

10 November 2021

FGR signs collaboration agreement for HDPE product enhancement

HIGHLIGHTS

- **Collaboration agreement signed with Malaysian HDPE manufacturer to develop new line of PureGRAPH® enhanced HDPE sheets and welding rods**
- **New HDPE PureGRAPH® masterbatch product developed in collaboration with Hubron International Ltd specific to extruded sheet**
- **Client driven project with applications lined up in HDPE marine craft and mining applications**

First Graphene Limited (ASX:FGR; "First Graphene" or "the Company") is pleased to announce it has entered into a collaboration agreement with High Density Poly-Ethylene (HDPE) sheet extrusion specialist DSP (M) Sdn Bhd (DSP).

The collaboration will be focused on the development of PureGRAPH® enhanced HDPE sheet and welding wire to provide increased durability, abrasion resistance and fire retardancy of fabricated HDPE components. The collaboration agreement is for 1 year, with the ability to extend further at the end of the term. Each party will contribute scientific and industry knowledge at its own cost with First Graphene providing access to its PureGRAPH® product range. There are no other material terms of the agreement or an assessment of economic impact at this stage.

First Graphene is working closely with UK-based compounder Hubron International Ltd, a specialist masterbatch formulator, on the development of a new masterbatch tailored specifically for the HDPE grade used in the sheet extrusion process.

Following evaluation, the PureGRAPH® enhanced HDPE sheet/welding wire will be launched as a new product line to be marketed by both DSP and First Graphene.

The collaboration comes in response to several challenges communicated by end users and fabricators, including known performance issues due to limitations with the traditional properties of HDPE materials.

HDPE can be used as an alternative fabrication material in a number of applications providing unique benefits including high impact resistance, corrosion resistance, antifouling properties and reduced carbon footprint.

PureGRAPH enhanced HDPE aims to boost the tensile and flexural properties of the material, allowing parts to be fabricated with increased durability or weight reductions to compete with more traditional materials.

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Extruded HDPE film and sheet accounts for approximately one third of the global HDPE market which reached a value of USD 70.7 billion in 2020¹.

Michael Bell, Managing Director and Chief Executive Officer of First Graphene said: *"First Graphene already has a number of clients and prospects eager to trial the new PureGRAPH® enhanced HDPE materials including in defence and non-defence marine craft fabrication and mining wear liners. This is yet another example of First Graphene and its partners identifying known problems impacting large-scale industries and developing solutions to address them."*

Investors

Michael Bell

Managing Director and CEO
First Graphene Limited
michael.bell@firstgraphene.net
+ 61 1300 660 448

Media

Simon Shepherdson

General Manager Media
Spoke Corporate
simon@spokecorporate.com
+ 61 413 809 404

About First Graphene Ltd (ASX: FGR)

First Graphene Ltd. is the leading supplier of high-performing, graphene products. The company has a robust manufacturing platform based upon captive supply of high-purity raw materials and an established 100 tonne/year graphene production capacity. Commercial applications are now being progressed in composites, elastomers, fire retardancy, construction and energy storage.

First Graphene Ltd. is publicly listed in Australia (ASX:FGR) and has a primary manufacturing base in Henderson, near Perth, WA. The company is incorporated in the UK as First Graphene (UK) Ltd. and is a Tier 1 partner at the Graphene Engineering and Innovation Centre (GEIC), Manchester, UK.

PureGRAPH® Range of Products

***PureGRAPH®** graphene powders and **PureGRAPH® AQUA** pastes with lateral platelet sizes of 50µm, 20µm, 10µm and 5µm, as well as **PureGRAPH® MB-LDPE 20-30** and **PureGRAPH® MB-EVA** masterbatches for thermoplastics, and **PureGRAPH® MB-EVA Bitumen** masterbatch, are available in tonnage volumes. The products are high performing additives, characterised by their high quality and ease of use.*

¹ <https://www.expertmarketresearch.com/reports/high-density-polyethylene-hdpe-market>

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About DSP

From humble beginnings in 1985 introducing modern play equipment into Malaysia, DSP has grown to become one of the world's leading PE Sheet extrusion companies. With its inhouse production facilities, including sheet extrusion, steel fabrication, CNC routings, and 4,700sqm storage facilities, DSP is the most complete HDPE (High Density Polyethylene) extrusion manufacturer in Malaysia, offering one stop solutions including design, consultancy, fabrication, installation and maintenance. DSP exports HDPE sheets around the world, including to Germany, The Netherlands, France, Turkey, Italy, Australia, Korea, Japan, USA, Indonesia, Vietnam, Saudi Arabia, Thailand and New Zealand.

About Hubron

Hubron International is one of the world's leading suppliers of black masterbatch with over 85 per cent of masterbatch production exported through a worldwide network of distribution partners. Established in 1934, Hubron has been improving polymers through compounding with carbon black for over 85 years. In 1972, Hubron started manufacturing carbon black thermoplastic masterbatches. Since then, the Company has been serving the demands of industries such as film, sheet, pipe, cable and fibre extrusion; moulding, and technical compounding across the world. The Company focuses on providing black masterbatch as its core business, with a clear emphasis on the technical input and guidance into correct product selection. In 2010, Hubron acquired Whitaker Technical Plastics, a leader in electrically conductive polymers.

First Graphene Limited

ABN 50 007 870 760

1 Sepia Close

Henderson WA 6166

T: +61 1300 660 448

E: info@firstgraphene.net

W: firstgraphene.net

Directors:

Warwick Grigor

Dr Andy Goodwin

Michael Quinert

Michael Bell

Trading Symbols

Australia: FGR

Frankfurt: FSE:M11

USA OTCQB: FGPHF

With authority of the board, this announcement has been authorised for release by Aditya Asthana, Chief Financial Officer and Company Secretary.