

3 Sigma Corporation

Universal Coupon™ & Signature™ Products

Hot Melt
Solvent
Emulsion

Permanent
Removable
Repositionable

About 3 Sigma

Established in 1980, 3 Sigma is a fast-growing innovator of pressure sensitive adhesive coated products.

3 Sigma uses its solvent, emulsion and hot melt technology expertise to produce specialty or complex adhesive constructions at our facility in Troy, Ohio.

Our flexibility, creativity, market experience and unique product commercialization approach enables us to create higher margin, innovative products for our customers, helping them to capture market opportunities, reduce waste and production costs, and increase output.

Universal Coupon™ & Signature™

3 Sigma Universal Coupons and our Signature product lines set us apart as the industry leader in coupon technology.

Constructions are press friendly and provide superior consistency throughout the converting process to reduce waste and increase efficiency.

Our innovative, split-able designs allow the shopper or end-user to “liftanywhere” for convenience and the residue-free coupon minimizes handling issues for cashiers and redemption centers.



Innovative Capabilities & Products

“We were able to capture new business due to the unique capabilities that 3 Sigma provides”

- From 2008 ISO Customer Survey

3 SIGMA UNIVERSAL COUPON™ – THE INDUSTRY STANDARD

Over the past 15 years, Universal Coupon has been used by well over 350 converters around the world and our production is in excess of 100 billion square inches. During that time, competitors have attempted to match our product performance, but in the long run end up exiting the market. 3 Sigma has been in the market since our introduction of the product and has never left a customer needing to find a new supplier.

Because of its demanding requirements, coupon base stock is difficult to manufacture consistently. Our experience working with the vast number of users and our in-house knowledge have resulted in an optimal construction that meets both printing and application criteria while maintaining end user performance and functionality.

Our experience over the years taught us that one design was not perfect for all applications. Tight radii products, variation in substrate surfaces and size of coupons all affect application and removal. 3 Sigma offers 4 different designs to meet various application needs.

A large majority of coupons end up on food or beverage products. 3 Sigma has been diligent in ensuring that all components of our coupon products meet critical FDA requirements to prevent any type of contamination or residual odor. Not only do our adhesives for both application and coupon film bond meet 21 CFR 175.105 of the Federal Food, Drug and Cosmetic Act, but the BOPP film itself meets 21 CFR 177.1520 (a)(1) and (c) 1.1 standards

Competitive Comparison:

Function or Feature	Universal Coupon	Competitor A	Competitor B
Multiple Designs	Yes	No	No
Clean Release, No Residue	Yes	No	Yes
Ease of Removal	Yes	No	Yes
Bond Consistency	Yes	Yes	No
Odorless	Yes	No	No

In Summary, 3 Sigma Universal Coupon offers more consistent performance, a higher degree of functionality and 15 years of experience, which no one else can match.

Competitive Testing Results

3 Sigma Universal Coupon (Std .023 Circle)

Sample	Bond Average (grams/inch)	Lowest Bond Reading (grams/inch)
1	75	69
2	88	81
3	91	85
4	91	84
5	94	84
Average	87.8	80.6

Competitor "A"

Sample	Bond Average (grams/inch)	Lowest Bond Reading (grams/inch)
1	74	58
2	64	54
3	62	50
4	76	53
5	67	56
Average	68.6	54.2

Competitor "B"

Sample	Bond Average (grams/inch)	Lowest Bond Reading (grams/inch)
1	64	23
2	68	37
3	52	22
4	60	31
5	71	40
Average	63	30.6

Testing Methodology Implications

Method:

Samples of each material were cut into 1" x 5" strips and allowed to equilibrate for 2 hours before testing bonds. 5 sample strips of each material were tested with .500" pre-peel and 2.0" peel settings. The average of the readings over the total 2.0" peel length were recorded as the **Bond Average**. The lowest reading observed throughout the 2.0" peel was recorded as the **Lowest Bond Reading**.

Implications:

Universal Coupon tested as the highest bond values as well as the most consistent. We generally target a nominal value of 75 as being acceptable, but strive for 90. Both competitor A and B were below our target nominal of 75 on average and had no values close to 90. While competitor A had higher values for their lowest bond reading, they were still well below our target. We consider a reading anywhere below 40 to be unacceptable for consistent converting and competitor B's lowest readings were all 40 or below.

