

Company and Product Overview

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.



A Proven Approach

Research and Development of custom adhesives and top coats for highly specialized pressure sensitive products is our specialty. Our solvent, emulsion and hot melt chemistry and manufacturing capabilities are utilized every day to create unique, value-added products for our customers that add directly to their bottom line. 3 Sigma's research and development personnel have worked in large multi-national corporations and follow a unique, collaborative approach when working with customers and strategic partners, ensuring alignment and a superior customer experience.

Company Overview

Established in 1980, 3 Sigma is a rapidly growing, resourceful innovator of unique pressure sensitive coated products. 3 Sigma's commitment to you, our customer, is to continuously seek ways to address and improve critical business needs: speed of development and commercialization, product efficiency, product performance and quality. Our team has the necessary expertise to consistently produce superior products that meet your requirements.



Our customer service and technical associates will work with you to develop and manufacture custom constructions that allow you to provide innovation to your end-user and differentiate yourself from your competition. All of 3 Sigma's associates are focused on assuring a "customer-friendly" experience that offers:

- Easy access to decision makers and technical staff
- Flexible & responsive production with quickest turn-around times in the industry.
- Utilization of facility for design and trial projects
- Production volumes and product designs that meet your needs, not ours.

3 Sigma is an ISO9001:2015 certified company dedicated to creating "Fit For Use" solutions for our customers.



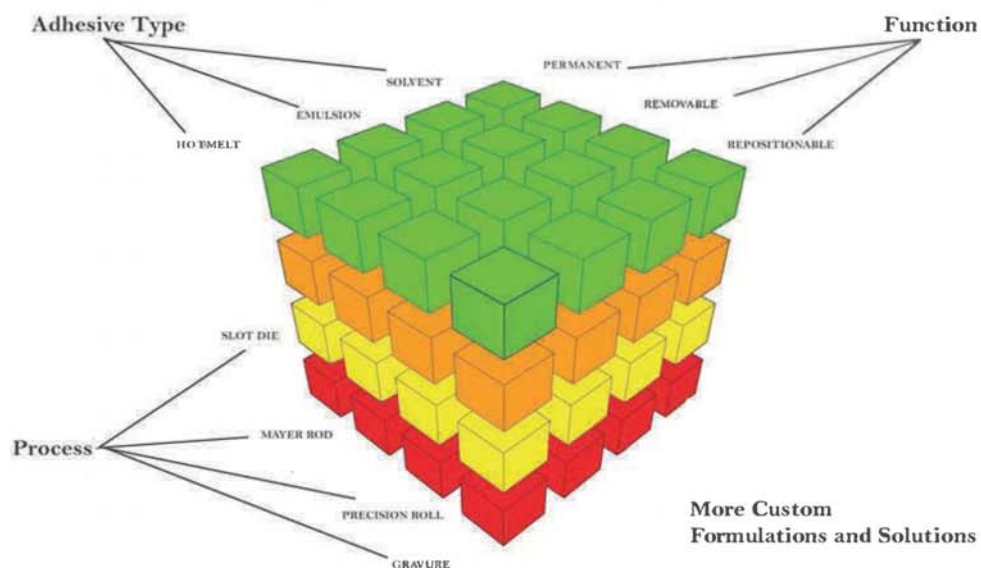
www.3Sigma.cc



Company Overview

Since our start in 1980, we have continued to refine our material and process technologies to provide customers with a level of service that is unmatched by our competition. Our multiple coating lines and coating methods give us a wide range of manufacturing flexibility necessary to meet the demands of the industry. Our manufacturing associates are trained to handle the considerable number of job changeovers and set-ups necessary to rapidly meet custom product production in a very short lead-time window. We are one of the few companies who offer hot-melt, emulsion, and solvent based adhesives under one roof. In summary, our company is one of the most versatile manufacturers in the pressure sensitive industry.

