

# Tooling

## Product Line Guide

 EPOVIA<sup>®</sup>

 IMEDGE<sup>®</sup>

NORSODYNE<sup>®</sup>

NuTack<sup>®</sup>BLU

POLYCOR<sup>®</sup>

STYPOL<sup>®</sup>

**THERMACLEAN<sup>®</sup>**

 CCP  
COMPOSITES



## Wind Energy

### Product Line Guide

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CCP offers a full line of products for use in fabricating wind blades and nacelles for the wind energy market. The products included in this guide are CCP's recommended products. Custom product development is available for specialty applications. Please consult your CCP Account Manager for more information.

Additional information, including technical datasheets and MSDS's for specific products can be found on the CCP Composites US website, [www.ccpcompositesus.com](http://www.ccpcompositesus.com).

#### I. Wind Blade Manufacture

CCP offers in-mold gel coats and coatings, adhesives, infusion resins and tackifiers suitable for use in wind blade manufacture.

Tradename	Code	Description
<b>POLYCOR®</b>	944W005	Multipurpose Isophthallic Gel Coat
<b>IMEDGE®</b>	PCT 600WJ825 047-5215	Tough, Abrasion and UV Resistant In-Mold Coating
<b>POLYCOR®</b>	9EXCK119	Clear Vinyl Ester Gel Coat used in Epoxy Blade Manufacture and Web Bonding
<b>POLYCOR®</b>	9EXFB405	Vinyl Ester Bonding Adhesive for Two Part Blade Manufacture and Web Bonding
<b>EPOVIA®</b>	RF1001L-00 RFL1001-35 RF1001L-56	Bisphenol A Vinyl Ester Infusion Resin <ul style="list-style-type: none"> <li>- Unpromoted</li> <li>- 35 minute gel time</li> <li>- 55 minute gel time</li> </ul>
<b>NuTack® BLU</b>	046-4062 046-4063	Tackifier for use in placing coring and dry fibers in parts to be infused with unsaturated polyester resins. (Aerosol can packaging) <ul style="list-style-type: none"> <li>- blue dye added for visual thickness control</li> <li>- neutral for color sensitive applications</li> </ul>
<b>NuTack® E</b>	046-4103 046-4106	Tackifier for use in placing coring and dry fibers in parts to be infused with epoxy resins. (Aerosol can packaging) <ul style="list-style-type: none"> <li>- neutral for color sensitive applications</li> <li>- blue dye added for visual thickness control</li> </ul>

#### II. Wind Blade Repair

CCP Composites US offers a variety of material suitable for wind blade repair. These include gel coats and coatings for use on repaired wind blades, laminating and infusion resins and PATCHAID®s.

Tradename	Code	Description
<b>POLYCOR®</b>	944W005	Multipurpose Isophthallic Gel Coat

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<b>IMEDGE®</b>	9EXFB339 047-5215	Tough, Abrasion and UV Resistant Top Coat with Excellent Adhesion to a Variety of Substrates
<b>POLYCOR®</b>	9EXB667115	Top Coat with Excellent Adhesion to Wind Blades Fabricated with Epoxy Resins.
<b>STYPOL®</b>	C1-1001	General Purpose Unsaturated Polyester Laminating Resin. Available in a Variety of Gel Times.
<b>EPOVIA®</b>	RF1001L-00 RFL1001-35 RF1001L-56	Bisphenol A Vinyl Ester Infusion Resin - unpromoted - 35 minute gel time - 55 minute gel time
<b>PATCHAID®</b>	970XJ037, 970X900, 970XJ166, 970XA014	CCP PATCHAID® spray formulas are designed to improve the working properties of traditional gel coat spray patches. They achieve that by thinning the material, minimizing orange peel, speeding the cure, and reducing surface tackiness.

### III. Nacelle Manufacturing

CCP offers gel coats, laminating resins, infusion resins and tackifiers suitable for the manufacture of nacelles.

Tradename	Code	Description
<b>POLYCOR®</b>	944W005	Multipurpose Isophthallic Gel Coat
<b>POLYCOR®</b>	964 Series	MACT Compliant Version of POLYCOR® 944 Series
<b>STYPOL®</b>	L-Series	Laminating Resins ranging from Standard to High Performance. Customizable for viscosity, cure and gel time.
<b>NORSODYNE®</b>	I 13335A	Prepromoted Unsaturated Polyester Infusion Resin
<b>STYPOL®</b>	C1-1001	General Purpose Unsaturated Polyester Laminating Resin
<b>STYPOL®</b>	040-8086	Prepromoted, Unsaturated Polyester Infusion Resin for Moderate Production Rates
<b>NuTack® BLU</b>	040-4062 046-4063	Tackifier for use in placing coring and dry fibers in parts to be infused with unsaturated polyester resins. (Aerosol can packaging) - blue dye added for visual thickness control - neutral for color sensitive applications

### IV. Cleaners

CCP offers water-based and solvent-based cleaning products suitable for use in the wind energy market.

