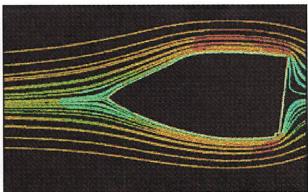


Wilson used ANSYS to design the new, breakthrough INVEX(TM) golf club. This more powerful, more accurate driver was streamlined not just front-to-back, but across all surfaces that meet air resistance in an actual golf swing.



This 3D model represents flux density in a solenoid actuator. It is modeled such that the core and armature are independently meshed, allowing for quick solutions at different rotor angles and gap heights.

## ANSYS/Emag

The stand-alone version of ANSYS/Emag is one of the most comprehensive electromagnetic analysis packages on the market today. It's the right tool for companies that manufacture devices impacted by electromagnetic fields, such as rotating electric motors, solenoid actuators, transformers, and MRI magnets.

## Simulation Physical Prototype Design Analysis Concept Virtual & Design & Optimization Prototyping Param etric Design Optimization Production Verification (CAM) (CAD) (CAE)

**Process-Centric Engineering** 

For example, a circuit-fed solenoid actuator, in which the circuit voltage and current are integrally coupled to the coil in an electromagnetic field simulation, is an example of field interaction requiring the direct method of coupling.

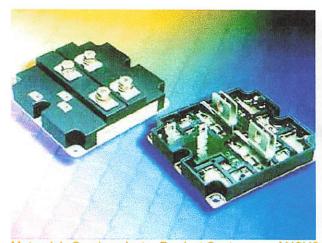
ANSYS/Emag is the price/performance leader in the industry. It contains extensive 2D and 3D analysis capabilities that include static and low frequency harmonic and transient electromagnetic analysis. It also simulates electrostatics, circuits, and current conduction. Users can calculate force, torque, inductance, impedance, Joule losses, field leakage, saturation, electric and magnetic fields, and other parameters with the ANSYS/Emag program.

The full parametric modeling and design optimization provided in ANSYS/Emag gives engineers complete control of their design analysis. Simply choose design objectives, variables, and constraints, and the program will automatically

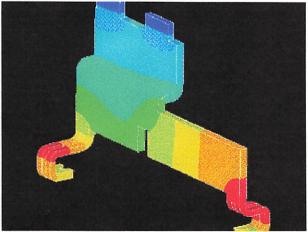
iterate until an optimal design is produced.

A big advantage of using the ANSYS/Emag program in conjunction with ANSYS/Mechanical and ANSYS/FLOTRAN is its capacity for coupled-field analysis. This self-contained software package generates multiphysics capabilities, enabling the study of the interaction of flow, electromagnetic fields, and structural mechanics when used with other ANSYS products.

The coupled-field loads of an electromagnetic analysis can automatically be joined with ANSYS structural, thermal, and fluid elements. In addition, an electric circuit may be directly coupled with conductors or sources in an electromagnetic analysis to model circuit-coupled devices. ANSYS/Emag, in conjunction with ANSYS/Mechanical, has the ability to perform electro-heating, induction-heating, and magneto-structural analyses.



Motorola's Semiconductor Product Sector uses ANSYS as a simulation tool to help them remain competitive in the electronics packaging industry. Mechanical engineers use the ANSYS program for a wide range of tasks in developing packaging configurations for semiconductor devices.



Motorola uses ANSYS as a simulation tool for thermal, coupled-field therma/electric, viscoplastic, static, and dynamic analyses to ensure products resist damaging heat build-up while withstanding vibration, shock, and temperature changes.

## Flexible Solutions

The ANSYS product line is based on pioneering advances in multiprocessing capabilities, compatibility, usability, and technology integration. ANSYS, Inc., with its "open for business" corporate policy, is committed to providing users with the versatility and agility necessary for success in an increasingly competitive global marketplace.

Managing change is one of the greatest challenges in today's manufacturing world. The ANSYS family of products gives users the ability to address corporate-wide engineering needs through an integrated functionality applies to a broad range of users. ANSYS suite of solutions. This ensures flexibility for future technological advances.

The ANSYS family of products, with a consistent, easy-to-use graphical user interface (GUI), shares data structures and is 100 percent compatible across major hardware platforms. The entire ANSYS product line utilizes a single database. All of these features allow users to maximize their software and hardware investments.

## The ANSYS Advantage

As a technological leader in the CAE industry, ANSYS. Inc. continues to develop high-quality, cutting-edge software through an ISO 9001 certified process. As the first design analysis software vendor to achieve this international standard of quality, ANSYS, Inc. offers industry-leading customer services through worldwide support distributors, training, and custom integration and consulting services designed to maximize the technology investments of today's companies.

A multiphysics product offering with deep product technology is becoming mission-critical to more and more companies as they implement process-centric engineering to help accelerate time-to-market, as well as manufacture cost-effective, quality products...

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