



## News Release

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### *'Design With New Freedom'*

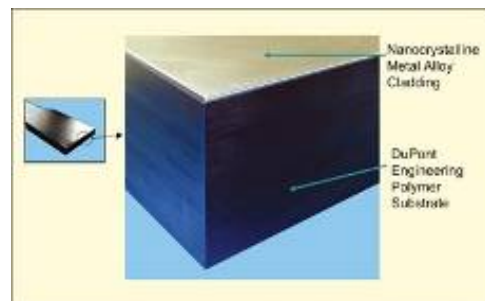
## **DuPont Engineering Polymers Announces Nanotechnology Alliance that Combines the Best of Polymers with the Best of Metals**

WILMINGTON, Del., Oct. 24, 2007 – DuPont Engineering Polymers today announced an alliance with Canadian-based Morph Technologies Inc., Integran Technologies Inc. and US-based PowerMetal Technologies to develop and commercialize a nanocrystalline metal/polymer hybrid technology used to manufacture extremely lightweight components with the strength and stiffness of metal combined with the design flexibility and lightweight benefits of high-performance thermoplastics.

“DuPont Engineering Polymers has consistently led the industry in providing metal replacement solutions and now we are turning traditional plastic/metal hybrid technology inside-out with an innovative metal over plastic technology that brings not only a step-change in performance, but also provides product designers with a technology that can shift their paradigm,” Keith Smith, vice president and general manager – DuPont Engineering Polymers, said.

The new offering – MetaFuse™ nanometal/polymer hybrids – employs a proprietary process that precisely applies ultra high-strength nanometal to components made of DuPont Engineering Polymers to create lightweight components in myriad, complex shapes with the stiffness of magnesium or aluminum and higher strength.

The patented technology in MetaFuse™ nanometal/polymer hybrids produces metals with grain size 1000 times smaller than those of conventional metals, according to Gino Palumbo, President and CTO of Integran Technologies Inc. “Nano-crystalline nickel or nickel-iron are high-performance metals that are two to three times stronger than normal steel and are also significantly harder, with better wear and friction performance,” Palumbo said. This



***Patented nanometal/polymer hybrid technology using DuPont Engineering Polymers substrate produces stiff, strong parts.***

[To the editor: A repro-quality color jpeg file, is available at [plastics.dupont.com](http://plastics.dupont.com) or [automotive.dupont.com](http://automotive.dupont.com) or send an e-mail to [jkestler@patmedia.net](mailto:jkestler@patmedia.net)]

technology directly creates an integral metal cladding with a nanocrystalline grain structure. Nanoparticles are not created at any stage in the manufacturing process.

“MetaFuse™ nanometal/polymer hybrids excite product and component designers because they truly allow freedom to design with fewer limits,” Clive Robertson, business development manager – DuPont Engineering Polymers, said.

“Metal offers strength and high stiffness, but is limited in its ability to enable integration and to cost-effectively create complex shapes. Conversely, thermoplastic offers tremendous freedom to create shapes and to integrate functions, but it has suffered from some limitation in combining strength and stiffness. With this technology, designers can have the best of both worlds.”

Initial developments will focus on selected applications in the automotive, consumer electronics and sporting goods markets that offer the maximum benefits that the technology can deliver. Under the agreement, DuPont Engineering Polymers, with global development, R&D and customer-support centers, will provide application development leadership to global customers in the drive to bring this innovative technology to market.

“The foundation of DuPont Engineering Polymers is application development based on high-performance materials and technology aimed at helping customers deliver high-quality, cost-effective systems and components,” said Robertson. “MetaFuse™ is a logical extension of that offering and builds out our newest Advanced Metals Replacement portfolio, which today includes an array of stiff, strong, impact-resistant thermoplastics and is slated to expand even further in the near future.”

This new offering is part of DuPont Engineering Polymers Advanced Metals Replacement portfolio, which also includes SuperStructural Monolithic Solutions, an array of glass-, carbon- and long-fiber reinforced thermoplastics. For more information about nanometal/polymer hybrids, please visit [plastics.dupont.com](http://plastics.dupont.com) on the web or call DuPont at 800-441-0575.

DuPont Engineering Polymers manufactures and sells Zytel® nylon and Zytel® HTN PPA, Crastin® PBT, Rynite® PET, Delrin® acetal, Hytrel® TPC-ET, DuPont™ ETPV engineering thermoplastic vulcanizates, Minlon® mineral reinforced nylon, Thermx® PCT, Tynex® filaments, Vespel® parts and shapes, Zenite® LCP, to global aerospace, appliance, automotive, consumer, electrical, electronic, industrial, sporting goods and other diversified industries.

Morph Technologies, Inc. is a privately owned company charged to commercialize Integran's proprietary nanomaterial technology for automotive applications.

Integran Technologies, Inc. is a global leader in the development of nanomaterials, with business operations in Pittsburgh, Pa., and Toronto, Ont., Canada. PowerMetal Technologies, Inc, based in Carlsbad, Calif., is a leading supplier of nanotechnology enabled components to the sporting goods and consumer products industries. PowerMetal is already commercially supplying nanometal/thermoset polymer hybrid products that apply the same concept as the alliance is introducing for thermoplastic polymers.

DuPont is a science-based products and services company. Founded in 1802, DuPont puts science to work by creating sustainable solutions essential to a better, safer, healthier life for people everywhere. Operating in more than 70 countries, DuPont offers a wide range of innovative products and services for markets including agriculture and food; building and construction; communications; and transportation.

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