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SONGWON's polyurethane resins for packaging*Hyeonsik Bae*¹**(1) SONGWON Industrial Group**

Manufacture of the widely varying types of packaging available today requires a vast range of products and technologies. SONGWON has developed a comprehensive portfolio of polyurethane laminating adhesives used in flexible packaging laminates and polyurethane ink binders for gravure and flexographic printing inks.

HI-THANE™ polyurethane adhesives for flexible packaging

The broad array of cutting edge quality products includes solvent and solvent free polyurethane (PU) laminating systems for flexible packaging such as plastic and metalized film and aluminum foil. SONGWON also offers PU adhesives for all flexible packaging applications. Fast curing enables high bond strength to be obtained within a few hours, allowing slitting within 12 to 24 hours and quicker laminate turnover. The long pot life of the products facilitates processing, thereby boosting productivity.

Special highlight: HI-THANE™ A-7332 & HI-THANE™ A-6200

This solvent free, two pack polyurethane adhesive system for flexible packaging is distinguished by good wetting properties, which play a key role in helping film laminate manufacturers to reduce coating weights and production costs. The products are stable to storage at temperatures as low as minus 20°C. This important product feature helps to reduce handling costs under cold weather conditions since the adhesive does not need to be melted before use.



HI-THANE™ polyurethane ink binders for gravure & flexographic printing inks

Besides its expertise in adhesive systems, SONGWON is also a leading specialist in polyurethane ink binders for gravure and flexographic printing inks used in flexible packaging laminates and plastic film applications. These ink binders are noted for their high bonding and color strength as well as their suitability for pigment grinding and retort applications.

The products, which fulfill EHS standards, also meet the requirements of the printing ink industry in terms of printability, heat resistance, solvent retention and antiblocking properties. They improve the dispersibility, printability, film properties and post-processability of printing inks. The broad range allows the design of customized printing ink formulations.

Printing inks containing SONGWON's ink binders are suitable for surface printing on substrates such as paper, polypropylene and polyethylene designed for bread, snack, and dried food packaging, for example. They can also be used for reverse printing on packaging materials such as polyethylene terephthalate (PET), nylon and oriented polypropylene (OPP) for snacks, boiled or retort food, and cold food.

SONGWON runs a dedicated ink binder testing laboratory in South Korea to help customers formulate technically advanced, customized printing inks.

Special highlight: HI-THANE™ A-890K for gravure printing inks

This aliphatic, solvent based urethane ink binder has excellent lamination bonding strength on PET, nylon and OPP plastic films. It is also highly resistant to heat, making it suitable for use in both retortable and non-retortable flexible packaging laminates.

HI-THANE™ A-890K is particularly distinguished by its much higher re-solubility than that of conventional ink binders. Re-solubility is a key performance property for high speed printing. It is the ability of the "dried" ink on the cylinder to be re-wetted. Poor re-solubility results in less ink transfer from the cylinder to the film substrate. Good re-solubility leads to higher color strength and better image resolution. It helps to prevent scale formation in gravure printing cells, improves print quality and reduces maintenance.

Color strength is further improved thanks to the product's low viscosity, which is demonstrated by clear, bright shades.

HI-THANE™ A-890K is recommended for high speed line printing where high color strength is required.

Special highlight: HI-THANE™ A-9107T & HI-THANE™ A-9135T in gravure & flexographic inks

HI-THANE™ A-9107T and HI-THANE™ A-9135T are aliphatic, alcohol based urethane ink binders suitable for use in the manufacture of flexographic and gravure printing inks. These environmentally sound products have outstanding re-solubility properties and significantly minimize solvent retention. Both HI-THANE™ A-9107T and HI-THANE™ A-9135T also provide printing ink manufacturers with formulation flexibility since these ink binders are also highly compatible with other co-binders such as vinyl resin, nitrocellulose, etc.



New developments in the pipeline

As packaging becomes more sophisticated and diverse and standards more stringent, SONGWON continues to develop solutions that match manufacturers' and customers' needs.

For more information, please go to www.songwon.com or contact your local representative.