Technical Information

ATPRIME® 2

NDS653/REV02

SECONDARY BONDING AGENT

DESCRIPTION

ATPRIME® 2 is a two-component urethane-based primer system developed to enhance adhesion to FRP in secondary laminating operations, including bonding to non-air-inhibited surfaces. The material is applied with a brush or roller to prepared surfaces. Bonding is formed chemically.

ATPRIME® 2 significantly improves interlaminar bond strength when used with Atlac® and Dion® resins. It will also enhance bonding of FRP to concrete, bright carbon steel, and thermoplastics such as PVC.

FEATURES	BENEFITS
Moisture-activated curing system	Virtually unaffected by temperature fluctuations or substrate heat-sink effects No catalyst required Degree of cure unaffected by high humidity substrates must still be dry
Versatile bonding characteristics	Effective with FRP, steel, concrete, thermoplastics, SMC, and other substrates Bonds to most vinyl ester and polyester resins
Excellent tack retention	Improves bonding up to 24 hours after application
Reactive monomer system with no methylene chloride	Superior bond strength Environmentally friendly Improved storage stability

TYPICAL LIQUID PROPERTIES ATPRIME 2A

PROPERTY ATPRIME® 2A	SPECIFICATION
Flash Point, °C (°F)	218.3 (425)
Specific Gravity	1.23
Viscosity, cps	180
Vapor Pressure, mm Hg	<1x10-4
Isocyanate Equivalent Weight	133
NCO Content, %	31.5
Acidity, % as HCl	0.02

TYPICAL LIQUID PROPERTIES ATPRIME 2B

PROPERTY ATPRIME® 2B	SPECIFICATION
Flash Point, °C (°F)	25.5 (78)
Shelf Life (minimum), months	6
Specific Gravity	1.01
Viscosity, cps	250
Colour	Pale Yellow

APPLICATION

ATPRIME® 2 components must be mixed before using. Blend 1 part (by weight) ATPRIME® 2A with 4 parts (by weight) ATPRIME® 2B. No catalyst is necessary. Allow mixture to stand 30 minutes before applying to the substrate. The pot life of blended ATPRIME® 2 is approximately 12 hours at 80°F and 50% relative humidity. Discard older material in accordance with applicable regulations.

The ATPRIME® 2 system may be thixotroped to prevent drainage on vertical surfaces and to improve adhesion to very porous substrates. Blend 3% hydrophilic fumed silica into ATPRIME® 2B, followed by 0.2% Tween® 20 or Tween 80 (®ICI Americas).

Apply the ATPRIME® 2 mixture using a paintbrush, or a paint roller for larger surfaces. For health and safety reasons, the mixture should never be sprayed. Allow primer to cure for a minimum of 2 hours at ambient temperature. Complete curing is evident when the primer surface cannot be indented by a fingernail. The cure is moisture-initiated, so cure time will vary with temperature and humidity conditions. If primer is left more than 24 hours, re-application will be necessary to obtain full interlaminar bond strength.

Apply polyester resin over the cured, primed surface, and then complete fiberglass lamination according to accepted industry practice.

Refer to the application guide “ATPRIME 2 Lining Technical Guide” for more details on substrate preparation.

COVERAGE

One kilogram of blended ATPRIME® 2 covers approximately 6m^2 on a non porous substrate like steel; and 4.5m^2 on a cured cement substrate.

SUBSTRATE GUIDE

ATPRIME 2 SUBSTRATE GUIDE

METALS									PLASTICS							COMPOSITES					WOOD			OTHER					
ALUMINUM	BRASS	CAST IRON	COPPER	POWDER COATED METALS	CHROME PLATED METALS	STAINLESS STEEL	COLD ROLLED STEEL	GALVANIZED	ABS	ACRYLICS (PMMA)	POLYAMIDES (NYLON)	POLYESTERS (PBT, PET)	POLYCARBONATE	VINYLS (PVC)	POLYURETHANES	UNSATURATED POLYESTER	POLYESTER GELCOATS & TOPCOATS	FILLED COMPOSITES	EPOXY COMPOSITES & CARBON	PHENOLICS	WOOD HARD & SOFT	PLYWOOD	PARTICAL BOARD	BRICK	CONCRETE	RUBBER	GLASS	CERAMIC TILES GLAZED AND UNGLAZED	SILICONE RUBBER
R	N	R	N	E	R	R	R	P	E	E	P	P	E	G	E	E	E	E	N	?	G	G	G	E	E	N	G	E	N