Pattern Analysis:

Both competitor A and B were basically consistent in their pattern coverage, however competitor A had approximately 62% area coverage (based on a 3.4" x 2.1" size card or coupon), while Competitor B had 22% and 3 Sigma had 25%. Due to the extremely high coverage of competitor A, we had some difficulty in removing the material or finding a clean release point.

With competitor B, they have a lower coverage area, which should lend itself to a good lift edge, but they have not been able to achieve high bond strengths with the lower degree of coverage.

In addition, with the layout of competitor B's pattern, it could lend itself toward potential air tunneling, but we could not verify that without running the product. 3 Sigma's product offers approximately 75% of the available area as a lift edge and still maintains a very high bond strength to ensure consistent and trouble free converting/application.

UNIVERSAL COUPON™ – THE INDUSTRY STANDARD

3 Sigma Universal Coupon Products are the industry leader in coupon technology. The constructions are press friendly and provide superior consistency throughout the converting process. The innovative, split-able designs allow the shopper or end-user to “lift anywhere” for convenience and the residue-free coupon minimizes handling issues for cashiers and redemption centers. We offer the widest range of products available in the industry to meet specific or difficult application requirements.

Why buy Universal Coupon Products:

- Fifteen years of manufacturing expertise with over 100 Billion square inches sold
- Utilized by over 350 converters worldwide
- Excellent converting performance
- **No residue** or leave-behind
- Customer-friendly “**lift-anywhere**” design
- **Odorless** formulation
- Multiple designs available (Std. Circle, Tight Circle, Narrow Wavy, Wide Wavy patterns)
- **Available from Stock** for immediate shipment
- **Universal Circle Coupon or Wide Wavy Coupon available in exact roll sizes; no trim penalty.**
- Design patterns minimize tunneling on press
- Coupon Film stock **meets 21 CFR 177.1520 (a)(1) and (c)(1.1)** – Federal Food, Drug and Cosmetic Act
- ALL adhesive formulations **meet 21 CFR 175.105** of the Federal Food, Drug, and Cosmetic Act
- Superior bond consistency for repeatable, consistent application and removal

3 Sigma can help you in designing a custom or specialty product utilizing our Universal Coupon products. Please contact our Customer Service group or our Technical group to discuss your application needs and requirements.

UNIVERSAL COUPON FILM™

Universal Coupon Film™ is easy to use and produces high quality coupons in one press pass with minimal setup and waste. Universal Coupon Film™ can be custom coated with other adhesives or liners. Sample sheets and rolls are available from our Customer Service department.

