

1. Background and contact information about our company:

SABIC Innovative Plastics is a leading, global supplier of engineering thermoplastics with a 75-year history of breakthrough solutions that solve its customers' most pressing challenges. Today, SABIC Innovative Plastics is a multi-billion-dollar company with operations in more than 25 countries and over 10,500 employees worldwide. The company continues to lead the plastics industry with customer collaboration and continued investments in new polymer technologies, global application development, process technologies, and environmentally responsible solutions that serve diverse markets such as automotive, electronics, building & construction, transportation, and healthcare.

Contact :

Anne G. Clement

Director, Global Communications, Automotive

SABIC Innovative Plastics

T +31 164 29 3148

F +31 164 29 1111

Email

anne.clement@sabic-ip.com

2. Detailed explanation of the QarmaQ

SABIC Innovative Plastics' QarmaQ Advanced Technology Demonstration Vehicle was a joint project in collaboration with Hyundai. The QarmaQ concept car demonstrates huge potential for environmentally responsible solutions by leveraging unique, high performance materials to enable reduced fuel consumption and emission, while offering the opportunity for increased pedestrian safety.

The QarmaQ utilizes and validates more than 30 key material technologies, which will be selectively incorporated into Hyundai's new models to be rolled out from 2008-2014.

The Crossover Utility Vehicle (CUV) demonstrator is lighter, stronger and more economical than any current production CUV in its class. It also offers significant recycling advantages both in construction and eventual disassembly. In short, it is a viable and realistic glimpse of the future potential of personal automotive transport.

3. How the QarmaQ is manufactured and delivered to its consumers:

The QarmaQ advanced technology demonstrator was manufactured utilizing more than 30 key material technologies from SABIC Innovative Plastics to showcase how they can be utilized on a vehicle. They will be selectively incorporated into Hyundai's new models rolled out through 2014.

4. How the QarmaQ and its function/use maintains excellence in eco-sustainability in an environmentally friendly and responsible manner.

Thanks to extensive use of advanced materials, QarmaQ is 60 kg lighter than a comparable vehicle made with traditional materials. One example is new environmentally responsible Xenoy iQ* and Valox iQ* composites for horizontal body panels that significantly reduce part weight - up to 50 percent per part - while maintaining strength equal to that of steel. This lighter-weight cladding contributes to better fuel efficiency and improved power-to-weight ratio for drivers.

These high performance plastics address three critical environmental concerns - conserving energy, lowering greenhouse gas emissions and up-cycling or re-using materials such as polyethylene terephthalate (PET) plastic bottles. QarmaQ re-uses approximately 900 PET bottles that would otherwise become landfill.

Similar weight savings are achieved by replacing traditional glass with crystal-clear Lexan* polycarbonate (PC) glazing. Extensive use of glazing materials provides a weight saving of up to 50 percent compared to glass, while simultaneously allowing more adventurous shapes than flat glass. The glazing features a unique technology from Exatec* that deposits a thin protective layer to add resistance from scratching and the effects of weathering. Finally Flexible Noryl* resin technology was used for wire and cable coating. Replacing polyvinyl chloride (PVC), these ultra-thin coatings can reduce cable weight by up to 25 percent.

GreenOrder, an environmental strategy firm based in New York, N.Y., which audited the QarmaQ, estimated that the 60 kg taken out of the QarmaQ means the vehicle would require about 80 fewer liters of

diesel per year, and would cut annual greenhouse gas emissions by more than 200 kg.

Another environmentally progressive aspect of the QarmaQ's design is the use of SABIC Innovative Plastics' paint replacement technologies, including Visualfx* resins and Lexan* SLX films, to replace painting operations that can release toxic and greenhouse gases.

Design Credits

Client: Hyundai/SABIC Innovative Plastics.

Designers:

GE Sensing: Robert Butterfield

SABIC Innovative Plastics: Geert-Jan Schellekens

Hyundai: Thomas Buerkle, Brian Lee, Raphael Bretecher, Guenter Roos, Eric Coulouvrat – Interior, Jan Of – Exterior, Kirsty Murray – C&T, Dominique Raye – C&T, Jörg Maluschka – Interior.

5. Photo of QarmaQ



SABIC Innovative Plastics is a trademark of SABIC Holding Europe BV

* iQ, Lexan, Noryl, Valox, Visualfx and Xenoy are trademarks of SABIC Innovative Plastics IP BV and Exatec is a trademark of Exatec, LLC