



The Adhesive Company

HMPSA Applications & Technology Portfolio for Labels



A company of **TOTAL**

General Product Line HMPSA Types

- General Purpose
- All Purpose
- Freezer
- Removable
- Repositionable
- Specialty
- High Performance/Temp
- Film – Clear/Opaque
- Heat Seals
- Repulpable

General Purpose

GP Permanents PSA's:

Permanent label products are products normally applied at room temperature environments (Minimum Application Temperatures around 45 deg F) . This designation can differ from one customer to another. Some want general purpose application while others want a broader range usage.

- Typical Service Range Temperatures of -30F to 175F
- Bonds to wide variety of papers, plastics, painted surfaces, wood, foam, coated glass, Tyvek etc.
- Excellent performance of shears, peels, and loop tacks.
- Many products fit into this type of performance for many end uses.

Bostik Products	H2681, H2463-01, H2885, H2571, H2187-01, H4196, H20009, H2233, H20061
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All-Purpose

All-Purpose PSA's:

Products have broader range performance capabilities over the GPP products, such as lower label application temperatures, excellent peels and tacks, and superior die cutting capability for wide web converting and maximum converter value add.

- Designed to meet the needs of shipping environments
- Provides premium adhesion over emulsion psa's on corrugated and film substrates
- Label application temperature range down to 25° F
- Service range temperature – 30°F to 140°F
- Wide web converting 18" +, with speeds of 900'/min.
- Excellent peels & loop tacks to various substrates
- Excellent adhesion to HDPE

Bostik Products

H2224, H2224B, H2985, H2345, H2345H, H4129,
H4185,

Freezer



•Freezer PSA's:

Freezer grades products are adhesives which can be applied well below freezing temperatures. These products are normally soft and flexible. Converting of these products can be a little more difficult. A good understanding of application and service temperature range is important.

- Products are designed based on min. application temperature
- Minimum application temps to -20° F
- Service range temps of -50°F to 120°F
- Excellent for frozen food packaging applications
- Bonds well to plastic with slip agents used for tamper evidence
- Bonds well to plastics, Cryovac, corrugated

Bostik Products

H2259-01, H2916H, H2355-01

Removable

Removable:

Removable adhesives are products which remove cleanly, and easily, from the surface it is bonded to.

- Removes cleanly from variety of substrates (papers, corrugate, plastics, glass, metal shelving, etc.)
- Consistent clean removability over time
- High temperature resistance
- H2916H provides good bleed resistance where that may be a concern



Removable Bostik
Products

H2355-01, H5077, H5265, H2916H

Repositionable

Repositionable PSA's:

Repositionable adhesives are products which initially can be removed from the surface it is bonded to, but will grow into a much stronger bond with time. It is important to understand the surface type the adhesive should remove from.

- Short term repositionability from a variety of substrates (papers, corrugate, plastics, glass, metal shelving, etc.)
- Increases in bond strength over time.
- High temperature resistance



Repositionable Bostik Products	H2916H, H20129, H4191, H2224(used for performance on PP bottles)
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High Performance

High Performance / Temperature:

These products were designed specifically for high temperature resistance. These materials have higher SAFTs and a great balance of adhesion and converting performance.

- High peels, tacks, SAFTs
- Application temps around 45°F
- Service range temps of 0°F to 200°F
- SAFT's upwards of 200° F
- Applications: Battery Labels, Security Tapes & Labels, Automotive, Durable Goods, Industrial Tapes etc.



Bostik Products

H20103, H2571, H2187-01, H2679, H2999, H2211

Film Labels

Filmic PSA's:

Filmic adhesives need to maintain the label's dimensional stability through its end use cycle. Other properties desired for the adhesives are clarity and flow-over time to enhance the "No-label look".

- Optically "water clear" adhesives
- Clear Adhesives for HABA and beverage "No label look"
- Bonds excellent to various plastics, metals, and corrugate substrates
- Short-term repositionability
- Designed for PET and polyolefin clear and opaque films
- Designed for non-distortion of face-stocks when coated properly
- Designed for no interaction with flexible films including BOPP and PE
- Excellent coating properties for a smooth coat
- Minimum application temperatures of 25°F
- Applications: HABA (personal care), beverage, furniture labels, all BOPP labels

Bostik Products

H20129, H2970, H4191

Clear film label for (PET, PP and PE)



Patented technology



Heat Seal

Heat Seal Labels

Heat seal adhesives are products which are directly coated on to label face-stocks, which will be later heat reactivated to bond as the label.

- Product will vary by substrate to bond, and the heat reactive temperatures desired
- Products do not use a silicone carrier
- Heat seal products are self wound as long as the adhesive on the face-stock has been cooled and solidified on the surface before being wound.

- Applications: Heat seal label wraps (Crayons & tapes), food container label wraps, carpet labels, etc.

