iSeal™

SEAL GUIDE

Induction Sealing ?

Induction sealing is a noncontact heating process that accomplishes the hermetic sealing of a container with a closure that includes a heat-sealable foil laminate.

The typical induction innerseal begins as a multi-laminate liner inside a closure. It consists of a layer of pulpboard, a layer of wax, aluminum foil and a layer of polymer that is compatible with the bottle material and capable of heat sealing to the lip of the container. When the closure is placed onto the container and is passed through an electromagnetic field produced by the induction heater, several things occur.

An electromagnetic current, called an eddy current, is induced into the foil portion, resulting in a resistance-type heating effect. The heated foil melts the wax layer, which is absorbed into the pulpboard, releasing the foil from the pulpboard, and the polymer coating melts, hermetically sealing the foil to the lip of the container.

Induction Sealing History

Jack Palmer
Induction Sealing inventor

1957-1958 - Original concept and method for Induction Sealing is conceived and proven by Jack Palmer (a process engineer at that time for the FR Corporation - Bronx, NY) as a means of solving liquid leakage from polyethylene bottles during shipment

1960 - U.S. Patent (# 2,937,481) is awarded to Jack Palmer, in which his concept and process of Induction Sealing is made public

Mid-1960s - Induction sealing is used worldwide

1973 – First solid state cap sealer introduced

1982 – Chicago Tylenol murders

1983 – First transistorized air-cooled power supply for induction cap sealing

1985 – Universal coil technology debuted

1992 – Water-cooled, IGBT-based sealer introduced

1997 – Waterless cap sealers introduced (half the size and relatively maintenance free)

2004 – 6 kW system introduced

Manual Induction Sealing

1 Fill your container with product

2 Either manually or automatically cap your container with the appropriate torque.

3 Select the appropriate sealing time which is determined by closure size.

4 Place the cap beneath the induction heating unit press the trigger which will activate the heating process. The timer will automatically shut off

5 You can remove closure visually inspect to see if the iseal is adhered

iSeal™

iSeal For Food

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iSealFor FMCG/Pharma

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iSeal for Petrochem

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iSeal for Agrochem

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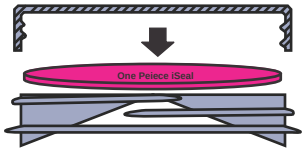
iSeal™

Structural & Removal Characteristics

iSeal™

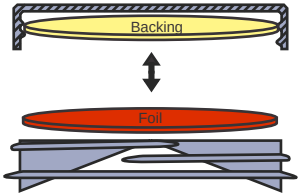
When This type of iSeal is inserted in closure, After Container is filled & Capped the package passes under a heat induction generator that bonds the entire structure to container finish, Upon Removal of the closure, .
Due to This bonded structure this type is called One Piece induction Seal.

One Piece



This type of iSeal which leaves a Backing inside Cap after opening,& Generally used When a product Requires to leave some type of secondary Seal in the cap, to prevent leakage, After Seal has been removed by Consumer for product Consumption. Due to it structure this type is generally called as
Two Piece induction Seal

Two Piece



Clean Peel
The entire iseal peels away cleanly without leaving any residue

Welded Seal
The iseal must be destroyed to gain entry, usually with the help of an implement

Easy Entry
The Clean Peel or Welded iSeal can be punctured with one`s finger.

WHY iSeal

We are a leading cap seal liner manufacturer & exporter in india over the several years. We specialized in the manufacture of induction heat seal liner for PE, PP, PET, PVC & all plastic container, laminated Aluminum foil seal liner in order to keep **longer freshness and shelf-life** of contents in the container.

Advantages of Using iSeal

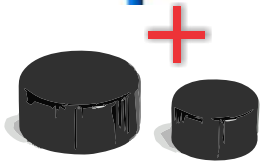
*Tamper Resistance
*Protection from the Elements and Airborne Pollutants
*Keeps Humidity Levels Stable
*Product Freshness
*No Product Leakage
*Cleanliness

