



# VTC212 (DF212)

## Epoxy Component Prepreg

### Introduction

VTC212 (DF212) is a toughened epoxy prepreg system designed for out of autoclave cure allowing flexibility in component manufacture. This resin system colour is grey.

**Typical applications:** *General purpose – Visual – Out of Autoclave*

### Key Features & Benefits

- Cure temperature from **65°C to 120°C**
- Service temperature up to **130°C** after post cure
- Low CTE and shrinkage
- Work life at 20°C: **21 days**
- Storage life at -18°C: **12 months**
- Very low VOC content – no added solvents during manufacture
- Out of Autoclave

### 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

- Recommended Cure Cycle 1:
  - 1<sup>st</sup> dwell at **50°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
  - 2<sup>nd</sup> dwell at **60°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
  - 3<sup>rd</sup> dwell at **70°C** for **10h**, at a ramp rate of **1°C/min** under full vacuum
- Recommended Cure Cycle 2:
  - 1<sup>st</sup> dwell at **50°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
  - 2<sup>nd</sup> dwell at **60°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
  - 3<sup>rd</sup> dwell at **70°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
  - 4<sup>th</sup> dwell at **120°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum

### CURE CYCLE OPTIONS:

Temperature	Duration	Tg
65°C (minimum)	16 hours	65°C
80°C	8 hours	80°C
100°C	2 hours	100°C
120°C (maximum)	1 hour	120°C
135°C Post-cure	2 hours	135°C

*\*thin laminates only, to avoid exotherm – contact our technical team for advice.*

- 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 **1.0°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%
Fibre volume fraction	50 to 60%
Voidage (autoclave cure)	< 1.0%

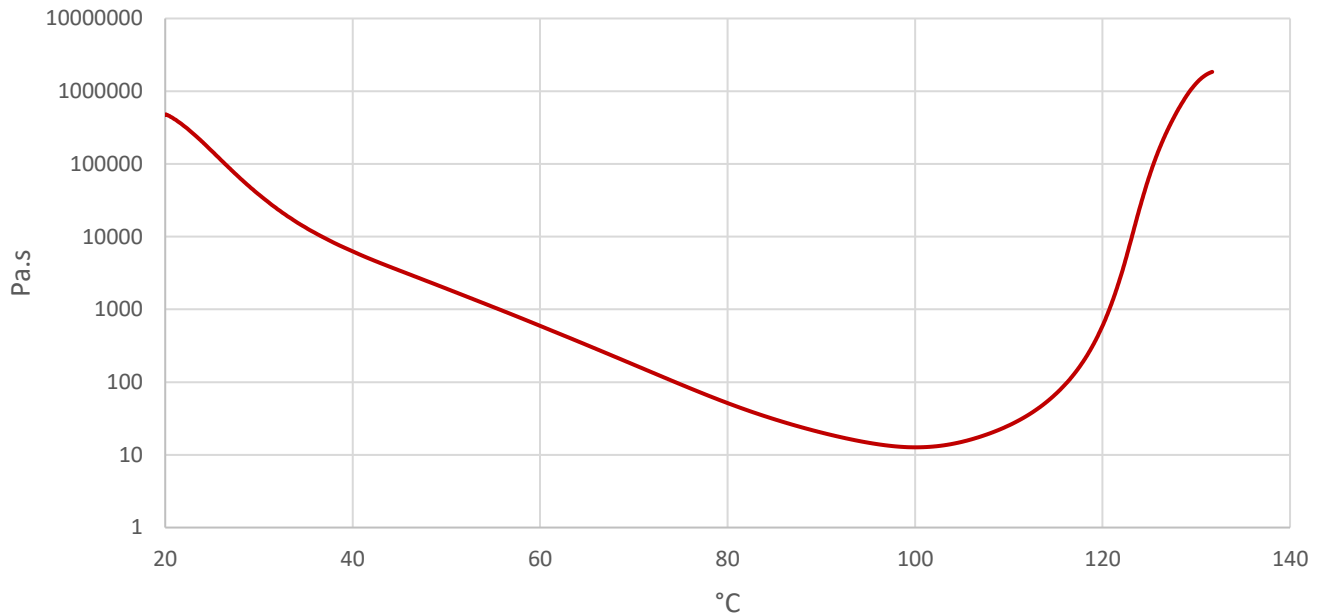
## Cured Material Properties

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  $1.0^\circ\text{C}/\text{min}$  during initial cure and  $0.3^\circ\text{C}/\text{min}$  during post cure.

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Customers must carry out their own tests and assessments as necessary in order to determine the quality and suitability of the product for their particular application and circumstances. Such testing should be performed under conditions identical to those to which the final component/product may be subjected. Values listed in any SHD document are for typical properties of the product or substance in question and are not intended to be used in establishing either statistical specifications nor engineering basis values. They do not constitute either minimum or maximum values for the product or substance in question.