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OPS75

Epoxy Oven Panel System

Introduction

OPS75 material is designed to give a high class finish with reduced pre-paint preparation and versatile out of autoclave 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 OPS75 surface ply and 1 layer of PSB75 bulk ply.

Note: only the PSB75 bulk ply is fire retardant.

Typical applications: Automotive Body Panels – Out of Autoclave

Key Features & Benefits

- Cure temperature from **65°C to 130°C**
- Service temperature up to **130°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
- **Out of autoclave**
- ***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.

Issued 1st August 2018

Note: The information and assistance provided herein is for your consideration without legal responsibility. Users are required to perform verification and testing to confirm that the product meets with their requirements.

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Cure Cycles & performances

- Recommended Cure Cycle:
 - 1st dwell at **75°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
 - 2nd dwell at **120°C** for **1h**, at a ramp rate of **2-3°C/min** under full vacuum

For optimum performance, it is recommended that the part is subject to a post cure of **150°C** for **2 hours**.

Cure		Initial Min Cure	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
150°C	Post cure	2 hours	140°C

Resulting panel thickness for OPS75 surface and PSB75 bulking after full consolidation, around 1.5-1.7mm. For additional thickness and stiffness if required, additional PSB75 bulk or OPS75 surface plies may be used.

Other cure cycles and additional reinforcements are available on request.

Use of perforated release film is recommended.

- 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%

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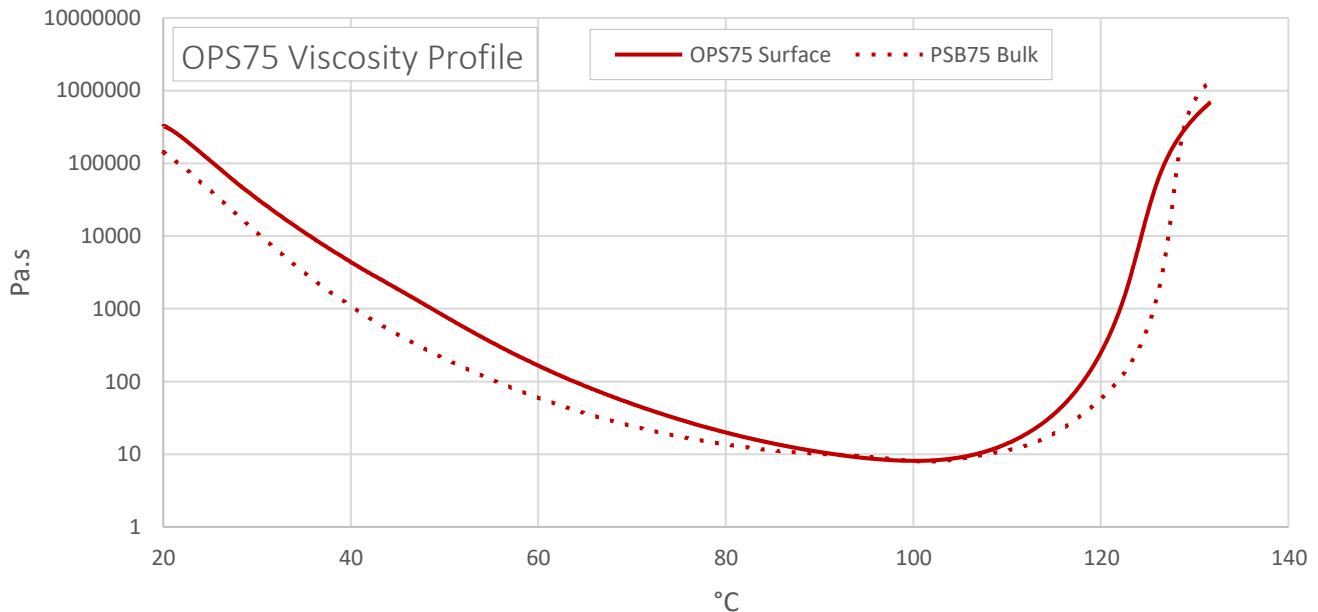


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Viscosity Profile

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.

SHD Composite Materials Ltd cannot accept any liability for injury or damage where the above precautions have not been taken or where the material is used

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