cross-linking

Polymer Products Made Better With E-Beam Technology

Cross-linked polymer products deliver improved burst strength and heat tolerance, decreased permeability, better abrasion and chemical resistance and more resistant to stress cracking and compression set. The cross-linking process changes thermoplastic materials into thermosets.

Before cross-linking, the molecules in these materials move freely and therefore, finished products are weaker and more susceptible to factors such as heat and chemicals.

A product that goes through an electron beam (e-beam) cross-linking process is irradiated, which changes the molecular structure. The resulting product contains molecules that are cross-linked and have more stable bonds. As a result, the molecules no longer move freely, making the product much stronger, and more heat and chemical resistant.

Sterilization is another benefit of e-beam cross-linking, making the resulting polymer products ideal for applications where sterilization is important, such as healthcare, food and potable water.

Features and Benefits:

- Improved product strength
- Better heat tolerance
- Decreased permeability
- In-house e-beam facility for low cost, quick turnaround

Low Cost and Fast Delivery Using Our In-House Facility

Mercury Plastics is one of a few companies in the world that has made the investment in an electron beam processing facility. This 25,000 square foot facility houses a five megavolt electron beam that allows us to produce these top quality products at the lowest possible cost and with a much shorter lead-time.

This in-house technology also means that Mercury Plastics has gained extensive experience using e-beam processing to cross-link a myriad of polymers. No matter what your need or design problem, you can rely on our team of engineers to respond with a top quality, cost effective solution.

Mercury Plastics is also continually researching and developing new materials that take advantage of the benefits of cross-linking, such as our PEX OT® material for potable water which delivers superior performance in taste and odor tests over LDPE, HDPE and competitive PEX materials.

An Array of Products and Services

Cross-linking is just one technology that we use in combination with our other capabilities to offer you products that deliver the best possible performance for the lowest total cost. From custom extrusions, fabrications or assemblies – Mercury Plastics engineers will help you take advantage of all of our capabilities to design the lowest total cost part. To learn more, please call us at 440-632-5281 or visit us on the web at www.mercuryplastics.com.

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