The versatility of our company allows us to offer you more design options, quicker production, and the opportunity to grow through diversification and speed of service. The key to success in most markets today is to be more innovative and faster than your competition. 3 Sigma helps you achieve this through formulating custom constructions based on market and application expertise. Our product development specialists have many years of experience and understand the critical characteristics of each component in label and tape construction. They are highly skilled on designing the proper combination of product attributes and functional features that will ensure optimal "Fit for use."





3 Sigma offers an extensive line of proprietary products extending into various markets and industries. Our broad base of product technologies and offerings accelerate the impact of business initiatives, such as waste reduction, cost containment, market expansion and new product development. 3 Sigma's Key Customer Markets are:

- Food and Beverage and Packaging
- Business Forms/Direct Mail
- Graphics
- Product Security
- Industrial/Technical
- Medical, Pharmaceutical, Health & Beauty

Food and Beverage Market

Products/ Applications

- Coupons
- Coupons with pattern adhesives
- Package reclosures (Anchor Seal)
- Wine Labels
- Beverage/Bottle labels
- Overlaminates
- Shelf marking
- Specialty prime label
- Fluorescent price marking
- Break away films
- Sigma-scan
Direct food contact adhesives
- All temp and freezer grade
adhesives

Features and Benefits

- Universal "lift anywhere" coupons
- Consistent easy converting
- Diversification from "commodity" products
- Cost-effective package and sealing alternatives
- Multiple functionality
- True value-added products
- Highly engineered application performance



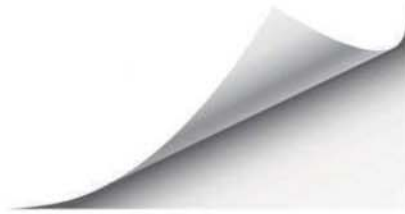
Promotional, Advertising and Signage Markets

Products/ Applications

- Mail Labels (direct mail magazines)
- News labels (newspapers)
- Wall graphics
- Temporary signage
- Temporary/portable video screens
- Page flags or markers

Features and Benefits

- Multiple materials and colors
- Durability for high-speed machine application
- Ability to remove and reapply
- No residue or adhesive transfer
- No ghosting on clear frosted surfaces
- Long life and performance



Business Forms and Direct Mail

Products/ Applications

- Integrated Cards
- Affixed Cards
- Integrated labels
- Affixed Labels
- Magnetic materials
- Overlaminates
- Shelf marking
- Label maker
- Integrated coupons
- Affixed Coupons

Features and Benefits

- Custom designed lift patterns
- Backside writeable materials
- "Clean Release" feature
- Superior quality and clarity
- Multiple functionality
- Excellent converting and press performance
- Immediate shipping from Stock (Signature)



Product Security & Tamper Evident

Products/ Applications

- Tamper evident tapes
- Tamper evident Polyart
- Destructible Acetate
- Taggant-modified adhesives
- Pigment-modified adhesives
- Block-out coatings
- RFID label stock
- Specialized Paper and Film



Features and Benefits

- Covert or overt security options
- Warranty Validation
- "Sealed-until-use" requirements
- Evidence of tampering/ substitution
- Protection of vital information
- Theft protection
- Counterfeit protection



Industrial and Technical

Products/ Applications

- Tire Labels
- Drum labels
- Pipe and conduit labels
- HVAC tags and labels
- Automotive applications
- Outdoor power equipment
- Transfer and specialty tapes



Features and Benefits

- Endure high heat
- Withstand high humidity or moisture
- Resist exposure to grease, oil, or solvents
- Handle UV exposure
- UL/CA, RoHS, WEEE compliant



Medical, Pharmaceutical, Health & Beauty

Products/ Applications

- Squeezable/Conformable BOPP
- Clear-on-Clear labels
- Autoclave labels
- Specialty tapes
- Booklet or brochure format labels
- Medical Instrument labels
- Signature tabs
- Medical/Insurance Cards



