

PRESS RELEASE - For immediate release

March 2013

Impact modified GMS EP-620 epoxy prepreg with anti-ballistic level performance being showcased at JEC Europe 2013

GMS Composites is showcasing at JEC Europe 2013 in Paris from 12th-14th March its latest high performance epoxy prepreg GMS EP-620, which uses a very tough, impact modified epoxy resin matrix system. GMS Composites will have information available on the Carbon Nexus stand (Z38), Australia's leading centre for Carbon Fibre and Composites Applied Research. GMS EP-620 has been specially developed for cost effectively fabricating lightweight fibre reinforced composite parts needing very high fracture toughness and energy absorption in use.

This special epoxy resin matrix system was developed by GMS Composites to be capable of high velocity 'ballistic level' high kinetic energy absorption and resistance to repeated shock impacts. According to GMS Composites, their GMS EP-620 epoxy prepreg resin has over 1.75x the fracture toughness and requires 3x the fracture energy to break compared with standard industry prepreg resins tested. The official data sheet for the neat GMS EP-620 system quotes fracture toughness K_{1C} figures of 2.2 – 2.35 MPa \sqrt{m} and an ultimate elongation of 11%. Depending on the application, GMS EP-620 epoxy prepreg resin can be combined with reinforcement fabrics made from carbon fibres, aramid, s-glass or polyethylene fibres to mould components designed for ballistic protection, personal body armour and vehicle protection in a variety of demanding defence, military, industrial and motorsport applications.

Sam Weller, managing director of GMS Composites commented: *"It is great to be able to bring our new prepreg product to JEC Europe this year, which is such an international exhibition. We have been developing new high performance epoxy prepregs and aim to continue expanding our range to meet the growing need for ever lighter and stronger composite parts which can be competitively fabricated. We have an excellent relationship with Carbon Nexus and appreciate their support in achieving our goals."*

Several successful ballistic and motorsport customer product trials took place during the development stage to thoroughly test and validate the mechanical performance of GMS EP-620; a variety of laminate designs and reinforcements for a number of demanding military and motorsport applications were trialled. This included a race trial by a leading Australian rally team, who carried out a comparative performance test. They replaced the originally fitted FRP composite underside protective covers with identical parts made from GMS EP-620 epoxy aramid fibre prepreg; front and rear underside composite protection covers are typically located beneath the engine, as well covering key safety critical parts under the car that must be reliably protected, such as the fuel tank, fuel lines and brake lines. Under arduous rally racing conditions the GMS EP-620 aramid fibre composite protector covers proved to have superior fracture toughness resistance by lasting twice as long as the original composite covers.

GMS EP-620 epoxy prepreg resin has also been designed for cost effective production. It exhibits good flow characteristics during moulding and the tack level can be varied to suit individual conditions and requirements. It has a versatile curing cycle from 80 °C up to 150 °C; at the maximum 150 °C processing temperature the resin has a gel time of 2-3 minutes and moulded parts can be fully cured within 20 minutes. This has the advantage for manufacturers of making it suitable for fabricating a wide range of shapes and sizes, from large complex structures to smaller FRP composite parts. The processing properties of GMS EP-620 epoxy prepreg also enable fabricators to apply a range of pressures and ramp up rates depending on the design, size and laminate construction of the part being produced. GMS EP-620 epoxy prepreg has a reliable shelf life of over 6 weeks at 23 °C ambient, up to 12 months if refrigerated at -18 °C.

GMS Composites is located in the Melbourne suburb of Dandenong South, Victoria, Australia, where they have their R & D, production and warehousing operations. They have been manufacturing epoxy prepregs for over 12 years and now have an established range of over 10 different prepregs resins systems available which cover a wide range of industries including: aerospace, motorsport, sporting & leisure goods, ballistics

and tooling. GMS Composites, formerly General Mica Supplies and GMS Industrial, has evolved as a business over the last 70 years from its origins in mica based products and thermal insulate. Today, GMS Composites is a modern epoxy prepreg composites producer, focused on supplying prepreg systems for the rapidly expanding high performance fibre reinforced composites markets in Australia and Asia Pacific. GMS Composites also offers its customers CNC machining services and distributes a number of insulation products and composites related vacuum consumables, reinforcement materials, resins, mould releases and cores from leading global suppliers

For more information go to www.gmsindustrial.com.au. Alternatively e-mail: info@gmsindustrial.com.au or call +61 3 9768 2225.

End.

[Word Count: 773]

Issue Date: 4 March 2013

Websites featured in this article www.gmsindustrial.com.au www.carbonnexus.com.au

Photos & Captions:

Photo 1: Composite under panel rally car protection



Photo 1 caption: Under arduous rally racing conditions the GMS EP-620 aramid fibre composite protector covers lasted twice as long as the original composite covers.

Photo 2 : Australian rally 2012 metal obstruction on track



Photo courtesy of The Australian Rally Championship, taken by Stuart Bowes.

Photo 2 caption: In addition to rocks, the underside of a rally car has to be able to withstand impact from metal debris which can end up on the track.

GENERAL INFORMATION FOR MEDIA CONTACTS	
SUPPLIER:	GMS Composites
READER RESPONSE INQUIRIES TO:	info@gmsindustrial.com.au Tel: +61 3 9768 2225
PRESS PUBLISHING INQUIRIES TO: Nigel O'Dea , Director	Outsourcing B2B Marketing Tel: +44 1536 210133 Mobile: +44745 695984 e-mail: nigelodea@outsourcingb2bmarketing.com
Press Release Ref:	GMS Comp _13_ 03-1