

# DyBond

FLEXIBLE INSULATION PRE-PREGS



## GENERAL DESCRIPTION

The Coveme dyBond pre-pregs products are flexible insulating materials having a B- Stage (semi polymerized) resin on one or both sides. The coating with the resin can be on the full surface or it can have a diamond pattern. The dyBond product range includes materials produced using several substrates such as:

- Polyvinyl fluoride film Tedlar®;
- Nomex® brand paper;
- dyTerm® - flexible laminates of Nomex® paper and polyester film, or Nomex® paper and Kapton® polyimide film;
- dyFlex - flexible laminates of non woven and polyester film;
- dyVolt - flexible laminates of cellulose paper and polyester film;
- Kemafoil® HBB - surface treated polyester film.

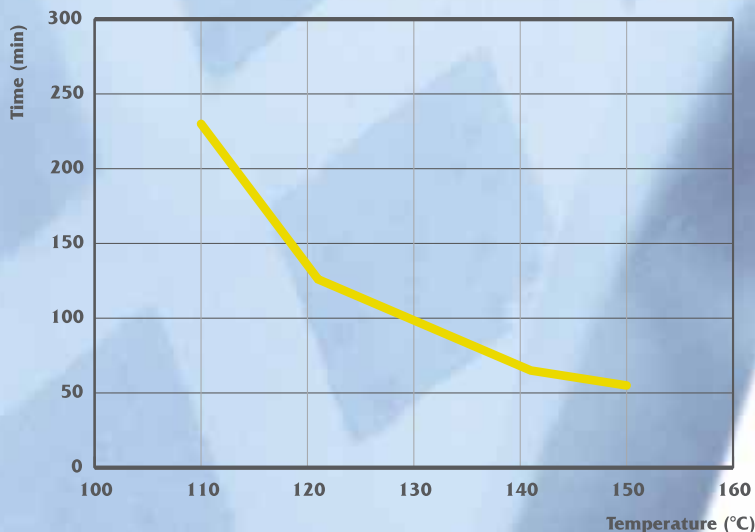
## PROCESSING CYCLE AND PRODUCT FEATURES

During the coating process the resin is first applied onto the substrate then, by controlled heating, the polymerization is started bringing the resin to the so called B-Stage, where is almost dry, reasonably stable, but not fully polymerized. The B-Stage pre-pregs can be used by the manufacturer as any conventional insulating material. After the manufacturing operations the final equipment is exposed to heat. The resin will initially melt, creating a uniform distribution and filling any possible non uniformity, before polymerizing to its final solid stage cementing the dyBond products to the conductors to be insulated.

As a function of available heating equipment and specific needs, users may select the time and temperature of polymerization according to diagram 1.

**Diagram 1**

**Typical polymerization cycle** (B-Stage epoxy coating).



## PRODUCT PROPERTIES:

Table 1

Properties	Unit	Value	Test method
Resin coating per side	g./sqm.	3,5 - 40 (*)	ASTM D646
Resin thickness after curing	$\mu$	10	ASTM D374
Peeling force after polymerization on Cu	N/cm.	300 $\pm$ 10%	COVEME 7

(\*) 3,5 = Diamond pattern  
5-40 = Full surface.

The main product properties are summarised in table 1.

For the other properties it is suggested to refer to the properties of the individual substrates.

The portion of surface coated with resin in the diamond patterned types is ranging around 40%. The dyBond products are wound with a polyethylene liner, have a useful lifetime of 6 months at room temperature (max 23°C) and up to one year if stored in refrigerated cells (max 5°C).

## DESCRIPTION OF AVAILABLE TYPES AND PACKING

### Type of Resin

- Epoxy standard class H
- Epoxy modified (quick setting)
- Silicone
- Acrylic
- Epoxy modified with fillers
- Polyimide

### Type of coating

- On side full surface
- Two sides full surface
- On side diamond pattern
- Two sides diamond pattern

### Resin color

- Transparent (standard)
- Brick Red
- Red
- Blue
- Black
- Green
- Yellow

DyBond is supplied in rolls with an internal diameter of 76mm.

The lengths and widths depend on the substrate used and on the customer request.

Dyterm® and Kemafoil® are Coveme's trademarks  
Tedlar®, Nomex® and Kapton® are DuPont's registered trademarks

Coveme spa is certified Uni EN ISO 9001-2000





THE VALUE OF INNOVATION

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