E	EXCELLENT	P	POOR	N	NOT RECOMMEN
G	GOOD	R	REQUIRES PREPERATION	?	REQUIRES TESTIN

To ensure maximum performance of the ATPRIME® 2 bonding system, the following precautions should be taken:

• Conduct small-scale tests to determine conditions most suitable for use of ATPRIME® 2.

• ATPRIME® 2 can be used on a wide variety of substrates. Specific applications should be evaluated before large scale operations are conducted.

• Pot life of mixture (ATPRIME® 2A + ATPRIME® 2B) is approximately 12 hours at 25 C with 50% relative humidity. Discard after this time in accordance with applicable regulations.

HANDLING

Protect components from exposure to moisture; reseal opened containers and keep tightly sealed after use.

READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET BEFORE WORKING WITH THIS PRODUCT
It is the user's responsibility to understand the hazards associated with the use of ATPRIME® 2. Obtain a copy of the material safety data sheet on this product prior to use. MSDSs are available from your NCS RESINS sales representative.

Such information should be requested from suppliers and understood prior to working with any chemicals.

SAFETY

ATPRIME® 2 components can be irritating to skin and eyes. Wear cup-type chemical safety goggles and impervious gloves to reduce chances of injury from contact with the liquid concentrate. Use clothing to protect other exposed skin areas. Contaminated clothing, gloves and footwear should be washed free of ATPRIME® 2 before reuse.

ATPRIME® 2 vapors and spray mist can be irritating. Prolonged or repeated inhalation could result in an allergic reaction to its components.

Inhalation of ATPRIME-2A vapors or spray mist can irritate the eyes, nose, and respiratory passages. Severe overexposure may lead to pulmonary edema. Local exhaust ventilation should be utilized to maintain permissible exposure levels of ATPRIME® 2 in the workroom air. In absence of ventilating facilities, a MESA-NIOSH approved air-supplied respirator with full face piece should be used for respirator protection.

ATPRIME® 2 has been used in many laboratory tests and field trials without problems or discomfort to personnel. With proper precautions, no problems are anticipated; however, for the sake of safety, the recommended precautions must be strictly enforced.

Spills should be soaked up promptly with an absorbent such as sawdust, vermiculite, or sand. Shovel material into an open-top container and soak for at least 24 hours with an aqueous solution containing 1-5% ammonia and 10% isopropanol. Close and discard container. To facilitate clean-up in cold weather, utilize equal parts of isopropanol and perchloroethylene. A MESA-NIOSH approved air-supplied respirator or self-contained breathing apparatus should be used for protection during the clean-up of major spills.

FIRST AID

(0800) 333 444 (SOUTH AFRICA NATIONAL)

EYES

Rinse eyes immediately with plenty of water. Continue rinsing for at least 15 minutes.

INGESTIONS

DO NOT INDUCE VOMITING. Immediately call a physician and refer him to a local poison control center or (0800) 33 3444(SOUTH AFRICA NATIONAL)

INHALATIONS

Seek fresh air immediately and obtain medical attention. If victim is unconscious, administer artificial respiration and/or oxygen as needed, and seek medical attention immediately.

SKIN

Wash the contacted areas with soap and water.

STANDARD PACKAGE

Non-returnable metal kegs and tins as kits.(1kg ATPRIME 2 A and 4kg ATPRIME 2B) or (5kg ATPRIME 2A and 20kg ATPRIME 2B)

MATERIAL SAFETY DATA SHEET

A Material Safety Data Sheet is available from your NCS Resins' representative. Make certain that you obtain a copy of this guide to the safe handling of unsaturated polyester resins and resin systems.

PLEASE READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET BEFORE WORKING WITH THIS PRODUCT

NCS RESINS BRANCHES AT:

JOHANNESBURG / DURBAN / CAPE TOWN / PORT ELIZABETH