polyester products may contain additional hazardous ingredients. To determine the hazardous ingredients present, their applicable exposure limits and other safety information, read the Material Safety Data Sheet for each product (identified by product code) before using.

FIRST AID: In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapours or spray mist, remove to fresh air. If swallowed, get medical attention.

Polyester products have at least two components that must be mixed before use. Any mixture of components will have hazards of all components. Before opening the packages, read all warning labels. Observe all precautions.

Keep polyester containers closed when not in use. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Emptied containers may retain hazardous residue. Do not cut, puncture or weld on or near these containers. Follow container label warnings until containers are thoroughly cleaned or destroyed.

FOR INDUSTRIAL USE AND PROFESSIONAL APPLICATION ONLY. KEEP OUT OF REACH OF CHILDREN.

DISCLAIMER AND LIMITATION OF LIABILITY

The products sold hereunder shall meet Seller's applicable specifications at the time of shipment. Seller's specifications may be subject to change at any time without notice to Buyer. Buyer must give Seller notice in writing of any alleged defect covered by this warranty (together with all identifying details, including the product code(s), description and date of purchase) within thirty (30) days of the date of shipment of the product or prior to the expiration of the shipment's quality life, whichever occurs first. The warranty described herein shall be in lieu of any other warranty, express or implied, including but not limited to, any implied warranty or merchantability or fitness for a particular purpose. There are no warranties that extend beyond the description on the face hereof.

The Buyer's sole and exclusive remedy against Seller shall be for the replacement of the product or refund of the purchase price in the event that a defective condition of the product should be found to exist by Seller. No other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available to the Buyer.

The sole purpose of this exclusive remedy shall be to provide Buyer with replacement of the product or refund of the purchase price of the product if any defect in material or workmanship is found to exist. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Seller is willing and able to replace the defective products or refund the purchase price.

Final determination of the suitability of the material for the use contemplated, the manner of use and whether the suggested use infringes any patents is the sole responsibility of the Buyer.