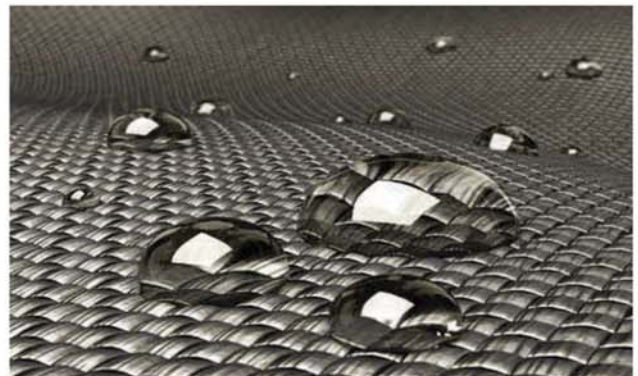
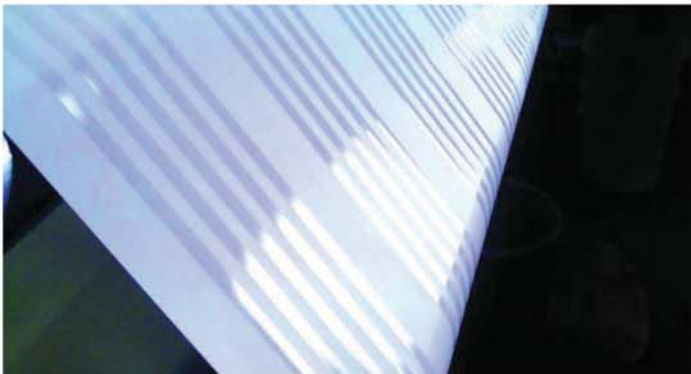
Features and Benefits

- Brand Security technology
- Durability and long life
- Tight pattern tolerances
- Resistant to oils and lotions
- Excellent clarity
- Adhesion to tight radius products



Adhesive and Coating Options

- Toll Coating
- Corona Treating
- Specialty Top Coatings
- Colored/pigmented additives
- Taggants for product security
- Pattern Coatings
- Pattern Silicone release

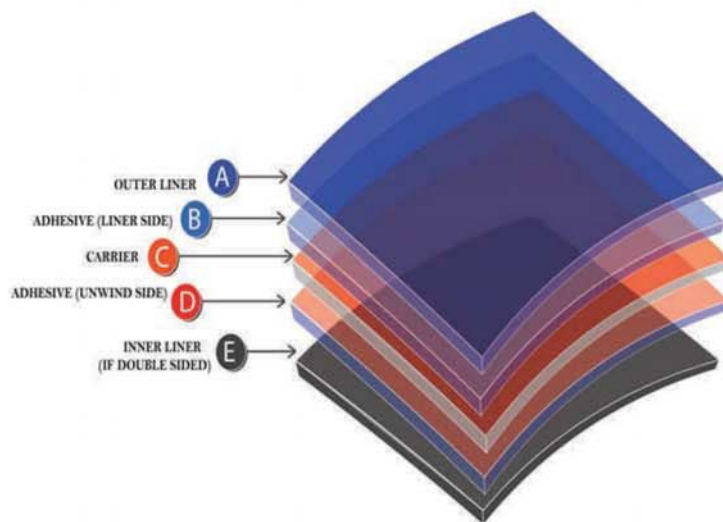


3 Sigma has the unique ability to design and manufacture custom products to fit end-users' specific needs which than can be utilized to produce specialty tapes for: Transportation/Automotive, Specialty packaging, Building & Construction, Electronics, Alternative Energy (Solar), Retail/Point of Purchase.

Case Study

Recently, one of 3 Sigma's customers came to us with an opportunity. This industrial manufacturer had an application for applying an adhesive coat with a release liner. They wanted to reduce their scrap dramatically, increase the throughput of their production line, and ultimately increase their profitability. 3 Sigma's product development team went to work and quickly provided a specialty industrial tape. The result by using this custom product, scrap dropped from 30% to 5% and throughput increased by 5 times. These manufacturing efficiencies have improved the company's profitability immensely. So our question to you; Why not challenge 3 Sigma to help you in the same way? Let us drive efficiency and profitability.

