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A series of practical application studies featuring GLS TPEs

GARRETT ELECTRONICS PAIRS WITH GLS TO GET A "HANDLE" ON HAND-HELD DETECTOR

Featuring

**DYNAFLEX®
G7900 SERIES**

- *Soft Touch, Tactile Feel*
- *Durable*
- *Excellent Aesthetics*
- *Easy to Mold*

THE APPLICATION

*Garrett® Super Scanner®
hand-held metal detector.*

THE SITUATION

Manufacturer of metal detectors was having difficulty getting the right material for the grip. The material had to impart an ergonomically pleasing feel and be durable.

THE CHALLENGE

GLS needed to provide a material to work with a friction fit design. The solution needed to avoid problems with the original design – in the original material used had brought on aesthetic and assembly issues.

THE OUTCOME

Impact of the product was immediate acceptance. The GLS DYNAFLEX grade of TPE easily formed to friction fit onto the wand, offering a pleasant touch, smooth finish and grippy feel.

Security and law enforcement professionals around the globe depend on metal detection technology to prevent criminal acts.

Regarded as essential equipment in the security business, sophisticated metal detection is an integral part of nearly all security operations. Industry leader Garrett Electronics, Inc. engineered a new portable hand-held unit, the Super Scanner®, to meet the increasing demand for sensitive, portable metal detection. The product was not complete until it had a grip that was as sophisticated as its electronics. In order to get this eagerly anticipated product into the marketplace's hands, Garrett approached McHenry, IL TPE compounder GLS Corporation to supply the Super Scanner with a grip that would meet their demanding application needs.

The Garrett Super Scanner is one of the world's most popular hand-held metal detectors. The Super Scanner operates at a very low frequency range and, according to the company, the scanner is completely safe for all scanning situations, and does not impede the operation of electronic devices like pacemakers. Further, Garrett claims that the unit is so sensitive that it is often necessary to press the Interference Elimination Button while searching on floors that contain rebar. Shaped roughly like a flattened baton, the Super Scanner is lightweight and ruggedly designed for challenging environments such as prisons, courthouses, airports, schools, crime scene investigations and public arenas, to name a few. While the electronics and detection part of the Super Scanner are

state-of-the-art, the firm was searching for a way to impart aesthetics and ergonomics into the grip.

Garrett's engineers had a problem with the new Super Scanner: they had designed a highly accurate, hand-held metal detection unit for professional security use, but were having difficulty getting the right material on the grip to convey the proper hand feel comfort and quality to end users. The team wanted the Super Scanner to have an ergonomically pleasing feel that made it easy to



hold and operate, was durable and could be easily integrated into the manufacturing process. "The Super Scanner is designed to be easy to use, sensitive, efficient, and rugged, and we needed a handle that would meet these specifications," Jim Dobrei, Garrett's Sales Director, notes. GLS Corporation was challenged to meet the need for an ergonomic, comfortable, soft touch, grippy handle that was durable and could be easily fused into the existing designs.

Quality and Aesthetics

"Our challenge," recalls Ann Ratliff, Sales Engineer at GLS Corp., "was to make the grip work with a friction fit design, and avoid the problems with the previous material, which had resulted in aesthetic and assembly issues." The first issue that needed addressing was the original finish problems at the grip. Specifically, the grip exhibited mold lines and a dull finish that detracted from the Super Scanner's appearance. Also, the grip was required to impart the qualities of good palm feel, soft touch, and toughness. "GLS solved Garrett's problem with a DYNAFLEX® grade TPE," Ratliff explains.



DYNAFLEX TPEs from GLS are designed to improve product aesthetics, and be easily molded in such applications as handles and grips. The application with Garrett was exactly what this TPE was designed to do, offering a durable grip with a soft touch that has a pleasant hand feel. Further, the material adds value to the end product because it has a smooth finish, deep color, and is resistant to hand oils.

Makes the Scanner Super

Garrett's efforts to improve the electronics and sensitivity were equally matched with the DYNAFLEX grip material. The TPE was easily formed to shape, and then friction fit onto the wand. With a pleasant touch, smooth finish, and grippy feel, the product was eagerly accepted by security professionals worldwide.

The impact the product made was nearly immediate, as security professionals recognized the Super Scanner as the hand-held unit of choice, due to its effectiveness and easy operation. The

scanner was also ready for use at the 2002 Salt Lake City Winter Olympics, where Garrett was the exclusive metal detector supplier and security provider. Garrett had a high profile at the Salt Lake City Winter Olympics, as the firm is both an official supplier to the games and an official sponsor to the U.S. team. Further, the new product is consistent with the company's mission for constant product development and improvement for hobby and security professionals.

Garrett Electronics, Inc., DBA Garrett Metal Detectors, was founded in 1964 by Charles L. Garrett. Garrett, a lifelong lover of treasure hunting and former consulting engineer to NASA (Geophysics and space applications were his specialty), started the firm in his garage to supply the hobby metal detector market with an effective, quality instrument. Never satisfied with their products, the firm is one of the most dynamic in the metal detecting industry. This spirit of innovation drove Garrett to win the first U.S. patent for the use of a computer chip in a metal detector. In 1982, the firm was awarded a contract for the L.A. Olympics for walk-through and hand-held metal detectors. This led to the addition of the Security Division of the company, and later the Garrett Academy of Metal Detection. Since 1982, Garrett has been the exclusive Olympic supplier of metal detection equipment and security personnel to work metal detector screening operations. The Company's team of engineers strives to challenge the status quo and works to create new and better products that broaden the use of existing technology.

GLS Corporation has supplied elastomeric raw materials to this industry since 1979. The company has produced application-specific, custom TPE compounds since 1984. Products offered for injection molding and extrusion include KRATON® thermoplastic rubber compounds, DYNAFLEX® thermoplastic elastomer compounds, VERSAFLEX® TPE alloys and new generation VERSALLOY® elastomer alloys. TPEs have found applications in the medical, sports and leisure, automotive, lawn and garden, appliance, kitchen tools, power tools, personal care and industrial markets, among others.

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