

Introduction: CAN MICROWAVE COOKING BE RELIABLE AND CONSISTANT?

Steam cooking is recognized for its health benefits. No added oils or fats from frying, no loss of minerals and vitamins from boiling, and no drying out from over cooking in the oven. Our society has evolved from housewives preparing full course meals to mothers and fathers or single people purchasing take-out foods on their way home from work. With EsterSteam® there is no reason to substitute health for convenience. Preparation time is minimal and health benefits are never compromised.

The problem:

Microwave cooking poses a variety of consumer issues: consumers not understanding or following preparation instructions, hot spots or unevenly cooked food, safety concerns with burns or cuts, product drying out or becoming soggy. Most products only get one shot at making an impression for repeat purchases.

APC Solution:

EsterSteam® provides consistency of cooking through a controlled process that gives excellent repeatable performance. Food processors have determined the Estersteam® technology retains more moisture in the product in comparison to other microwave steam cooking options demonstrating improved cooked product quality. EsterSteam® creates a positive pressure in the microwave by steaming and microwaving simultaneously resulting in reduced cooking time. The EsterSteam® valve opens automatically in the microwave oven during cooking. Unlike competitive microwave steam cooking technologies, EsterSteam® can contain liquids without leaking. The EsterSteam® valve is suitable for both pouch and lidding applications and can be used to cook frozen, chilled or ambient products.



Improvements over existing microwave technologies:

- Estersteam® provides a hermetically sealed package.
- The consumer can view and monitor the performance of the valve during cooking.
- The Estersteam® valve can be incorporated into peelable lidding specifications, therefore eliminating the need to use a knife to vent and or removal of the membrane.
- Estersteam® packaging can be reverse or surface printed with graphics, cooking instructions and required legal text. The vent valve can be integrated as a feature in the design.
- The Estersteam® valve opens automatically in the microwave oven to allow controlled steam venting.
- Steam is released at only one location (valve) on the package; therefore eliminating the chance of burns when removing the product from the microwave.
- Packaging film with the Estersteam® valve applied will run on standard heat-seal equipment with no effect on production efficiency and no capital investment.
- Allows for a gas flushable barrier specification for extended refrigerated shelf-life.

Performance Benefits:

- Creates a positive pressure in the package by steaming and microwaving simultaneously resulting in reduced cooking time and evenly distributed heat [no hot spots].
- Estersteam® unlike competitive technologies offers a package that is capable of holding liquids without leaking.
- As a result of the extensive testing and design work the valve vents steam safely without risk of explosion during cooking or implosion after cooking.
- Research in Europe has proven that anywhere between 30% and 100% more vitamin C can be retained when various vegetables are cooked using microwave steaming versus traditional home cooked fare.
- Heating food is cleaner and more efficient because microwave splatters are eliminated as Estersteam® is an enclosed system.

Conclusion:

The patented Estersteam® technology provides real convenience and an easy way to enter the microwave steamed meal market. The specially designed Estersteam® valve is pre-applied to rollstock, lidding and pre-formed pouch specifications and works with frozen, chilled or ambient products. Under microwave conditions the valve activates allowing the package to vent, so food is moist and perfectly cooked. This technology is cost effective, running on standard heat-seal equipment with no effect on production efficiency and no capital investment. Additionally, this package is capable of holding liquids without leaking and will not explode while cooking or implode when cooling.

ABOUT AMERICAN PACKAGING CORPORATION

American Packaging Corporation is an ISO 9001:2000 company specializing in the manufacture of flexible packaging laminations for a variety of specialty markets. The company has three process focused facilities: Rotogravure Printing and Laminating, Flexographic Printing and Laminating, Extrusion Laminating and Coating.

The company is privately-held and has been serving the packaging industry for over 100 years.

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