* Extended Shelf Life & Improved Product Perception
*Excellent Appearance
*Seals Product Aroma
*Seals in Flavors
*Keeps Out Odors
*Tamper Evident

iSealing Automation

Option 1: iSeal Liner in Roll Form

iSeal Liner in Roll Form



Caps

Wad Punching & Liner Insertion in Cap Machine

iSeal Lined Cap

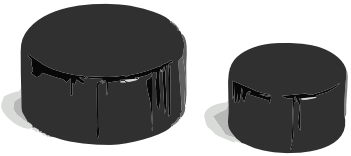
A iseal liner in Roll Form inserted into a cap By Automatic Wad Punching And Insertion in Cap Machine
The liner is made up of multiple layers including a foil liner and polymer heat seal layer.

iSealing Automation

Comes TUBE PACKED

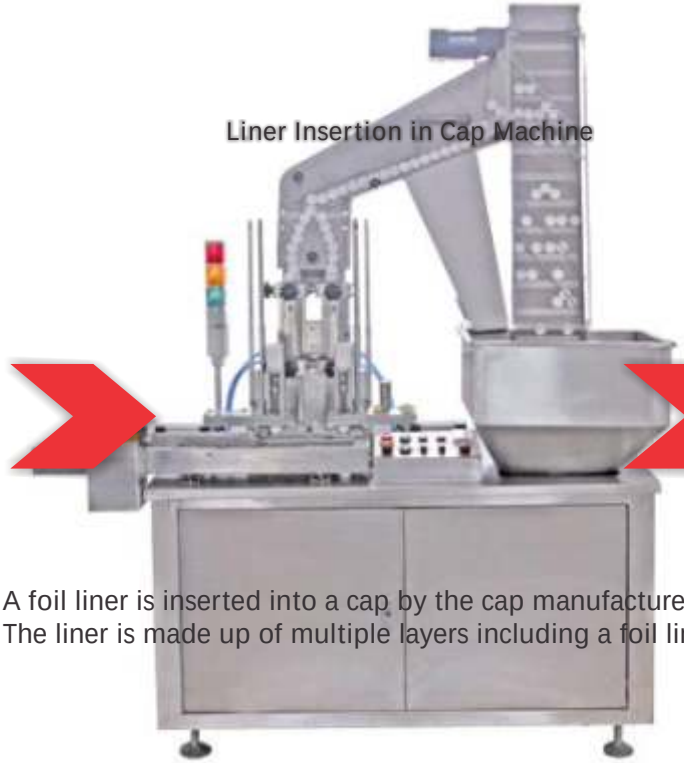
Precut iSeal

+



Caps

Option 2: iSeal as Precut Disc/Wad

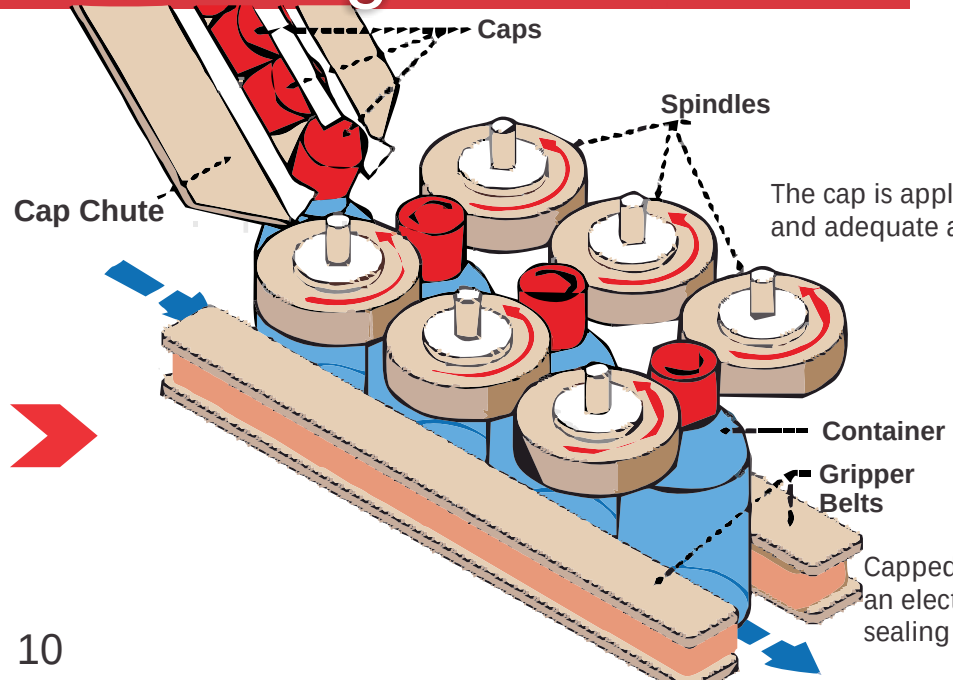


Liner Insertion in Cap Machine

Liner Inserted Cap

A foil liner is inserted into a cap by the cap manufacturer.
The liner is made up of multiple layers including a foil liner and polymer heat seal layer.

iSealing Automation



The cap is applied to the container with an even and adequate amount of torque to maintain pressure on the liner.