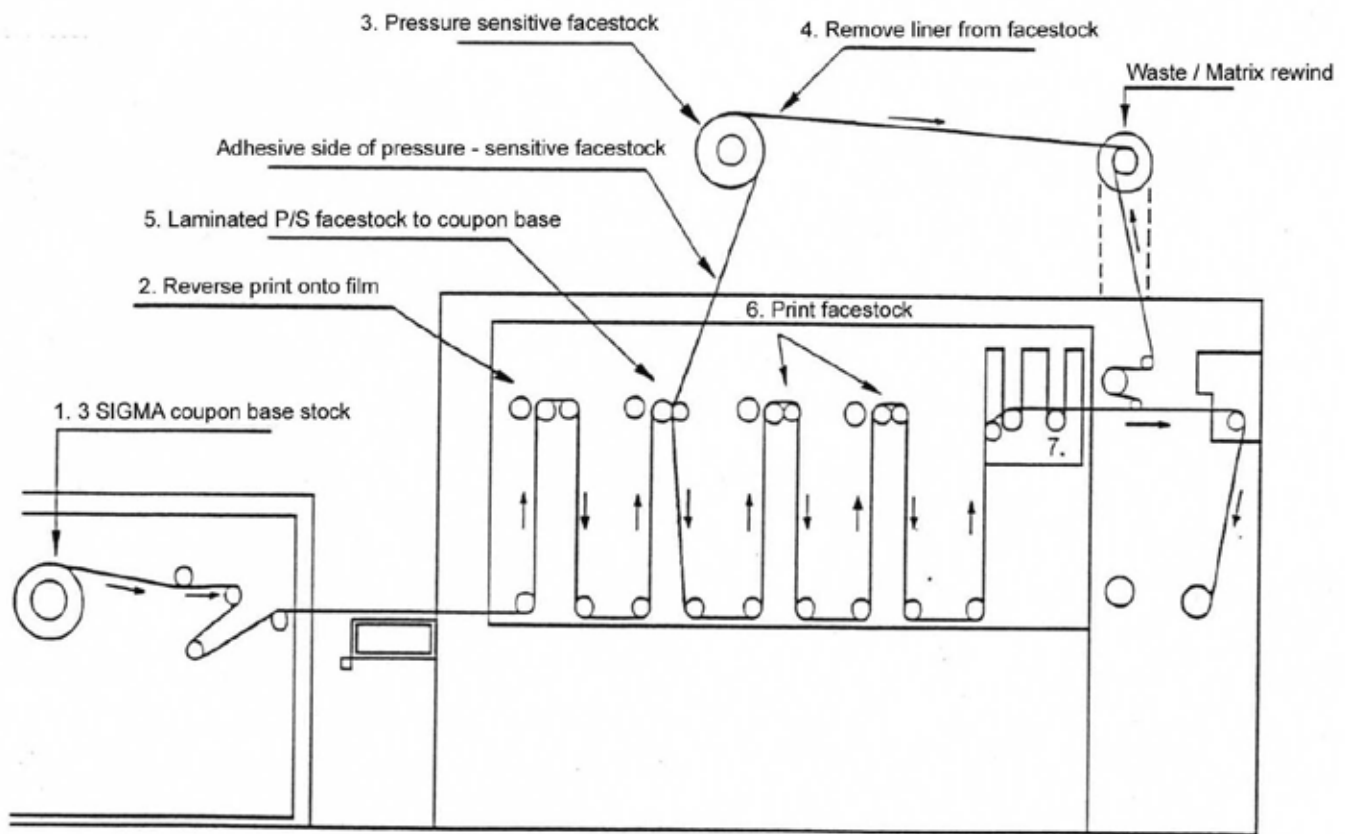
- Designed for use with standard weight/caliper pressure sensitive face stocks.
- Finished coupon will lift from any corner on the label.
- Eliminates the need for pattern adhesive facestocks, designated lift areas, and trim loss caused by pre-patterned films.
- Suitable for flexographic printing and automatic application.
- Removes cleanly with no adhesive residue.
- Separated coupon film is clear and does not obstruct graphics underneath.
- Two-side printable.

DESCRIPTION	ADHESIVE	MASTER WEB WIDTH	MINIMUM ORDER QUANTITY	LEAD TIME
Universal Coupon Film™ For use with Standard Facestocks 40# Liner	A-106 Permanent Hot Melt	Exact Cuts	1 roll 3" x 5,000'	1-2 days
	AT-2000 All Temperature Emulsion Acrylic	Exact Cuts	1 roll 3" x 5,000'	1-2 days

This product should be thoroughly tested under end-use conditions to make sure it meets the requirements of the specific application.

Production Flow

Please review the following image to view the production flow of this product.



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TRIMLESS COUPON – EXACT ROLLS

3 Sigma offers the most extensive coupon product line in the market. For many years, our Universal Circle Coupon™ product has been the standard in the industry. Our coupon line offers you the most options and gives you the most flexibility compared to any other supplier.

We now offer additional items including:

- A more robust circle product.
- Two wavy line pattern products.
- A new breakaway product.
- New split-able film products custom designed for your application.



3 Sigma is pleased to introduce coupon products with no master requirement. You can now purchase the exact roll sizes of Universal Circle Coupon™ or Wide Wavy Line coupon you need, with no trim penalty. Both products are stocked with A-106 Hot Melt Permanent Adhesive and AT-2000 Emulsion All-Temp Adhesive and 40# Liner.

Regardless of the application, 3 Sigma is committed to helping you get through this economic downturn. With 3 Sigma, you not only get the experience of proven products, but also 3 Sigma's commitment to allow you to be more competitive.

3 Sigma will respond to any competitive price on any stocked commercially equivalent instant redeemable coupon product in the market.

Whatever your needs, please feel free to call us. We will do everything we can to help you win. We are in this recession together and together, we both will emerge as stronger companies. For additional information, please contact your account manager or our customer service team at 1-800-347-3091.