Bostik Products

H1367, H287-337, H1906, H1736H, H1854, H300-634

Repulpable



Repulpable Adhesives

Bostik has been committed to addressing the issues of “Sustainability” with the design of our adhesives. We have invested resources in our R&D efforts as we create products which can meet repulpable applications.

- Recycling Compatible Adhesive- Certified by RCA
- RCA is the TLMI industry approved test method and approval process
- Selection of raw materials are important as we work with renewable resources.
- Many of our products utilize renewable resource raw materials in their formulation.
- Percentage of renewable resources does vary by formula
- Design space rheological understanding to obtain approval for other products.

Bostik Products

H20137 approved material

Applications

- Fruit & Vegetable FDA
- Sheet
- Laser
- Tire Labels
- Durables / Industrial
- RFID Labels
- Security Labels
- VIP Labels
- Direct Mail / Charity
- Dairy Label
- Grocery Labels
- Wine Label
- Shelf Labels
- Pharmacy Labels
- Wash-off Labels
- Sustainable
- HABA Labels
- Oil Container
- Brewery Labels

Fruit & Vegetable

Direct Food Fruit & Vegetable:

- Products for paper and filmic face-stocks to be used directly on fruits and vegetables. Products have been designed for the more difficult to bond surfaces such as peaches, kiwi and other skin surfaces.
 - Products comply with FDA 21 CR 175.125 (b).
 - Applies well in refrigerator environments
 - Key issues can be dispensing, moist surfaces, wax surfaces etc.



Bostik Products

H4382H, H4383H, H20090

Sheet

Sheeted Products – Graphics and Digital Printing

When designing sheet products it is important to understand the need to have minimal edge build-up during the cutting process. We also need to assure that the adhesive does not have a negative impact on the overall sheet-fed process.

- Bostik's Products meet a wide range of adhesive performances
- Minimized adhesive edge flow
- Excellent Guillotine performance
- Bostik has created a testing Model for evaluating Sheeting (adhesive / machine)
 - **High die cut number**
 - **Treated cutting surfaces**

Bostik Products	H4214, H2885
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Laser

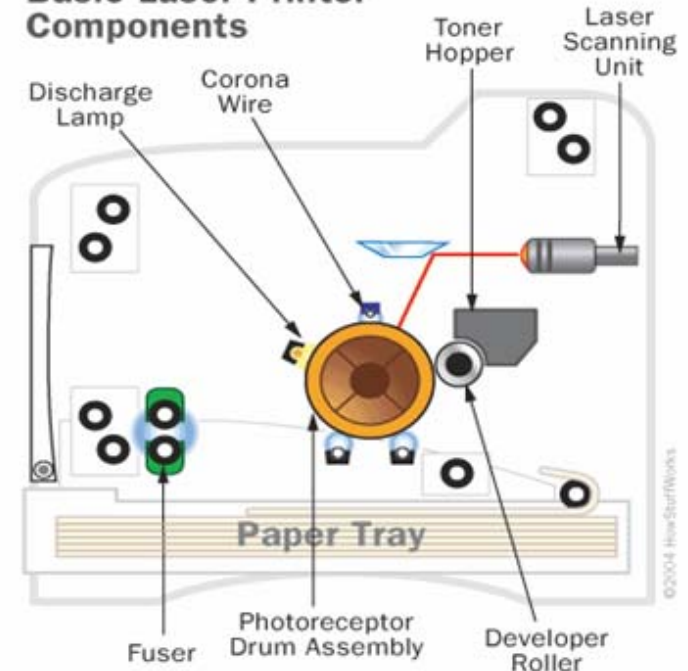
Laser:

Through experience in this industry, Bostik has proven that adhesive anchorage is very key for laser applications. Although anchorage is addressed through adhesive design, the coating process is equally important.

- Most of our success has been with pattern coating processes.
- Excellent die cutting and converting with no adhesive transfer
- Cannot have contamination of printer guide wheels
- Elevated temperature resistance is not the key factor for success
- Many products can be made to be laser printable.



Basic Laser Printer Components



Bostik Products

H2224, H4214, H2187-01, H4185, H2885, H2463-01

Tire Label

Tire Label:

Our products are designed specifically for primary labels of both the OEM and the retread tire markets. Our adhesives perform well on both paper and film face-stocks.

- Excellent die-cutting with high coating weights
- Excellent Loop Tacks and Peels
- Cold Temperature performance
- Products for both OEM & Replacement Retreads
- Products for paper and filmic face-stocks
- End use range -4° F to 140° F
- Non-curling on un-coated films
- Good adhesion on deep winter tread surfaces



Bostik Products

H2548-01, H20135, H4329, H4270, H4271

Durables / Industrial

Durables/Industrial:

Industrial labels require high performance products that withstand the effects of the under-the-hood fluid submersion tests. These products are adhered to various painted surfaces for extended periods of time.

