



When products pose possible risk of injury or death when used, it's the manufacturer burdened with "duty to warn" (the conveying of safety/warning information to the user).

Thus, labeling performs an essential and liable role.

However, affixing safety/warning labeling to products manufactured of polyolefin thermoplastics (polyethylene, polypropylene, TPV's, TPO's, TPE's and more) can be tricky!

Polymer Fusion Technology Safety Solutions

For Safety / Warning
on LSE Polyolefin Thermoplastics

...only with children who weigh less than 20 lbs (9.1 kg).
...adjust the belts provided with this child
...strain around your child.
...cure the top anchorage strap provided with
...child restraint.
...only the vehicle's lap and shoulder belt system
...en restraining the child in booster mode.
...cure this child restraint with the vehicle's child
...straint anchorage system if available or with a
...icle belt.
...ow all instructions on this child restraint and
...ne written instructions located on the lanyard
...ler seat cover at the top of seat back.
...gister your child restraint with the
...nufacturer.

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Why? Performance properties making polyolefin thermoplastics so versatile compared to other materials (*resistance to chemicals, fuels, extreme temperatures and uv, long life durability, substantial cost savings*) also makes them problematic for common "adhesion-based" labeling methods available today (*e.g. pressure-sensitive adhesive, in-mold, hot stamp foil, heat transfer, silk screen, pad printing and more*).

Similar to Teflon®, nothing can stick permanently to polyolefin thermoplastics and that's a problem for manufacturers and consumers alike. When it comes to safety/warning information, there can be no compromise.

Industries Utilizing Safety / Warning Labeling

- > Outdoor Power Equipment
- > Automotive
- > Battery
- > Medical
- > Childrens Products
- > Heavy Machinery
- > Powersports
- > Waste/Recycling
- > and More...

Failing adhesion-based durable Safety / Warning labels applied to LSE Plastic.

Fact is, failed labeling can lead to "Failure To Warn" litigation cases against manufacturers when damaged or missing information leads to accidental injury or death.



Failing adhesion-based durable label applied to offroad vehicle LSE Plastic.

Not only do federal agencies like OSHA and CPSC give specific requirements on safety/warning labeling, multiple safety labeling standards and industry specific manufacturing standards all use similar “*must be permanent*” verbiage dictating how these labels are intended to perform.

Unfortunately, permanent doesn’t mean permanent anymore as “real world” results are consistently proving that common labeling methods are failing their duty to convey safety/warning information to consumers on polyolefin thermoplastic products, parts and components depended upon every day. To say it’s costing both OEM’s and consumers would be an understatement as litigation and injuries continue to prevail.

This comes as no surprise! Not only is the Teflon-like surface of polyolefin thermoplastics rejecting adhesion from the outset, the products and labeling are then repeatedly being subjected to ally sorts of harsh environments (power washing, cleaners, fuels, oils, solvents, extreme temperatures, moisture, uv, and more) causing these “adhesion-based” methods to fail.

There is a better alternative!

Polymer Fusion Technology

- the science of merging two separate polyolefin thermoplastic polymers together (polyolefin label + polyolefin product) utilizing melt point, time and pressure producing a singular piece of plastic without the use of adhesives, tie layers, bonding agents or secondary surface treatments.

Polymer Fusion Technology was specifically engineered for perfect compatibility with polyolefin thermoplastic products, parts and components to deliver unrivaled lifelong performance.

During application, the Polymer Fusion Label and polyolefin thermoplastic product simultaneously reach melt point causing a “fusion reaction.” The result - a permanent safety / warning mark on plastic that cannot be lifted, separated or removed for the life of the product no matter the environment or exposure.

For safety / warning labeling where longevity, durability and permanence matters most, Polyfuze’s industry-leading **Lifetime Guarantee** means peace of mind knowing Polymer Fusion Technology has OEM and consumers backs for the life of those products being manufactured.

***Polymer Fusion Labeling is fully recyclable with polyolefin thermoplastic products at end of life use.**



(TOP - Fusion Label, BOTTOM - Polyolefin Product, MIDDLE - “Fusion Reaction”) Simulation of Polymer Fusion Label fusing to Polyolefin Thermoplastic Product



Polymer Fusion Technology label printed and fused to LSE Shopping Cart Seat Flap. Label is still in service at 6 years old.