Capped containers are conveyed through an electro magnetic field generated by an induction sealing head positioned over the conveyor.

iSealing Automation

The field heats the foil liner and melts the polymer on the bottom of the liner which creates a hermetic seal.
On a two piece liner, at the same time, the heat melts the top wax layer separating the liner from the cap.

iSeal Variants

iSeal FLEXI
For Normal Barrier Needs

At iSeal We always innovate new methodologies to develop iSeals or Every Product Filled in containers be it Food, Pharma, Petro or Agrochem.

Every Product Need Different Specific iSeal
So For Customer Comfort We have Segregated Broadly by two Factors of Sealing Needs

For High Barrier Needs
iSeal TUFF

iSeal FLEXI
Normal Barrier iSeal

genFLEXI

truFLEXI

maxxFLEXI

iSeal TUFF
High Barrier iSeal

genTUFF

truTUFF

maxxTUFF

iSeal Variant

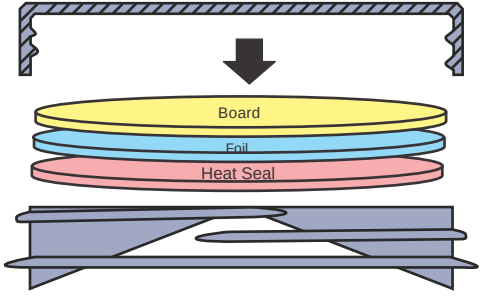
genFLEXI

iSeal FLEXI

Normal Barrier iSeal

genFLEXI

When This type of iSeal is inserted in closure, After Container is filled & Capped the package passes under a heat induction generator that bonds the entire structure to container finish, Upon Removal of the closure, the backing & foil combination Customised For Sealing products having Low Barrier Needs.
Due to This bonded structure this type is also called One Piece induction Seal.



Structural View of genFLEXI

iSeal Variant

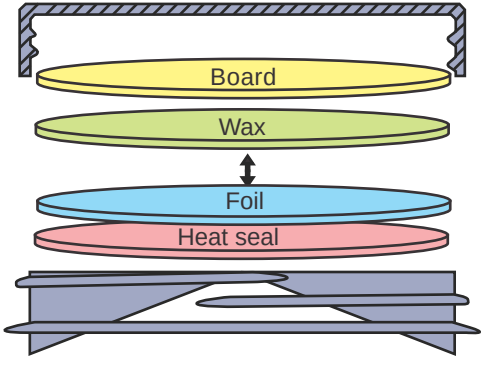
truFLEXI

iSeal FLEXI

Normal Barrier iSeal

truFLEXI

This type of iSeal which leaves a Backing inside Cap after opening,& Generally used When a product Requires to leave some type of secondary Seal in the cap, to prevent leakage, After Seal has been removed by Consumer for product Consumption. Due to it structure this type is also generally called as Two Piece induction Seal & used in product requiring lower barrier needs



Structural View of truFLEXI

iSeal Variant

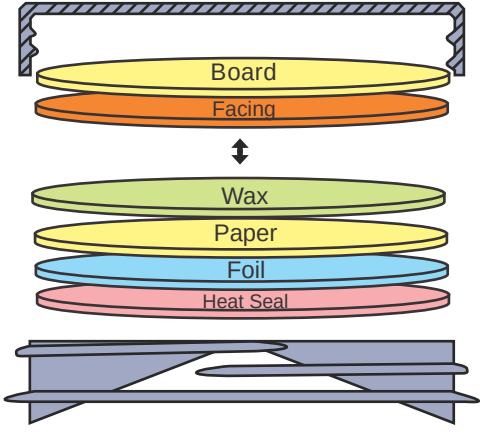
iSeal FLEXI

Normal Barrier iSeal

maxxFLEXI

This type of iSeal which leaves a Backing inside Cap after opening,& Generally used When a product Requires to leave some type of secondary Seal with Clean Facing in the cap, to prevent leakage, After Seal has been removed by Consumer for product Consumption.
Due to it Barrier structure this type is also generally called as Two piece Facing Seal & used in product requiring low barrier needs.