- High peel and tack performance are greater than 10.0 pounds/inch.
- Are applied at higher coat weights than paper labels, normally 1.0 to 1.3 mil
- Adhesion and converting performance are balanced and optimized at current industry standards.
- Very good compatibility with the higher end durable label facestocks

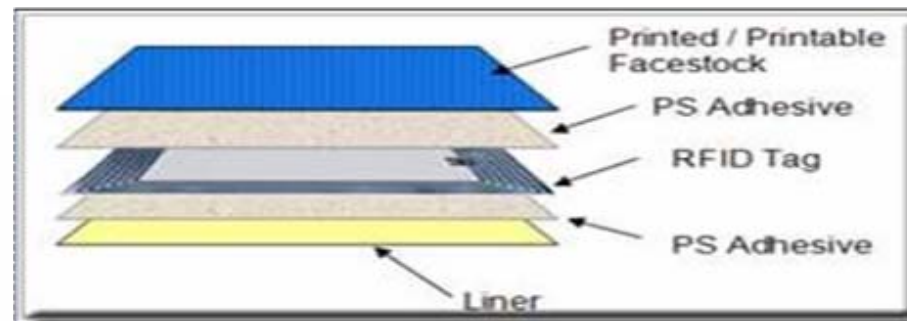
Bostik Products	H2679, H2571, H2187-01, H2211, H2999
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RFID Labels

RFID Labels:

Adhesives were designed to assure bonds to the RFID chip inlays, along with performing well in specific label applications.

- Adhesive must have good adhesion to the chip
- Excellent die cutting
- Non reactive with the chip inlay
- Bond to a variety of substrates especially on low surface energy and recycled substrates
- Required levels of clarity to optimize chip performance



Bostik Products

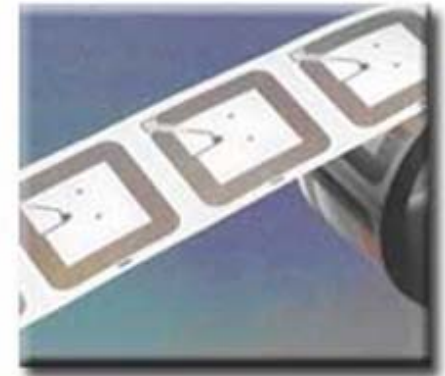
H2187-01, H2211, H2679, H2224, H2224B, H2985

Security Labels & Tape

Security Labels & Tapes:

Security Labels is a growing market, primarily for theft prevention. Security labels are a segment of the RFID market. Having the appropriate adhesive for the proper substrate is critical. It is also critical that the adhesive does not deactivate the RFID circuit.

- Label & circuit destruction is important as a means to prevent theft in the retail market
- Products designed for high coating weights, with high internal strength
- Products designed for flow on difficult to bond films
- Products to assure deep penetration of board stocks
- Pattern coating can assist in achieving label destruction



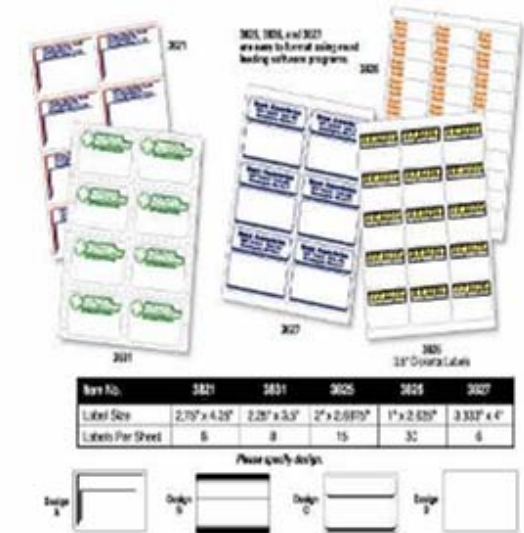
Bostik Products

H2211, H2224B, H2985, H2187-01, H2679

VIP Labels

Variable Information Printing:

- The VIP segment of Digital printing is a growing market.
- The market uses a variety of printing processes.
 - Thermal
 - EDP
 - Inkjet
 - Laser
- Adhesives are Designed with excellent die-cutting properties for improved value and total lower cost.
 - 900 +fpm, 21” wide converting performance
- Good balance of PSA properties
- Excellent adhesion to corrugated and other packaging substrates



Bostik Products

H2224, H2681, H4214, H2224B, H2463-01, H2885, H2985, H2916H, H2345, H2345H, H4185, H4196

Direct Mail / Charity

Direct Mail / Charity

This is a growing label application for Bostik. We offer products to meet the needs of wide-web and high speed converting.