3 Sigma can develop and manufacture the following specialty constructions: Pattern Adhesive coating, Single Liner/Double Liner, Extended Liner, Custom Web Widths, Custom Pigmented Adhesives, Security Features.



PERFORMANCE CHART (Pressure Sensitive Adhesives)

REMOVABLES	Removal from substrates 1=Poor 5=Excellent			KEY FEATURES	PRODUCT LIMITATIONS	APPLICATIONS
	Poly	Steel	Corrugated			
Hot Melt-Rubber						
A204	4	4	4	Good removability from a variety of surfaces	Limited outdoor and solvent resistance, may leave residue on high energy surfaces	Good adhesion and removability from corrugated
A303	4	4	4	Very aggressive removable or low tack permanent for Anchoresal applications	Edge ooze can be in issue	Reseal labels
A327	4	4	4	Aggressive removable or low tack permanent for Anchoresal applications-slightly less aggressive than A303	Edge ooze can be in issue	Reseal labels
DFC205R	4	3	3	Direct Food Contact medium aggressive removable	Edge ooze can be in issue, staining can be an issue	Removable labels where adhesive needs to meet FDA 21CFR 175.125

Emulsion Acrylic						
RE3	5	5	4	Lowest tack general purpose removable	Limited outdoor resistance	Window and floor graphics, other high energy surfaces, no adhesion build
RE5	4	4	4	Medium aggressive general purpose removable	Limited outdoor resistance	General purpose removable with minimum adhesion build
RE8	4	4	4	Most aggressive general purpose removable	Limited outdoor resistance	More aggressive removable applications
REP4	5	5	5	Ultra removable microsphere for paper and some film facestocks	Direct Coated only	Newspaper labels - Reminder notes - Calendar labels
REP10	5	5	4	Ultra removable microsphere for paper facestocks-more aggressive than REP4 (approved for RPN by USPS)	Direct Coated only	RPN notes for the outside of US Mail (approved by USPS) - Reminder notes requiring more adhesion than REP4
REP16	5	5	5	Ultra removable microsphere for film facestocks only - less aggressive than REP4	Direct Coated only	Page tabs - Removable labels for high energy surfaces
REP22 (developmental)	5	5	5	Transfer coatable microsphere for vinyl facestocks - aggressive removable for wallborder	Transfer coatable for vinyl and some primered film facestocks only	Wall border & appliques for textured wall papers
REP142 (developmental)	5	5	5	Most aggressive microsphere removable for paper facestocks only	Direct Coated only	Wall border & appliques for textured wall papers

Solvent Acrylic						
SR1	5	5	4	Clean removable from various substrates, smooth peel	Opaque face stocks only, cost considerations	Water resistant, outdoor graphics, window and floor graphics
SR2	5	5	4	Clean removable from various substrates, smooth peel	Cost considerations	Water resistant, outdoor graphics, window and floor graphics
SR3	5	5	3	High peel removable, clean removable from various substrates, smooth peel	Cost considerations	High chemical resistance, water resistant, outdoor graphics, window and floor graphics, use where higher shear is needed

Face-stocks, Liners, Adhesives

PERFORMANCE CHART (Pressure Sensitive Adhesives)