Tradename	Code	Description
<b>THERMACLEAN® REPLACETONE®</b>	095-0030	Water-based tool and hand cleaner. No heating required. For use in CCP's Redi-Scrub equipment.
<b>THERMACLEAN® GUN FLUSH</b>	095-0043	Solvent-based economy cleaner for cleaning gel coats and resin from tools and equipment.
<b>THERMACLEAN® REPLACETONEX®</b>	095-0045	Water-based tool and hand cleaner. No heating required. For use in CCP's Redi-Scrub equipment.



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<b>THERMACLEAN® GUN FLUSH ES</b>	095-0063	Solvent-based economy cleaner for cleaning gel coats and resin from tools and equipment.
<b>THERMACLEAN® WIPE BRIGHT™</b>	095-0082	Surface Cleaner that Removes Over-Spray, Polystyrene Build-up, Adhesives, Sealants and Wax Leaving a Glossy Finish

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### **CCP COMPOSITES US WARRANTIES, DISCLAIMERS AND LIMITATION OF LIABILITY (Rev. 10/11)**

Seller warrants that: (i) Buyer shall obtain good title to the product sold hereunder, (ii) at Shipment such product shall conform to Seller's specifications; and (iii) the sale or use of such product will not infringe the claims of any U.S. patent covering the product itself, but Seller does not warrant against infringement which might arise by the use of said product in any combination with other products or arising in the operation of any process. **SELLER MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, EVEN IF THAT PURPOSE IS KNOWN TO SELLER. ANY APPLICATION INFORMATION OR ASSISTANCE WHICH SELLER MAY FURNISH TO BUYER IS GRATUITOUS AND SHALL IN NO WAY BE DEEMED PART OF THE SALE OF PRODUCT HEREUNDER OR A WARRANTY OF THE RESULTS OBTAINED THROUGH THE USE OF SUCH PRODUCT.**

Without limiting the generality of the foregoing, if any product fails to meet warranties mentioned above, Seller shall at Seller's option either replace the nonconforming product at no cost to Buyer or refund the Buyer the purchase price thereof. The foregoing is Buyer's sole and exclusive remedy for failure of Seller to deliver or supply product that meets the foregoing warranties. Seller's liability with respect to this contract and the product purchased under it shall not exceed the purchase price of the portion of such product as to which such liability arises. Seller shall not be liable for any injury, loss or damage, resulting from the handling or use of the product shipped hereunder whether in the manufacturing process or otherwise. In no event shall Seller be liable for special, incidental or consequential damages, including without limitations loss of profits, capital or business opportunity, downtime costs, or claims of customers or employees of Buyer. Failure to give Seller notice of any claim within thirty (30) days of shipment of the product concerned shall constitute a waiver of such claim by Buyer. Any product credit received by Buyer hereunder, if not used, shall automatically expire one (1) year from the date the credit was granted. Notwithstanding any applicable statute of limitations to the contrary, any action by Buyer relation to a claim hereunder must be instituted no later than two (2) years after the occurrence of the event upon which the claim is based. All the foregoing limitations shall apply irrespective of whether Buyer's claim is based upon breach of contract, breach of warranty, negligence, strict liability, or any other legal theory.

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### COMPOSITES SAFETY INFORMATION (October 2011)

All sales of products manufactured by CCP Composites US (CCP), and described herein, are made solely on condition that CCP's customers comply with applicable health and safety laws, regulations and orders relating to the 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 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 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 ingest or breathe vapor, spray mists or dusts caused by applying, sanding, grinding and sawing products. Wear an appropriate NIOSH/MSHA approved and properly fitted respirator during application and use of these products until vapors, mists and dusts are exhausted, unless air monitoring demonstrates vapors, mists and dusts are below applicable exposure limits. Follow respirator manufacturer's directions for respirator use.

The International Agency for Research on Cancer (IARC) reclassified styrene as Group 2B, "possibly carcinogenic to humans." This revised classification was 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 Center does not agree with the reclassification and 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 Transportation as a flammable liquid. Flammable products should be kept away from heat, sparks, and flame. Lighting and other electrical systems in the work place should be vapor-proof and protected from breakage.

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

Some 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 number) before using. If unavailable, these can be obtained, free of charge, from your CCP representative or from: CCP Composites US, P.O. Box 419389, Kansas City, MO 64141-6389; 816-391-6053.

**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 vapors or spray mist, remove to fresh air. If swallowed, get medical attention.

Those 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 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.**