- Charity is the production of Return address label sheets.
- Designed with excellent die-cutting properties for improved value and total lower cost
- 900 +fpm, 21” wide converting performance
- Good balance of PSA properties
- Excellent adhesion to envelop substrates

Bostik Products

H4184H, H2224

Dairy Label

Dairy Label Product:

Products are of the all-purpose performance, having broad range performance capability, such as lower label application temperatures in humid environments, excellent peels and tacks, and superior die cutting capability.

- Meets the needs of shipping environments
- Label application temperature range down to 25° F
- Service range temperature – 20°F to 140°F
- Wide web converting 18” +, with speeds of 900’
- Excellent peels & loop tacks to various substrates
- Excellent adhesion to low surface energy surfaces, HDPE, PP

Bostik Products

H2224, H2224B, H2985, H4312H, H2911

Grocery

Grocery Labels

This is one of the old standard PSA applications. All-purpose products are commonly used. They have a broad range of performance capabilities, such as lower label application temperatures, excellent peels, and tacks to the variety of surfaces in the Grocery environment.

- Service range of -65° to 160° F
- Excellent tack over wide temperature ranges on various substrates
- Application temperatures down to -10° F
- Dispenses well, using hand applicators or automated equipment.

Bostik Products

H4214, H2224, H2259-01

Wine Labels

Wine Labels

Bostik's initial efforts in this market was to assist the wine collector with the saving of the wine bottle label. Bostik's approach was to design our adhesive so that the label could be removed when desired. Bostik created HMPSA products to be removable using hot tap water.

- Compatibility with common face sheet materials.
- Bonds well to bottle surfaces in application environments.
- Long term bond ageing stability of labelled bottles in common storage conditions.
- Passes the ice chest test with the proper wet strength facestocks

Additional Value to Consider:

- Excellent die cutting leads to high converting speeds.
- Smooth and high speed coating capability.

Bostik Products

H2916H, H4313H, H4312H

Shelf Marking

Shelf Marking Labels

The label construction is as important as the adhesive we design. Long term Clean Removability is a critical property desired for this application.

- Products fall under the removable application
- Adhesives need to bond well to painted metal and other shelving surfaces
- Needs to remove cleanly over time.
- Normal shelf applications range for a few days to beyond 6 months

Bostik Products

H2355-01

Prescription Pharmacy Labels

Prescription Pharmacy Labels

Through our experience in this industry, Bostik has proven that adhesive anchorage is important for this applications. Beyond anchorage good lay-flat properties are important. Both of these are addressed through adhesive design and the coating process.

- Clean repositionability growing to a tamper-evident bond with time is required
- Adhesive designed for sheet fed die cutting
- Important to have good lay flat properties
- Excellent die cutting with no adhesive transfer
- Cannot have contamination of printer guide wheels
- Many products can be made to be laser printable.

Bostik Products

H2224, H2916H

Wash-off Labels

Wash-off Labels

This technology came from the international brewery market. They need to fully remove labels from the returned brewery bottles.

- Bonds in ice chest test with no label whitening.
- Label needs to have initial repositionability.
- Adhesive cannot affect film label dimensional stability.
- Complete adhesive wet-out in 24 hours.
- Absence of label haloing.
- Minimum application temperature 10° C
- Service range temperatures -20° C to 70° C
- Label washes off in < 30 seconds at elevated temperature with caustic wash when in balance with the proper film.



Bostik Products

H2970, H20129

HABA

Health and Beauty Aid

Products need to bond to a wide variety of plastic and glass containers in humid and elevated temperature environments. The combination of adhesive, label, film, and container often need to pass rigorous squeezable requirements.

- Products need to impart dimensional stability to the common label films used for a wide variety of applications
- Clean repositionability on all container substrates on clear and opaque films
- Products do not compromise clarity or opacity of the labels aesthetics
- Products flow to a No-Label look in 24 hours on all bottle textures

Bostik Products	H2224, H2224B, H2985, H2345, H2345H, H4214, H4185, H4185B, H20129
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Oil Container

Oil & HDPE Container Labels:

This application competes with the in-mold label market. Our efforts in this area have been to help eliminate film distortion of the label for aesthetics purposes.

- Good Peel and tack & shear properties
- Repositionable up to 1h after application
- No haloing or curling
- No bubble after label application
- Good adhesion on PE, PP and Aluminum
- Good SAFTs ~ 167°F
- Minimum application temperature: 36°F
- End use range: -4°F to 158°F



Bostik Products

H20129

Economical All-Purpose

Economical All-Purpose:

The intent is to compete in the wide and fast emulsion acrylic market, with equal adhesion and excellent converting performance. Products with other performance ranges can also be modified to fit these requirements.

- A reduction in adhesion performance allows for economical products
- Excellent converting and die cutting performance
- Good adhesion to low surface energy and recycled surfaces is not compromised
- Products are to be coated to common paper label materials at top line speeds with minimal CD and MD variability

Bostik Products	H2345H
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