	ADHESION TO SUBSTRATES 1=Poor 5=Excellent			KEY FEATURES	PRODUCT LIMITATIONS	APPLICATIONS
	Poly	Steel	Corrugated			
PERMANENTS						
Hot Melt-Rubber						
A106	4	5	5	Good adhesion to variety of low and high energy surfaces	Edge ooze can be in issue	General purpose permanent labels, low surface energy polyolefins, packaging
1023X	5	5	5	Better adhesion to low energy surfaces than A106, better cool temp adhesion than A106	Edge ooze can be in issue	Polyolefin films and other low energy surfaces, packaging, quick tack applications
A101	3	4	5	Higher temperature resistance than typical hot melt rubber based. A harder adhesive with better die cutting and shear strength than A106.	Moderate polyolefin adhesion.	Jewelry Labels, Piggyback labels/stocks, film faces/stocks, need for better converting than traditional hot melts
A111	3	4	5	High temperature resistance. Better die cutting than A101.	Moderate polyolefin adhesion.	Jewelry Labels, Piggyback labels/stocks, film faces/stocks, need for better converting than traditional hot melts
TRL1	5	5	5	Good adhesion to rubber tires	Very soft, adhesive ooze on edges of die cut labels	Tire Labels, very rough surfaces, extremely low surface energy polyolefins
A502	5	5	5	Good adhesion to low surface energy films at freezer temps	Very soft, adhesive ooze on edges of die cut labels	Frozen food packages, cold and freezer type applications
DFC107	4	4	5	Direct Food Contact permanent with good adhesion to cold wet fruit	Edge ooze can be in issue	Fruit labels where adhesive must meet 21CFR175.125 for direct food contact
Emulsion Acrylic						
PE3	4	4	4	Good adhesion to variety of substrates	Edge ooze can be in issue	General Purpose Permanent
PE18	3	4	4	Good adhesion to variety of substrates, but less aggressive than PE3	Increased cost over general purpose	Laser labels and reseal labels for poly film packages, high shear applications, applications where converting is a key issue
PE21	5	5	5	Tackified Acrylic with high adhesion to low surface energy polyolefins	Edge ooze can be in issue	Low surface energy polyolefins, bottle labeling, quick stick applications
AT2000	3	3	3	Cold temperature adhesive	Not recommended for wet and humid environments	Coupon applications for a variety of grocery situations, cold temperature applications
Solvent Acrylic						
SP1	4	4	4	General Purpose Solvent Acrylic	cost considerations	High performance permanent
SP2	4	4	4	Tackified acrylic for increased adhesion to low energy surfaces	cost considerations	Greater Quick Stick than SP1, bottle labeling
SP3	3	4	4	Crosslinked acrylic for better anchorage and increased chemical resistance	cost considerations	Better chemical and heat resistance than SP1
SP4	5	5	5	Black, tackified pigmented	cost considerations	Aggressive Black Adhesive for block out applications, tape
SP5	5	5	5	Tackified acrylic for increased adhesion to low energy surfaces	cost considerations	Drum Labels, Size Labels for Teflon coated clothing, rough surfaces
SP7	4	4	4	White acrylic	cost considerations	Block out for added opacity, reverse printing applications
SP9	4	4	4	Black pigmented	cost considerations	Block out

Manufacturing Capabilities

Core Competencies & Processes

- 13 Coating lines with slot die, Mayer rod, precision roll, roll over roll and gravure systems
- Emulsion adhesives to 80" web width
- Hot-melt adhesives 3" to 20" web width
- Solvent adhesives on the same web
- Cohesives
- In-house custom formulations
- Dual adhesives on the same web
- Dual face-stocks on the same web
- Pattern adhesives and coatings with tight tolerances and/or complex configurations
- Taggant-modified adhesives and coatings
- Pigmented adhesives
- Block-out coatings
- Film or paper top-coating for superior printing and/or face-stock protection
- Self-wound (linerless) constructions
- Complex multi-layer/piggyback constructions
- Silicon and pattern silicon coatings
- Toll-coating for proprietary products or capacity relief
- Roll stocks available on 3" or 6" cores to 40" O.D.
- Sheeting, guillotining and slitting as narrow as a half inch

A few of our Brand Owners:



MOTOROLA



Why Choose 3 Sigma?

- Three Adhesive Technologies under our 85,000 sq ft. facility: Hot-Melt, Emulsion, Solvent
- Quickest lead times in the industry
- Access to key decision makers and technical staff
- Custom Construction/Formulations
- Access to use our equipment for trial and start projects
- Knowledgeable and courteous customer service team
- ISO9001:2015 Certified
- High Quality Standards and Processes
- Low order minimums
- Flexible production schedules to meet customer needs, not ours
- Broad base of product technology



A decorative graphic consisting of several overlapping, wavy, blue lines that curve upwards from the bottom left towards the top right, creating a sense of motion and depth. The lines vary in opacity, with some being more prominent than others.

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