maxxFLEXI



Structural View of maxxFLEXI

iSeal Variant

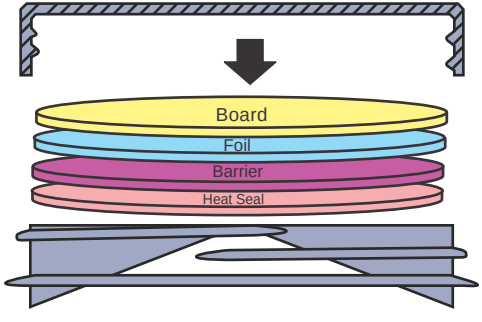
genTUFF

iSeal TUFF

High Barrier iSeal

genTUFF

When This type of iSeal is inserted in closure, After Container is filled & Capped the package passes under a heat induction generator that bonds the entire structure to container finish Upon Removal of the closure, the backing & foil combination, Customised For Sealing products having High Barrier Needs. Due to This bonded structure this type is also called One Piece Barrier Seal.



Structural View of genTUFF

iSeal Variant

iSeal™

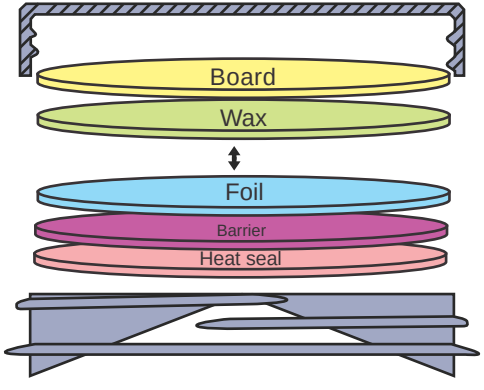
iSeal TUFF

High Barrier iSeal

truTUFF

This type of iSeal which leaves a Backing inside Cap after opening,& Generally used When a product Requires to leave some type of secondary Seal in the cap, to prevent leakage, After Seal has been removed by Consumer for product Consumption. Due to it Higher Barrier structure this type is also generally called as Two piece Barrier Seal & used in product requiring Higher barrier needs

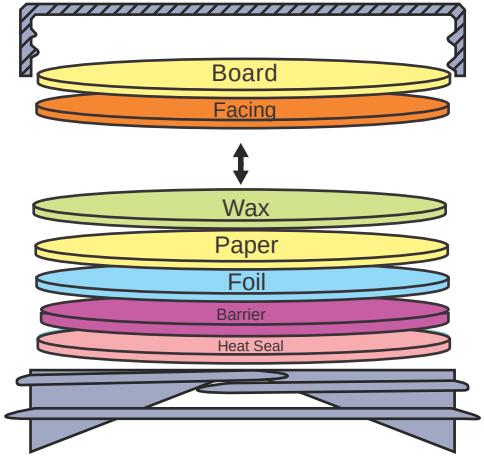
truTUFF



Structural View of truTUFF

iSeal Variant

maxxTUFF



Structural View of maxxTUFF

iSeal TUFF

High Barrier iSeal

maxxTUFF

This type of iSeal which leaves a Backing inside Cap after opening,& Generally used When a product Requires to leave some type of secondary Seal with Clean Facing in the cap, to prevent leakage, After Seal has been removed by Consumer for product Consumption.
Due to it Highest Barrier structure this type is also generally called as Two piece Chem Seal & used in product requiring highest barrier needs.

iSeal for Food

genFLEXI	Skimmed Milk Powder Water Confectionery Tea & Coffee
genTUFF	Preserved Foods Mustard Oil Yogurt Dehydrated & Dried Foods Edible Oils Skimmed Milk Powder Coconut Oil

iSeal for Food

truFLEXI

Bakery & Ingredients

Tea & Coffee

truTUFF

Preserved Foods

Coconut Oil

Edible Oils

Mustard Oil

Spices

Pickles

iSeal for Food

maxxFLEXI	Pickles, Frozen Foods & Ice Creams, Chutney & Pastes, Honey, Sugar Syrup
maxxTUFF	Mustard, Refined Oil, Sauces & Ketchup, Fruit Juices

