Custom Cushion Design & Fabrication Security and Storage Inside a Container

ENDLESS RANGE OF PROTECTION

ECS designs and fabricates a variety of foam cushion materials that are available for shock and vibration attenuation in reusable containers. These materials can be cut, formed and/or molded into an almost endless variety of configurations.

Most of our foam cushioning materials are manufactured from polyethylene, polyurethane, or polystyrene substrates. Most of our foam cushioning materials are widely used for commercial containers and continue to be specified for use in military transit cases.

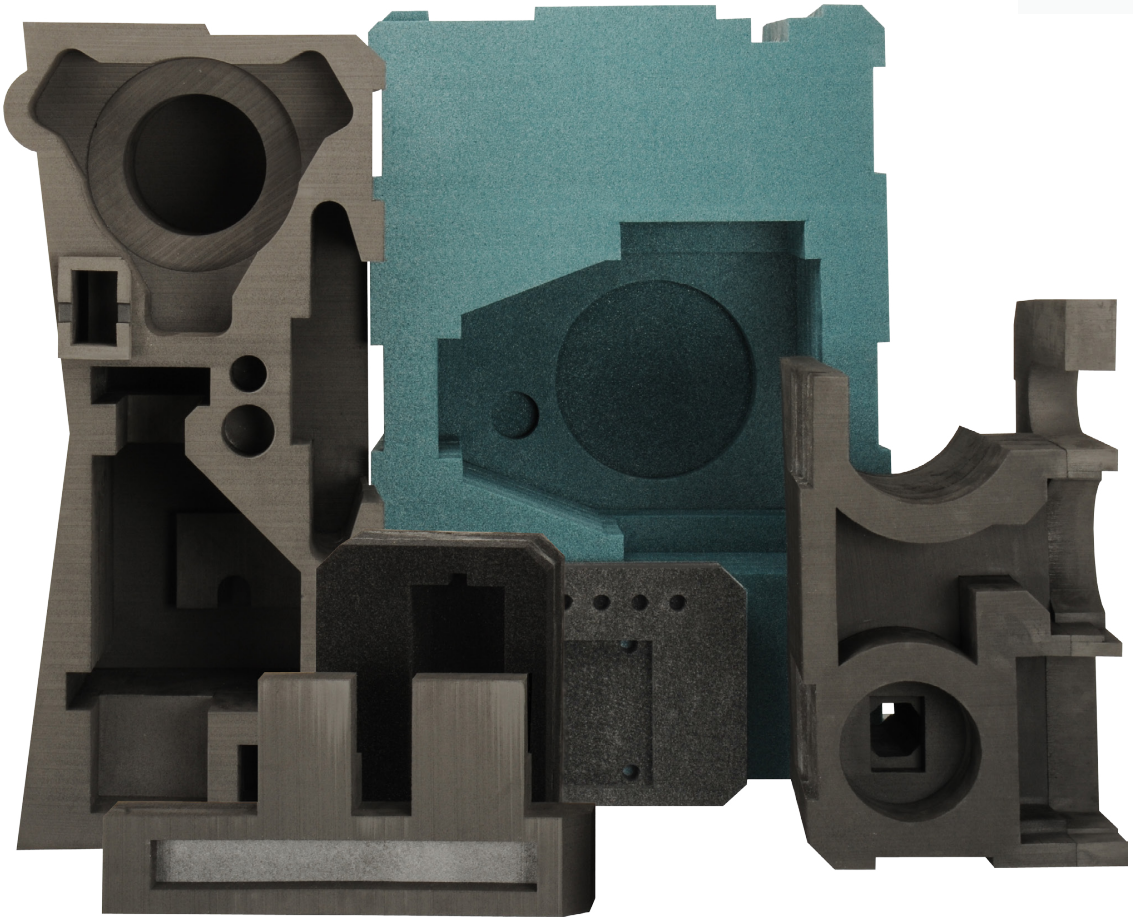
We design our cushions in-house and use state of the art machinery to cut the foam to conform to the equipment inside the container.

ECS FOAMS MATERIAL

- *Polyethylene*
- *Polyurethane*
- *Expanded Polystyrene Substrates (EPS)*

ECS ADVANTAGE

- *In-House Design and Fabrication*
- *Shock and Vibration Attenuation*
- *Endless Variety of Configurations*



MATERIAL CHARACTERISTICS

Polyethylene is a thermoplastic material. It is therefore capable of being heated to a melting point at which it becomes semi-fluid, or it may be cooled to its semi-flexible, solid condition. This property allows individual 2 inch thick sheets of material to be permanently heat fused together into larger blocks and partially formed or die-cut sheets to be bonded into layered cushion assemblies. These foams can be saw-cut, routed, die-cut, and cut or formed with heated knives and wire tools. If required by the container design, the surfaces of the assembled cushion may be densified using heated molds. The result is a relatively smooth, semi-hardened outer coating around most of the cushion's cavities and exterior surfaces. Polyurethane foams are most commonly supplied in polyester and polyether varieties, which have distinct physical and chemical properties. These materials are available in large pre-foamed buns (i.e. up to 4 feet wide, 3 feet high and 10 feet in length), which can be cut into sheets and blocks of virtually any size. Expanded Polystyrene Foams (EPS) foams are extensively used for commercial, non-reusable packaging applications and for an immense variety of consumer products from hot drink cups to swimming pool flotation devices. This family of foam materials are closed celled, semi-flexible and partially crushable.

CUSHIONING CHARACTERISTICS

Polyethylene foams have the ability to support relatively high weights per area of surface. This static load bearing strength is due to the closed cell nature of the foam. The rigid polyurethane foams are closed cell materials and are primarily used for thermal insulation and flotation purposes. However, flexible polyurethane foams are excellent cushioning materials and offer considerably better dynamic performance characteristics than their polyethylene foam counterparts. These materials are open celled and do not depend on entrapped air bubbles for strength or dynamic properties. EPS foams are also closed celled, semi-flexible and partially crushable. As nonreusable cushioning materials, EPS foams are nearly perfect because of their low density, low cost, and adequate cushioning properties. As a result, they do not demonstrate the long term, repeatable shock absorption properties that are necessary for most hermetically sealed container applications.

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