

# Polyurethane Film-on-Paper With Controlled Release



Argotec Inc. introduced ArgoMedPLUS 18411, a revolutionary new thermoplastic polyurethane (TPU) film-on-paper product that will allow medical adhesive coaters, converters and distributor/retailers an alternative film source with which to participate in frame-type wound dressing and surgical drape markets.

Of the many wound bandage designs available today—film, island, frame, and combinations thereof—all except frame-type dressings have enjoyed a wide variety of material choices. One of the greatest challenges to successfully marketing frame dressings has been creating a film product with the correct peel release between the paper and film. (Similar technical challenges and processes are present in surgical drape applications.)

For the past 10 years Argotec has supplied the medical wound care market with ArgoMed® 18411, a highly successful, waterproof-breathable, aromatic-polyether, TPU film on a polyethylene carrier for use in IV-site and other dressing/drape applications. The ultimate challenge in solving the controlled release puzzle was choosing the right paper and modifying the TPU extrusion coating process to control the peel release values between the paper and film so that they are:

- Tight enough so the film and paper remain intact during the pressure-sensitive-adhesive coating and slitting process
- Loose enough so the kiss-cut window can be detached from the TPU film, either by vacuum or adhesive tape removal techniques
- Tight enough so the frame remains affixed to the TPU film after the kiss-cut window is removed

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Published on Medical Design Technology (<http://www.mdtmag.com>)

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- Loose enough so when the medical practitioner applies the dressing the frame will separate from the TPU film without pulling the adhesive away from the patient's skin

After significant engineering and proprietary capital equipment investment, Argotec resolved the controlled-release challenge by utilizing a specially coated, 80# SCK paper, polykote 1-side, silicone coated the other, in combination with ArgoMed 18411 TPU film to create ArgoMedPLUS 18411. This cutting edge product provides a controlled release between the paper carrier (which eventually becomes the frame, see diagram) and the TPU film.

Wound dressings made with ArgoMedPLUS 18411 film-on-paper provide patient comfort; they are highly conformable, exhibit excellent stretch and recovery, and have high moisture-vapor-transmission rates for outstanding breathability. Made with USP Class IV or VI certified components, this film-on-paper composite meets biocompatibility standards. It also provides a viral and blood-borne pathogen barrier. ArgoMedPLUS's TPU contains no processing aids or modifiers; therefore, the surface tension of the film makes it compatible with the most commonly used medical-grade adhesive systems. It can also withstand commercial EtO and gamma sterilization processes.

ArgoMedPLUS 18411 can be extruded in film thicknesses ranging from 0.8 to 1.2 mils (20 to 30 microns), in widths up to 60 inches (1.52 meters), and lengths up to 550 non-spliced yards (532 meters), depending on film thickness.

**Source URL (retrieved on 07/22/2014 - 9:12pm):**

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