

PROPRIETARY TPU MAKES FAST-GROWING SPORT THE “ULTIMATE”

Try to name the fastest-growing sport in the U.S. and possibly the world. If you said soccer, football, or lacrosse, the correct answer is Ultimate, a sport using flying discs. It is now being played in more than 42 countries by 4.9 million men, women, boys and girls in the US alone. One reason for its popularity is the game can be played on nearly any existing field and incorporates all the beneficial elements of a fun sport. Added to this is the low cost of the equipment (flying discs) and readily available facilities. Plus, Ultimate is easy to learn and enables players to hone their skills very quickly.



Companies that make the equipment attest to the growth of this sport based on their increasing sales volumes. Producers of the discs, the Ultimate players’ trade association, and the leading materials supplier for the disc, have all experienced ongoing growth. These firms include disc manufacturer Discraft, Inc. (Wixom, MI); USA Ultimate, the US national governing body for the sport of Ultimate (Boulder, CO); and Alliance Polymers & Services (APS), (Romulus, MI). APS is the supplier and materials consultant for BASF Elastollan® brand of TPUs (thermoplastic polyurethanes) used in the manufacture of the special high performance discs.

Ultimate Explained

USA Ultimate (www.usultimate.org) boasts more than 30,000 members. The sport of Ultimate combines the non-stop movement and athletic endurance of soccer with the aerial passing skills of football. The game is played by two, 7-player squads with a high-tech proprietary polyurethane disc on a field similar to a football field (70 yards of playing field and two, 25 yard end zones). The object of the game is to score by catching a pass in the opponent’s end zone. A dropped pass, holding a disc for more than 10 seconds, an interception or a pass out of bounds all cause a turnover. There are no officials needed in that the game is governed by

the “Spirit of the Game™”, a tradition of sportsmanship for fair play. More than 3,000 Ultimate fields now exist across the US.



No small wonder the popularity of Ultimate and other uses for discs that millions of flying discs are produced each year by Discraft at their Wixom, MI headquarters. Included in their family of products for Ultimate, Discraft has the distinction of manufacturing the Ultra-Star 175 series of Ultimate discs, the only official disc for sanctioned tournament play.

Esquire magazine ranked the Ultimate disc as #19 on their List of 31 Things Every Man Should Own.

Material a Key Factor in Quality/Flight of Disc

According to spokesmen at the Discraft headquarters, no material used in the manufacture of rugged flying discs works better than TPU (thermoplastic polyurethanes), and specifically a proprietary blend of TPU from the BASF Elastollan series of TPUs, distributed by Alliance Polymers & Services (APS). Company sources note that this particular type of thermoplastic elastomer ensures the Ultimate disc fly, handle and perform just right. Features and benefits of the discs made with TPUs include: they remain flexible in all types of weather, are extra tough and are extremely ‘grippy,’ even in wet weather.

At the Discraft headquarters just northwest of Detroit where research and development, sales and manufacturing are all accomplished under a single roof, TPU discs come off the injection molding production line in a steady stream. Careful quality control is a must, starting with the propriety designs from the firm’s engineering department, their mold building department, and finally their hot stamping/decorating operation. An especially important facet of the TPU is the even flow of the material to ensure each disc performs exactly the same as another; evenly and accurately with consistent weight distribution.

“Our choice of materials used in the production of our quality discs is absolutely critical in order to meet our high standards, not to mention those of the sport,” says Mike Wagner, VP of Operations at Discraft. “We quickly discovered many years ago that lesser polymers do not have the requisite characteristics to withstand the rigors of the game. That’s when, fortuitously, Roger Huarng, formerly of BASF Corporation and now a principal of Alliance Polymers & Services (APS) approached us with a better materials solution.”

That solution, recalls Wagner, was an extremely durable product sold under the Elastollan name. It the most durable elastomers on the market, known for its toughness along with other production and user benefits:

- Low temperature flexibility
- Tear/cut resistance
- Abrasion resistance
- Customizable with individualized hot stamping designs and logos
- High puncture resistance
- Excellent weatherability, color stable
- Long term flexibility
- Grippy/tacky feel
- Fungus resistance

Supplier/Molder Relationship Strong

As Discraft grew, the help, insight and support given by Huarng and his associates has seen Discraft expand their product line to keep in the forefront of the industry in disc sales and leadership in the Ultimate sport industry and another growing sport, Disc Golf.

For all of their quality discs, Discraft must be assured of the consistency of the TPU materials they use. Included in the “must haves” are even flow of the material during the injection molding process to ensure each and every disc has the right balance - meaning in flight the disc does not wobble. Weight is also a factor, as the weight of the disc is contingent upon the type of use for which it is designed. The complexities of the mold design by Discraft include special undercuts and ridges for various flight distances.

Depending on the time of year, production needs of Discraft vary. Therefore, the disc manufacturer relies on Alliance (APS) to provide large or smaller amounts of TPU elastomers at a moment's notice, delivering materials on a JIT (just in time) basis. "It is our mission here at APS to provide Discraft as well as our other customers with product when and where they need it," says Huarng at the firm's nearby distribution headquarters. "It's an optimum relationship between a manufacturer/molder and a materials supplier."

About the Companies

Discraft is one of the disc industry's leading designers and manufacturers of a wide selection of standard and specialized flying discs. Their products range from those designed for retail sale, to highly specialized custom colored and printed (hot stamped) products for teams, companies or groups wanting their own artwork for competitions or promotions. The company offers numerous grades of discs at various price levels and sells them through retailers and wholesalers worldwide.

Alliance Polymers & Services, LLC (APS) in Romulus, MI, is a full service warehousing, distribution, shipping and technical service organization dedicated to helping TPE, TPU and other elastomer marketers and processors with all their product and technical support needs. The firm currently markets and supports Polymax Maxelast® TPEs and BASF Elastollan® TPUs. APS is unique in that they offer elastomer materials in quantities large and small (from truckloads down to drums and bags).

APS is owned and operated by three of the industry's leading marketing and technical support executives, Roger J. Huarng, Stephane Morin and Ron Sheu, formerly with BASF Corporation. They work with a series of independent technical agents located in key cities and markets throughout the North American Continent.

For more information on discs or the materials:

For more information on the many Ultimate, Disc Golf or freestyle disc products, contact: Marketing Department, Discraft, 29592 Beck Road, Wixom, MI 48393. Tel: 248-624-2250. Web: www.discraft.com. Email: sales@discraft.com.

For more information on TPUs and TPEs for conventional, unique or highly durable applications, contact: Marketing Department, Alliance Polymers & Services LLC, (APS), 30735 Cypress Road, Suite 400, Romulus, MI 48174. Tel: 734-710-6700. Fax: 734-710-6715. Web: www.apstpe.com. Email: sales@apstpe.com.