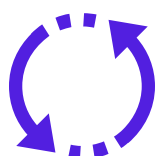




XPP for PS Replacement in Thermoforming & Form-Fill-Seal

Discover how ICPG's **XPP™ Polypropylene Solutions** improve performance, control cost & perfect processing to offer the ideal alternative to PS & PET in rigid thermoformed & form-fill-seal food packaging:

Drop-in Processing



Enhancements to key properties for compatibility with existing thermoforming & FFS platforms, requiring **minimal CAPEX** for PS replacement initiatives.

Enhanced Protection



90/90% improvement in OTR/MVTR vs PP & **100/150%** improvement vs PS - *before* use of specialty barrier materials or coatings.

Improved Sustainability



Light-weight PP solutions produce less solid waste by weight & fewer emissions, resulting in a **low carbon footprint** solution.



Cost Efficient

Use of light-weight PP structures allow for reduced material usage & **increased cost savings** vs alternatives. Or, put in terms of pounds purchased:

- 1,000,000 lbs PP = 1,120,000 lbs PS
- 1,000,000 lbs PP = 1,300,000 lbs PET



Increased Yield

Compared to alternative materials, PP has the lowest density, which translates to an increased part yield in thermoforming & FFS:

- **12%** yield increase vs PS
- **30%** yield increase vs PET

"Snapable"



Increased stiffness & flex modulus specifications of 450,000 Psi mirrors the **"snapability" & "scorability"** of PS essential for form-fill-seal multi-pack configurations.

Recyclable



XPP structures are recyclable using polypropylene **RIC #5** - and viable market opportunities for recycled-PP and PCR PP promote **circular-economy** operations.

Simplified Barrier



Incorporation of ICPG's **Re-imagined Barrier** technology (RE-BA) offers a simplified & recyclable barrier solution using no specialty additives, materials, fillers, or coatings.

Superior Organoleptics



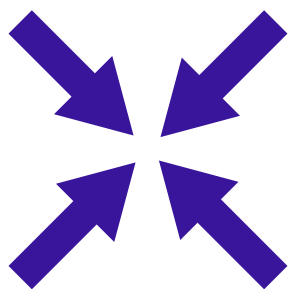
Use of clean, PP-based structures results in improved organoleptic properties, **eliminating taste & odor issues** commonly associated with PS food packaging.

Prop. 65 Risk Mitigation



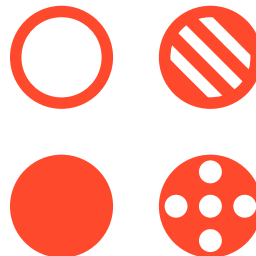
Enhanced mechanical properties allow for PS replacement, alleviating Proposition 65 **health & safety concerns** without sacrifice to performance or processing efficiencies.

Controlled Shrink



Specialty engineered solutions afford similar processing to PS, with controlled **shrink during forming**, resulting no loss in cycle times or throughput.

Application Versatility



Compatibility with a wide variety of **thermoforming & FFS applications** including yogurt multi-packs, pudding & snacks, dips & sauces, jams & jellies, baby food, & more.

