



A01-U-N

FLEXIBLE CASTING RESIN

DESCRIPTION A01-U-N is a clear, pre-accelerated, low-reactivity, orthophthalic unsaturated polyester resin. A01-U-N is unwaxed and non-thixotropic. Casting made from this resin shows excellent impact resistance and toughness.

APPLICATIONS A01-U-N is applicable for filled castings.

CHARACTERISTICS	Flexible	Excellent impact resistance. Excellent toughness.
	Low reactivity	Low exotherms.
	Pre-accelerated	Requires addition of catalyst only.

VARIANT **A02-U-N** is a slower gel, lower viscosity version, which is better suited for large filled systems.

LIQUID PROPERTIES	PROPERTY	SPECIFICATION
	Viscosity @ 25°C (Cone & Plate, poise)	5 – 8
	Geltime @ 25°C (2% m/m Luperox K1, minutes)	7 – 9
	Cure time (minutes)	15 – 20
	Peak Exotherm (°C)	155 – 175
	Specific gravity (g/cm ³)	1.08 – 1.10
	Non-volatile content (%)	65 – 70
	Acid value (mg KOH/g)	16 – 26
	Liquid appearance	Pale pink
	Stability in the dark @ 25°C (months)	6

CURING CHARACTERISTICS A01-U-N should be allowed to attain workshop temperature (18 - 25°C) before use. The recommended catalyst is Luperox K1 at 2% by resin mass to start the curing reaction. The ambient temperature and amount of catalyst will control the geltime of the resin.

Under no circumstances should less than 1% MEKP be used to cure this unsaturated polyester. Ensure that the catalyst is thoroughly dispersed in the resin to prevent uneven or under cured areas which may lead to product failure. Curing should not be carried out below 15°C.



PHYSICAL PROPERTIES

Properties of a Cured A01-U-N Unfilled Casting

Performed on a 3 mm unfilled casting, post-cured as above and tested in accordance with SANS 713-2000 and BS2782.

Deflection temperature under load (264 psi, °C)	40
Tensile strength (MPa)	40
Flexural strength (MPa)	89
Barcol (GYZJ 934-1) hardness	40

PIGMENTS AND FILLERS

The affect of fillers on the geltime and cure rate of the resin should be determined before commencing with full-scale production. Fillers will also affect the physical properties of the casting.

STORAGE

A01-U-N should be stored in closed containers away from direct sunlight and other heat sources. The recommended storage temperature is below 25°C. In the case of outside storage, containers should be stacked in a horizontal position to avoid the ingress of water.

PACKAGING

A01-U-N is supplied in 230kg non-returnable drums.

HEALTH AND SAFETY

A Material Safety Data Sheet can be obtained through your ADD Resins representative.

**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.