SIGNATURE™ # 4140 – 3 UP PORTRAIT ORIENTATION FILM FOR AFFIXED CARDS

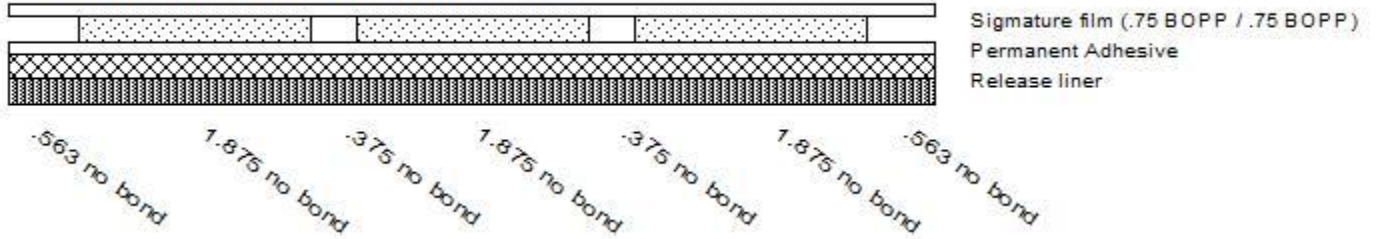
3 Sigma now offers our superior Signature products in multiple formats. 3 UP enables you to print more efficiently and increase your press productivity by 50%. Portrait orientation enables form manufacturers to produce card and form products that run more effectively at higher speeds and also fit newer affixing equipment running in landscape direction to increase their efficiency as well. As always, you get the proven reliability of Signature performance. Roll stock comes in the same 7.5” widths with the dry lift edge now running along the top and bottom of the card for easy release.

PRODUCT: A pressure sensitive product, comprised of two layers of .75 mil clear BOPP. The two layers of BOPP are laminated with a non-pressure sensitive peelable adhesive. The Signature film can be mirror printed, then over laminated with a heavy weight card stock. The card stock is printed in portrait orientation, and then die cut to 2.125 x 3.375” credit card sized labels. Labels are then affixed to forms. The Signature film allows the end user to peel the card from the form. The back side of the card is non-pressure sensitive, and can be written on with a ball point pen.

CONSTRUCTION	VALUES	METHOD
<u>PEELABLE FILM LAMINATION (SIGNATURE FILM):</u>		.75 mil BOPP and .75 mil BOPP
CALIPER (MILS)	1.50	T-411
BOND STRENGTH (G/IN):	150-375	3STM-26-V
<u>ADHESIVE:</u> PE-3 (GENERAL PURPOSE PERMANENT ACRYLIC)		
COATING WEIGHT (#/3000 FT ²)	13±2	3STM-03-C
180° PEEL ADH. (LB/IN)		3.2PSTC #1
LOOP TACK (OZ/IN ²):		35 TLMI L-1B1
SHEAR, 1KG (MIN/IN ²):		850PSTC #7
MIN. APPLICATION TEMP. (°F):	+40	
SERVICE TEMP. (°F):		-50 TO +200
FDA CONFORMANCE		175.105
<u>RELEASE LINER:</u> 40# SCK (Level 2 release)		
BASIS WEIGHT (LBS/24x36-500):	42	T-410
CALIPER (MILS):	2.5	T-411
180° RELEASE (grams/2 in)	15-90	

ROLL DIMENSIONS: Pattern 4140 will produce three cards with lift edges on both edges of each card. Available in 30 inch master width. 1 mmsi minimum order requirement.

Pattern #4140 - 7.5" roll stock



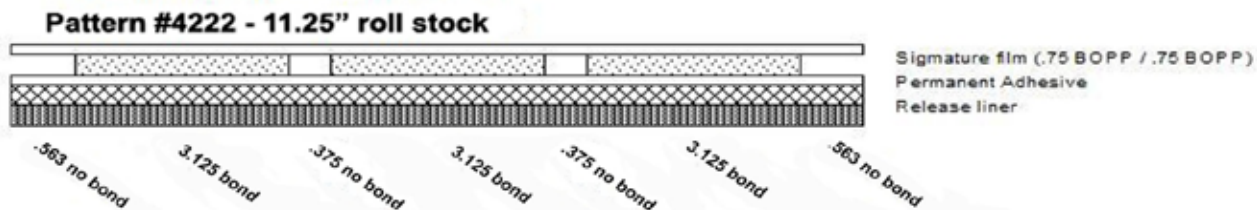
Tolerances +/- .125"

SIGNATURE™ # 4222 - 3 UP LANDSCAPE ORIENTATION FILM FOR AFFIXED CARDS

PRODUCT: A pressure sensitive product comprised of two layers of .75 mil clear BOPP. The two layers of BOPP are laminated with a non-pressure sensitive peelable adhesive. The Signature film can be mirror printed, then over laminated with a heavy weight card stock. The card stock is printed in portrait orientation and then die cut to 2.125 x 3.375" credit card sized labels. Labels are then affixed to forms. The Signature film allows the end user to peel the card from the form. The back side of the card is non-pressure sensitive, and can be written on with a ball point pen.

