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Medical Tapes for Wearable Sensor Devices: MBK Provides Innovative Tape & Design Solutions

Bio-compatible skin friendly medical adhesive tapes are an integral part of designing wearable sensor medical devices. Wearable sensor devices are used to monitor, diagnose and treat diseases from monitoring glucose, blood pressure, bodily fluids, ECG and heart rate to the delivery of medical drugs and nutraceuticals to the skin surface. The challenge for startups and manufactures is finding the right combination of adhesive tape materials and backings to produce a comfortable, breathable and reliable long term skin contact securement system for their patients and end users.

Specializing in converting medical grade adhesives and tapes for over 40 years, MBK Tape Solutions has become a leader in providing innovative tape solutions to medical companies, large and small. In order to design medical devices, there needs to be a balance between the need for a strong bond to hold the bandage or device in place for as long as the treatment requires, and the ability to remove or reposition it without causing unnecessary irritation or skin trauma. The right adhesive and backing needs to accommodate a person's body movements that occur during normal wear as well as when the person showers or perspires from exercise. Other Important design considerations for an adhesive tape securement system may include age, skin type, body type and weight, location of device, device profile (including size and weight), length of wear time, sterilization method, re-use or one time wear.

Using quality materials may reduce some risks, but understanding how the different types of adhesives work with the skin and the device construction can help when developing prototypes. Medical grade adhesives need to offer biocompatibility, conformability, breathability, absorbency, porosity and durability. To ensure product efficacy, skin friendly adhesives typically exhibit high cohesive strength or shear resistance, high initial tack, high MVTR and withstand gamma, or EtO sterilization.

Medical grade adhesives include acrylates, silicones, hydrocolloids and hydrogels, which provide gentle adhesion to the skin with long lasting bonds for extended wear and the ability to resist degradation from fluids. The newest silicone adhesives are conformable, repositionable and extremely gentle to the skin. Adhesives can be applied to one or both sides of a substrate material, including PE foam, PVC foam and PU foam or film. Hydrophilic and hydrophobic tapes help channel the direction of fluid, towards or away from the skin. Conductive tapes may be used when working with electrical components in the medical device or sensor.

MBK has earned a stellar reputation for selecting the right materials and designing medical components in varying complexity and application. Having access to dozens of tape manufacturers, MBK's tape specialist can find the right adhesives and materials to work with at the best price. Using state-of-the-art converting equipment, the material can be die cut into almost any size, shape or configuration and laminated on one side or multiple layers. Other capabilities include reregistration, island placement, folding, printing and slitting. Clean room manufacturing is available, as well as packaging and turn key product fulfillment.

Working with an experienced tape converter helps ensure that materials meet application and FDA/510 (k) requirements and that the components are designed and manufactured most productively and cost effectively. With smaller sensors and lower-cost electronics that stick to the skin, these wearable medical devices will help change how diseases and chronic conditions are detected, treated, managed and understood.

Visit the MBK website to learn more about adhesive tapes and converting services. To speak with a Tape Specialist about your application requirements, call **818-998-1477** or complete the [MBK Request Form](#).

About MBK Tape Solutions

Since 1971, MBK has custom designed and converted adhesive tapes, films, foams, foils and other flexible materials for component parts or end-user products in almost every imaginable industry. The MBK team is committed to quality products, excellent customer service, on time delivery and innovative solutions. Stick with us for the long run!