



APS75

Epoxy Autoclave Panel System

Introduction

APS75 material is designed to give a high class finish with reduced pre-paint preparation and versatile curing. It can be supplied with carbon or glass fabric reinforcement. This resin system colour is black.

The standard system comprises of 1 layer of APS75 surface ply and 1 layer of PSB75 bulk ply.

Note: only the PSB75 bulk ply is fire retardant.

Typical applications: Automotive Body Panels

Key Features & Benefits

- Cure temperature from **65°C** to **130°C**
- Service temperature up to **160°C** after post cure
- Work life at 20°C: **21 days**
- Storage life at -18°C: **12 months**
- Very low VOC content – no added solvents during manufacture
- Rapid lay-up – up to **50% faster** than conventional systems
- High class finish with reduced pre-paint preparation
- **Suitable for rapid prototype tooling applications – consult SHD for details**

Storage & Out Life

This material should be kept frozen at -18°C. It must be kept sealed in a polythene bag which must not be opened until fully thawed to room temperature. If the material is not fully used, then the material must be resealed in the polythene bag to prevent moisture absorption.



Cure Cycles & performances

CURE CYCLE OPTIONS:

Temperature	Duration	Tg
65°C (minimum)	16 hours	70°C
75°C	8 hours	80°C
85°C	4 hours	90°C
100°C	2 hours	105°C
120°C	1 hour	125°C
130°C (maximum)	45 minutes	135°C
180°C Post cure	2 hours	170°C

Resulting panel thickness for APS75 surface and PSB75 bulking after full consolidation, around 1.5-1.7mm. For additional thickness and stiffness if required, additional PSB75 bulk or APS75 surface plies may be used.

For optimum performance, it is recommended that the part is subject to a post cure of **180°C for 2 hours**.

Other cure cycles and additional reinforcements are available on request.

- Curing Schedule is meant to be a guide only and is subject to local conditions.
- To avoid exotherm particular care must be taken with thick laminates.
Ramp rates must not exceed **3.0°C** per minute during **initial cure**.
Ramp rates must not exceed **0.3°C** per minute during **post cure** (free standing).

Volatile content	< 1.0%
Voidage (autoclave cure)	< 1.0%

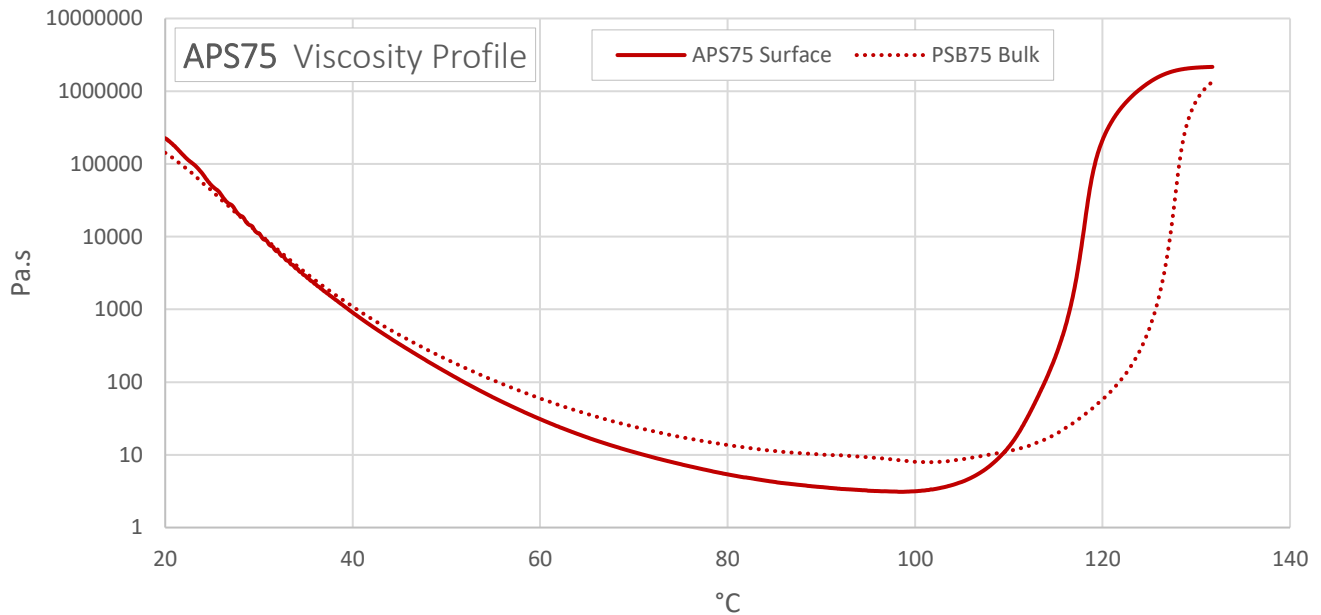
Cured Material Properties

Contact SHD for additional data.



Viscosity Profile

Testing carried out at $23 \pm 2^\circ\text{C}$, $50 \pm 5\%$ RH. Ramp rate: $2^\circ\text{C}/\text{min}$.



Health and Safety

This material contains epoxy resin which can cause allergic reactions with skin contact and must avoid repeated and prolonged skin contact.

Please refer to the product Safety Data Sheet before using this material. The following precautions must be taken when using epoxy resin prepregs:

- Overalls must be worn
- Impervious gloves must be worn.
- Curing schedule is meant to be as a guide only and is subject to local conditions.
- To avoid exotherm, particular care must be taken with thick laminates.
- Ramp rates must not exceed $3.0^\circ\text{C}/\text{min}$ during initial cure and $0.3^\circ\text{C}/\text{min}$ during post cure.

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