CONSTRUCTION	VALUES	METHOD
PEELABLE FILM LAMINATION (SIGNATURE FILM): .75 mil BOPP and .75 mil BOPP		
CALIPER (MILS)	1.50	T-411
BOND STRENGTH (G/IN):	150-375	3STM-26-V
ADHESIVE: PE-3 (GENERAL PURPOSE PERMANENT ACRYLIC)		
COATING WEIGHT (#/3000 FT ²)	13±2	3STM-03-C
180° PEEL ADH. (LB/IN)		3.2 PSTC #1
LOOP TACK (OZ/IN ²):		35 TLMI L-1B1
SHEAR, 1KG (MIN/IN ²):		850 PSTC #7
MIN. APPLICATION TEMP. (°F):	+40	
SERVICE TEMP. (°F):		-50 TO +200
FDA CONFORMANCE		175.105
RELEASE LINER: 40# SCK (Level 2 release)		
BASIS WEIGHT (LBS/24x36-500):	42	T-410
CALIPER (MILS):	2.5	T-411
180° RELEASE (grams/2 in)	15-90	

ROLL DIMENSIONS: Pattern 4140 will produce three cards with lift edges on both edges of each card. Available in 30 inch master width. 1 mmsi minimum order requirement.



Tolerances +/- .125"

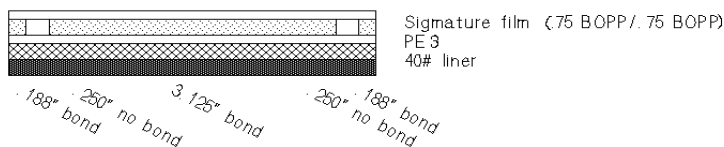
SIGNATURE™ FILM FOR AFFIXED CARDS

PRODUCT: A pressure sensitive product comprised of two layers of .75 mil clear BOPP. The two layers of BOPP are laminated with a non-pressure sensitive peelable adhesive. The Signature film can be mirror printed, then over laminated with a heavy weight card stock. The card stock is printed and then die cut to 2.125 x 3.375" credit card sized labels. Labels are then affixed to forms. The Signature film allows the end user to peel the card from the form. The back side of the card is non-pressure sensitive, and can be written on with a ball point pen.

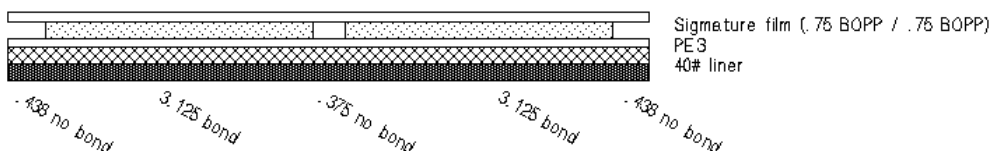
CONSTRUCTION	VALUES	METHOD
PEELABLE FILM LAMINATION (SIGNATURE FILM): .75 mil BOPP and .75 mil BOPP		
CALIPER (MILS)	1.50	T-411
BOND STRENGTH (G/IN):	150-375	3STM-26-V
ADHESIVE: PE-3 (GENERAL PURPOSE PERMANENT ACRYLIC)		
COATING WEIGHT (#/3000 FT ²)	13±2	3STM-03-C
180° PEEL ADH. (LB/IN)		3.2 PSTC #1
LOOP TACK (OZ/IN ²):		35 TLMI L-1B1
SHEAR, 1KG (MIN/IN ²):		850 PSTC #7
MIN. APPLICATION TEMP. (°F):	+40	
SERVICE TEMP. (°F):		-50 TO +200
FDA CONFORMANCE		175.105
RELEASE LINER: 40# SCK (Level 2 release)		
BASIS WEIGHT (LBS/24x36-500):	42	T-410
CALIPER (MILS):	2.5	T-411
180° RELEASE (grams/2 in)	15-90	

ROLL DIMENSIONS: Available in stock widths of 4" (Pattern 2468 – will produce one 3.375" card with lift edges on both edges) and 7.5" (Pattern 2378 – will produce two 3.375" cards with lift edges on both edges of each card).

Pattern #2468 - 4" roll stock



Pattern #2378 - 7.5" roll stock



Tolerances +/- .125"



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