

Body Panel Systems

Rapid Manufacturing Technology for the Automotive Industry

ACG offers two solutions for the manufacture of Body-In-White (BIW) panels, BPS240 and BPSMk2.

BPS240 body panel system uses ACG's ZPREG® rapid deposition product comprising a stable, high temperature structural fabric and integrated surface film. BPS240 offers excellent surface quality, even from vacuum only cures, and presents a significant cost saving over traditional prepreg technologies. BPS240 panels can be moulded from high quality, low cost composite tooling, thereby reducing manufacturing times by as much as 50% compared to traditional composite materials.

BPS240, ACG's original system, has been successfully used on Delta Motorsport's E-4 Coupé, Donkervoort Automobielen's D8 GT competition race car, and IFR Automotive's Aspid sports car.

BPSMk2, ACG's new body panel system, is targeted at the medium to high volume market and utilises ACG's innovative DForm® Deformable Composite System (DCS) technology. ACG believes that this will play a major part in the development of rapid composites processing technology. The BPSMk2 system de-skills and reduces laminating time, and facilitates the production of flat surface profiles with minimal print-through, thus minimising surface preparation and reducing costs at all stages of manufacturing.

Both systems are designed to produce parts ready for painting without abrading or reworking. In many instances, paint can be applied directly to a degreased panel. Excellent environmental performance can be expected from panels painted in Hi-Bake & Lo-Bake paint systems.

Why Choose ACG's Body Panel System?

BPS240:

- oven vacuum bag and autoclave cure
- excellent surface quality
- reduced manufacturing times

BPSMk2:

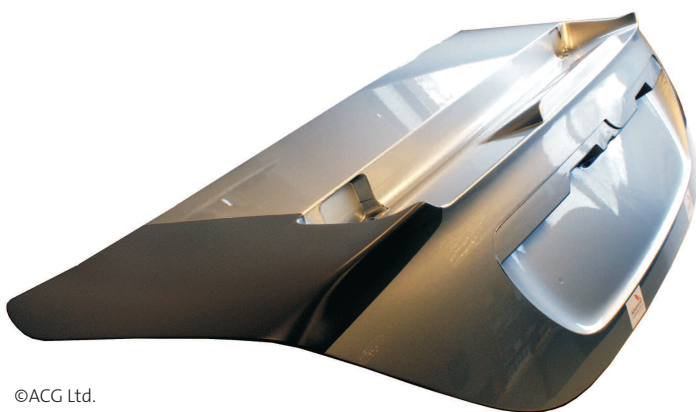
- unidirectional DForm® guarantees low print-through
- de-skills and reduces laminating time
- flat profile minimises surface preparation



Technical Data

STRUCTURAL PREPREG RESIN SYSTEMS ZPREG® TECHNOLOGY BODY PANEL SYSTEM. BPS240 - (2 PART SYSTEM)		
Product Description	Surface Ply	Bulk Ply
Carbon	VTF242FRB/CF1200/CF1100	VTS®243FR/CF3500-0.75mm
Glass	VTF242FRB/GF1200/GF1100	VTS®243FR/GF1100-1.0mm
Maximum Tg after post-cure (DMA onset)	170°C (338°F)	
Typical Cure (oven vacuum bag and autoclave cure)	65°C (149°F) for 16 hours, 120°C (248°F) for 1 hour, 150°C (302°F) for 45 minutes	
Out Life at Room Temperature	7 days	30 days
Freezer Storage	12 months	
Key Features	Pit free finish under vacuum consolidation. Stable under environmental conditioning. Excellent drape and handling. Flame retarded.	Rapid build-up of part thickness. Excellent drape and handling. Stable under environmental conditioning. Flame retarded.
Typical Applications	Automotive body panels. Rapid prototype construction. Models.	
Note 1: BPS240 Carbon moulded thickness - 1.25mm and areal weight - 1.74kg/m ²		
Note 2: BPS240 Glass moulded thickness - 1.5mm and areal weight - 1.94kg/m ²		

STRUCTURAL PREPREG RESIN SYSTEMS DForm® TECHNOLOGY BODY PANEL SYSTEM. BPSMK2 - (3 PART SYSTEM)			
Product Description	Surface Film	Surface Ply	Bulk Ply
Material	VTF266/PV17	VTM®244FRB/DForm®	VTS®243FR/CF3500-0.75mm
Maximum Tg after post-cure (DMA onset)	170°C (338°F)		
Typical Cure (autoclave only)	65°C (149°F) for 16 hours, 120°C (248°F) for 1 hour, 150°C (302°F) for 45 minutes		
Out Life at Room Temperature	30 days	21 days	30 days
Freezer Storage	12 months		
Key Features	Paint-ready, sandable surface following autoclave cure.	400g/m ² (100g/m ² /0°, 200g/m ² /90°, 100g/m ² /0°). Slashes at 90°. Flame retarded, low print through, fast laminating.	Rapid build-up of part thickness. Excellent drape and handling. Stable under environmental conditioning. Flame retarded.
Typical Applications	Automotive body panels.		
Note: BPSMK2 moulded thickness - 1.38mm and areal weight - 1.77kg/m ²			



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