



Hysol® EA 9896™ Peel Ply

Preliminary Technical Data Sheet Composite Surfacing Media

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Description

Hysol® EA 9896 .025 PSF WPP is a pre-impregnated nylon peel ply product supplied in film form. It is a specially designed resin system capable of curing at 121°C (250°F). The experimental product has demonstrated minimal residual peel ply fibers at the bond surface after curing and removal. No further processing steps are required prior to secondary bond operations, thus eliminating the need for sand and solvent wipe operations.

Features	Benefits
Generates a bonding surface that provides a durable bond eliminating the need for sanding or grit blasting	Greater durability over the life of the production article lowers repair costs and eliminates the risk of damaging fibers in the composite structure which could compromise properties
Minimal residual nylon fibers left on substrate after removal	Eliminates contamination of bonding surface by residual fibers
Minimizes risk of interfacial failure in bonded structures	Provides a consistent bonding surface
No sanding or solvent wiping required for bonding	Minimizes surface preparation time and is ergonomically friendly Reduces cost of use
Minimal force required to remove peel ply layer	Reduces shop time for fabric removal. Ideal for large parts. Fabric strips easily in one piece
Cures at 121°C (250°F)	Consistent with current composite cure parameters
Long Out-time – Estimated to be 14 days minimum at 23°C(77°F)	Facilitates shop floor usage and repair applications Lowers handling and storage costs

Product Detail

Product Form	One-part film
Product Color	Neutral-off white
Areal Weight	122 g/m ² (0.025 PSF)
Support Carrier	Nylon peel ply
Roll Dimensions	Nominal 1 m wide by 50.9 m long (3' wide by 167 lineal feet)
Resin Content	45% nominal

Application

Storage Life - This product requires refrigerated storage. Store @ 0°F/-18°C or below for maximum storage life. Warranty life @ 0°F/-18°C is TBD but estimated to be 12 months from date of shipment . Store only in sealed containers to prevent moisture contamination. Allow all moisture to evaporate before opening for use.

Open Assembly Time - This adhesive may be used within the following schedule after removing from cold storage:

- @ 25°C /77°F 14 days
- @ 32°C / 90°F 10 days

Applying - Tool surface should be clean, dry and properly prepared. Hysol® EA9896™, with one liner left on it, may be tacked to the tool. The liner should remain with the product until just before assembly of the composite prepreg. This will minimize contamination of the bond joint.

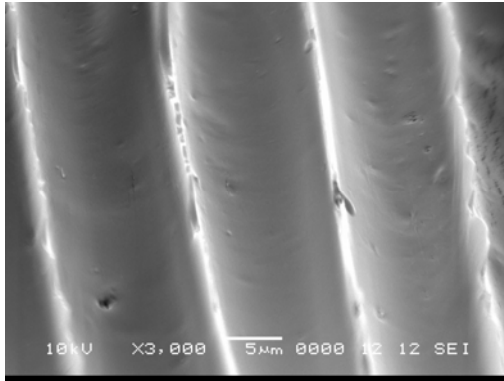
Curing - This product may be cured for 90 to 120 minutes at 121°C (250°F). Heat-up rate to the cure temperature is not critical, but should be between 0.6° and 5.6°C (1° and 10°F) per minute. Pressure should be applied before heating the parts to be bonded and maintained until cool down of the assembly.

Removal - Remove Hysol® EA9896™ just prior to secondary bond operation of composite detail. Starting at one corner, slowly and consistently, peel the Hysol® EA9896™ away from the part. Peeling in a diagonal (to peel ply yarn) direction seems to facilitate removal. After completely removing the Hysol® EA9896™, continue immediately with secondary bond operations. Hysol® EA9896™ peels cleanly from composite surface leaving no nylon residue on surface and results in substrate tearing bonds.

Bond Strength Performance - Relative bond strength is indicated below for the various surface preparations methods. Hysol® EA9896™ prepared surfaces produce equivalent bond strengths to sanding and solvent surfaces without their additional processing steps. The following table shows the performance of a paste adhesive Hysol® EA 9360™ over a composite made from 121°C(250°F) curing prepreg with Hysol® EA9896™.

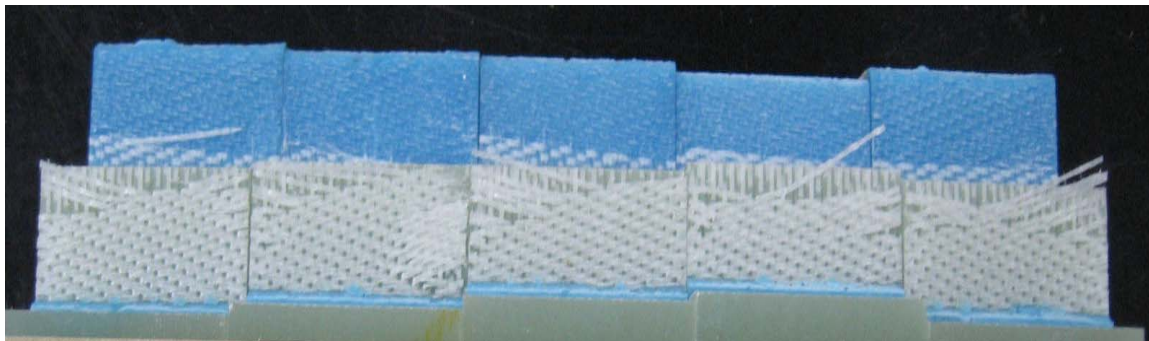
Peel Ply	Hysol® EA 9896™	Sanded
Prepreg	121°C (250°F)	121°C (250°F)
Adhesive	EA9360	EA9360
Prepreg Cure Temperature	121°C (250°F)	121°C (250°F)
Adhesive Cure Temperature	82°C (180°F)	82°C (180°F)
Tensile Lap Shear	28.6 Mpa (4150 psi)	28.1 Mpa (4080 psi)
G1c	1925 J/m ² (11 in lb/in ²)	1725 J/m ² (10 in lb/in ²)
Failure	Laminate	Laminate

Failure Mode Examination - Failure modes are improved (from adhesive to cohesive) by the use of Hysol® EA9896™ over a model system containing a “dry” peel ply fabric



← Hysol® EA 9896™ strips
cleanly from surface leaving
no residue

Resulting in Superior Adhesion and Substrate Tearing Bonds



Stripping Force - Hysol® EA9896™ has been formulated for easy removal requiring a stripping force of only about 6 in-lbs/inch of width

Dry Peel Ply-Warp Peel Direction



Hysol® EA 9896™ -Diagonal Peel Direction



Cleanup - It is important to remove excess material from the part and bonding tools prior to curing. Uncured product may be trimmed and removed with a sharp object. Residual resin may be removed with denatured alcohol or many common industrial solvents. Be careful to prevent any solvent from entering the uncured bondline, as solvent will degrade the final performance. Consult with your supplier's information pertaining to the safe and proper use of solvents.

Handling Precautions

Do not handle or use until the Material Safety Data Sheet has been read and understood.
For industrial use only. See www.henkelna.com/aerospace or www.hysolpeelply.com for more info.

General:

As with most epoxy based systems, use this product with adequate ventilation. Do not get in eyes or on skin. Avoid breathing the vapors. Wash thoroughly with soap and water after handling. Empty containers retain product residue and vapors so obey all precautions when handling empty containers.

ONE PART

CAUTION! This material may cause eye and skin irritation or allergic dermatitis. It contains epoxy resins.

Hysol® is a registered trademark of Henkel Corporation U.S.A.

Rev. 2/02/2010