iSeal for FMCG/Pharma

genFLEXI	Cosmetics	Food Colours
genTUFF	Protein Powders Herbal Medicine	Pet Foods Alternative Medicine

iSeal for FMCG/Pharma

truFLEXI

Health Drink Powders

ToothPaste

truTUFF

Ayurvedic Medicine

Veterinary Drugs

Generic & Non Generic Drugs

iSeal for FMCG/Pharma

maxxFLEXI	Health Drink Powders Shampoo & Detergents	Hair Oils Pharma Creams
maxxTUFF	Antibiotics in Powder Form Pharma Syrups	Health Drinks

iSeal for Petrochem

genFLEXI

genTUFF

Petroleum Gels & Jelly

Industrial Greases

iSeal for Petrochem

truFLEXI	Hydraulic Lubes
truTUFF	Engine Coolants Surfactants

iSeal for Petrochem

maxxFLEXI — Petro Additives

maxxTUFF — Dyes, Inks

iSeal for Agrochem

genFLEXI

genTUFF Seed Treatment Agents

iSeal for Agrochem

truFLEXI	Plant Growth Hormones
truTUFF	Wetting Agents Bio Fertilisers

iSeal for Agrochem

maxxFLEXI

Herbicides
Rodenticides
Fungicides
Organic Foliar Sprays

maxxTUFF

Insecticides
Fuming Agents
Agro Surfactants
Chemical Foliar Sprays
Liquid Fertilisers

Custom Printing

iSeal™

When the consumer removes the closure, the iSeal becomes the focal point of the package and an ideal platform for strategic communications. Printed graphics arise from many initiatives, a few of which are shown below. Most of iSeal and backings are printable in up to four colors in random or registered imprints. Standard ***"Sealed For Freshness"*** and ***"Sealed For Your Protection"*** advisories are available,or custom logos or other information can be printed.

Custom Printing

Standard Advisory

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Custom Printing

Full Color Explorations

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Custom Printing

Coded Information

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Custom Printing

Single Logo on iSeal

Custom Printing

Full Color Explorations

iSeal™

iSeal™

Problem Solver

No Seal or Weak Seal

*Output setting too low
*Conveyor line speed too fast
*Container / sealing head adjustment
*coupling distance extreme
*off-center
*head not parallel
*Insufficient cap torque

Scorching

*Excessive output power setting
*Closure sealing head alignment
*not centered
*not parallel
*Low application torque
*Improper liner material

Product contamination

*Marginal quality container finish
*Insufficient land area
*mold marks, flashing, or parting line saddle or taper
*Bottle treatments and pigments
*Incompatible liner material

Low Removal Torque

*Excessive power melting down container finish
*Insufficient application torque
*Excess application torque

iSeal™

Problem Solver

High Removal Torque

*Insufficient wax absorption due to lack of power or excessive conveyor line speed
*Bonded backing sticking to closure (single element)
*Liner quenched by product splashing
*Excessive application torque
*Undersized liner disk and plastic from the container finish invading the pulp
*Excess amount of bonding wax or wrong temp wax

Pulp Shears Out of Closure

*Insufficient wax absorption (see High Removal Torque)
*Improper gluing
*Friction fit liner is undersized

Other Factors to be considered

*The proper sealing head for the closure
*Variations in container height
*Dimensional conflicts between closure and container
*Storage considerations of the liner material or container
*Porosity of the pulp
*Liner insertion into the closure
*Package, material, or equipment changes

We offer a wide variety of liners in many types and sizes, for all uses.
Please contact us with your particular requirement.
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+91 903 4094 193 sbpdirect@gmail.com +91 903 4004 518

iSeal™

As with all liner sealing materials, this product should be tested thoroughly under end-use conditions to ensure it meets the requirements of the specific application. Testing services are complimentary. If you have an induction sealing machine. Email your request for sample of the liners along with your contact information.OR Fill All Details online at www.iseal.in/sampling

If you do not have an induction machine: We recommend testing your cap and container with the induction liner before purchase. Small variations in cap characteristics may not allow the liner to function properly. If interested send a minimum of 12 containers and caps to the address behind. Write "Product Samples" on the shipping label. Include your contact information and specify the type of product that you will be packaging. Evaluation will be performed under our own test conditions. Results may differ under end-use conditions.

Request Samples

www.iseal.in/sampling