Application: Gas Permeable Cell Culture Device

Components: The proprietary G-Rex LSR Membrane is contained in a unique four component thermoplastic assembly.

Design Requirements:
The product assembly was accomplished through DFM (Design For Manufacturing) collaboration with Wilson Wolf engineers and Minnesota Rubber and Plastics engineers. Together, the group eliminated several components, improved the overall design and final product cost. The G-Rex 100 series design set the stage for a complete line of cell culture products.

Design Approach:
Provide the correct liquid silicone rubber and thermoplastic resins and manufacturing capabilities to achieve the patented design and meet FDA registered Class 1 medical device requirements. The assembly which properly positioned and held the G-Rex LSR thin film membrane consisted of an incubator shelf, a high nutrient capacity bottle supported by a ring at the base and a cap at the top.

Related Benefits:
Minnesota Rubber and Plastics LSR molded membrane provides convection nutrient transport (not diffusion) generating the most cell cultures in the least amount of space. Convection is the key to achieving maximum cell growth with uninterrupted access to nutrients. When compared to age-old diffusion processes, Wilson Wolf’s design provide the easiest and fastest way to generate the most cells in the least amount of space. It can turn 300 million cells into 100 billion cells in just 11 days.

Minnesota Rubber and Plastics provided complete design, mold and assembly operations giving Wilson-Wolf final sterilized product, completely packaged in multiple size quantities ready for the medical marketplace.

All molding, assembly and packaging operations are done in USA-based Minnesota Rubber and Plastics ISO 13485 Class 7 and 8 clean rooms.

Minnesota Rubber and Plastics’ experience in advanced material formulation enables it to be compliant with FDA, EC 1935/2004, NSF 61 and NSF 51, plus ISO 10993 and ISO 13485 to meet unique product requirements. It 70-year-plus history in the design and manufacture of complex devices makes it the preferred partner for industry leaders throughout the world.