

Adhex® E-320

Description

Adhex® **E-320** is a new epoxy adhesive film designed to be co-cured with Ep-preg® prepregs under vacuum process.

Adhex® **E-320** is available in glass and carbon tissue carriers. It **has** been designed to get well controlled flow and to develop high adhesion strength to core materials.

Adhex® **E-320** can be co-cured with Ep-preg® prepregs, or cured separately to bond pre-cured laminates to core materials.

Uncured E-320 Properties

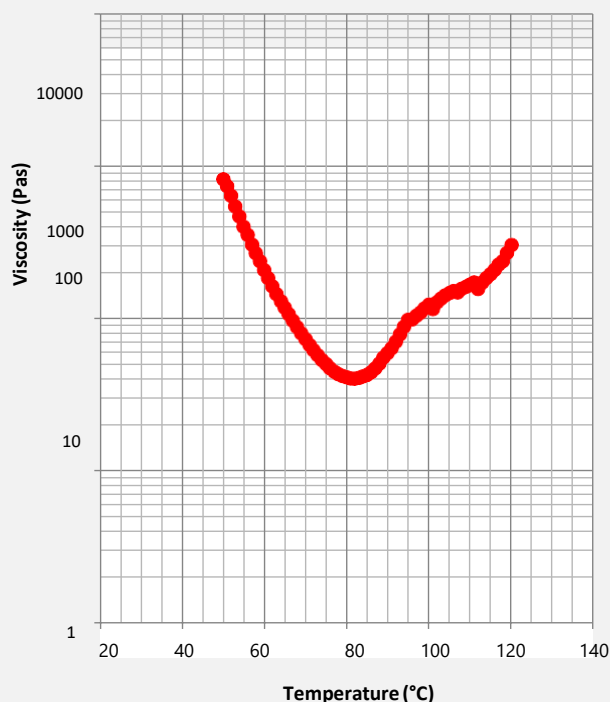
Carrier Fiber	E-Glass / Carbon
Carrier Areal Weight (g/m ²)	30 / 17
Resin Areal Weight (g/m ²)	300±20
Gel time at 90°C (min)	65-70
Gel time at 100°C (min)	25-30
Gel time at 110°C (min)	11-13
Min. Viscosity at 81.9°C (Pas)	40.33
DSC Tg (°C)	115±3

E-320 Processing Way

- i. Warm the roll to ambient temperature before unpacking it.
- ii. Make sure the surface of the laminate to be bonded to core material has been well prepared.
- iii. Place 1 layer of the adhesive film, E-320, from each side of the core materials.
- iv. If to be co-cured with prepregs, continue normal prepreg lay-up and vacuum bag curing cycle.

Key Features and benefits

- **Uncured film**
 - ✓ Shelf life: **10-12 weeks** @ 70°F (21°C), and 24 months @ 0°F (-18°C).
 - ✓ Suitable for low pressure: 1-3 bar.
 - ✓ Good tack and self-adhesive to cores and cured laminates.
- **Rheology Profile**



Oven Vacuum Curing Cycle

- Apply 24" Hg vacuum for 5-10 minutes before beginning heat cycle.
- Raise E-320 temperature from room temperature to 185°F (85°C) within 30-45 min.
- Hold E-320 temperature at 185°F (**85°C**) for **15 min.**
- Raise E-320 temperature from 185°F (85°C) to 250°F (**121°C**), and then hold for **120 min.**
- Cool the sandwich temperature to at least 176°F (**80°C**), prior to release vacuum pressure.

Alternative Vacuum Curing Cycle

Temperature (°F/°C)	Gel time (min)	Dwell time (Hrs.)	DSC T _g (°C)
212/100	25-30	6	110-115
230/110	11-13	4	110-115

Storage and Handling

All adhesive films are wrapped in a barrier film immediately after impregnation. During storing and handling, the following notes must be considered:

- Adhex® E-320 should be stored in their original packaging barrier film, or an equivalent film, at -18°C.
- Before use, roll has to be out of the freezer and remain tightly sealed for 48 hours, time required to reach ambient room temperature.
- It is highly recommended to handle the adhesive film at a clean area where relative humidity is ≤ 50% and ambient temperature is 20-23°C.

Safety Precautions

Usual precautions, as following, must be considered:

- During lamination, workers must avoid skin contact by wearing appropriate disposable protective gloves.
- Clean protective coveralls or equivalent clothes must be worn before laminating and also sanding.
- Protective glasses must be worn to avoid eyes contamination. In case of contamination, eyes must be flushed for 15 min and then medical treatment must be applied.
- After working, hands and contaminated skin, if any, have to be washed with soap and warm water. This has to be implemented as a routine practice.



Important Notice

The data reported in this sheet are based on representative samples. Since the method and circumstances of handling and processing are keys to the material performance, ABC Composite does not guaranty these data. Users should make their own assessment of the suitability of any product for the performance required