



# ADHESO-GRAPHICS INC.

FPPA TECHNICAL CONFERENCE MARCH 3-4, 2014 INDIAN WELLS, CA

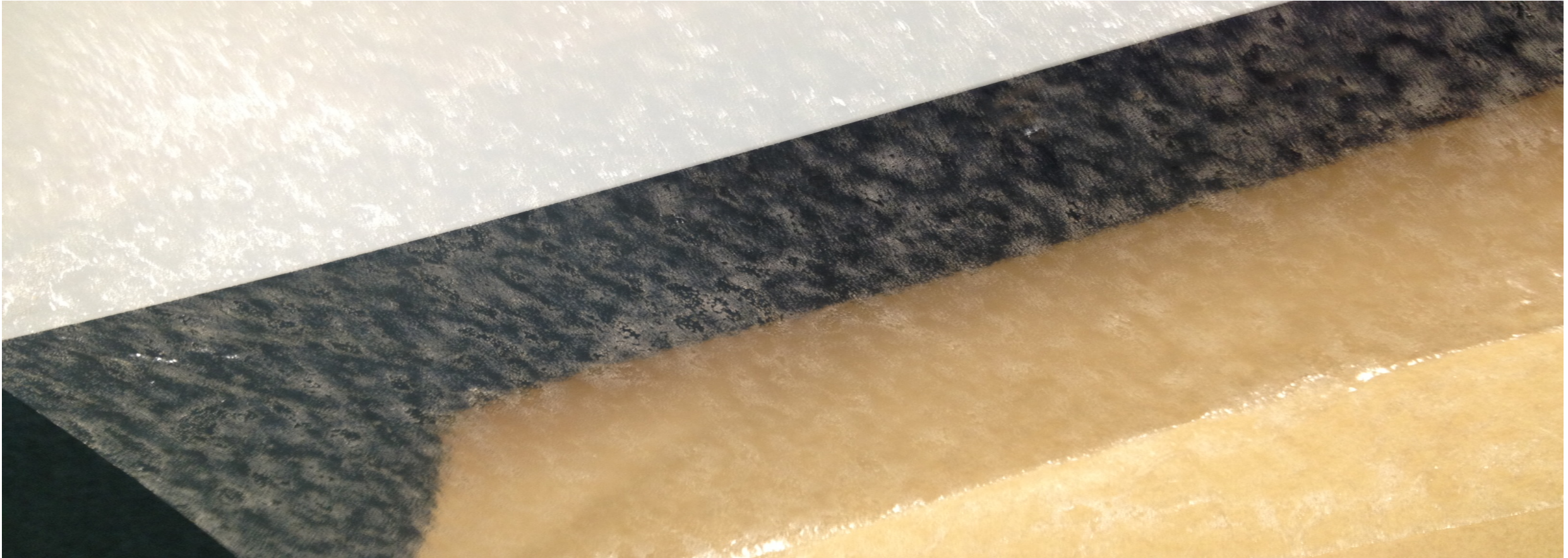


# OVERVIEW FOR CURRENT AND NEW TECHNOLOGY PLATE MOUNT ADHESIVE AND BACKING SYSTEMS.



# ADHESIVE MOUNTING TAPE TYPES AND CONFIGURATIONS

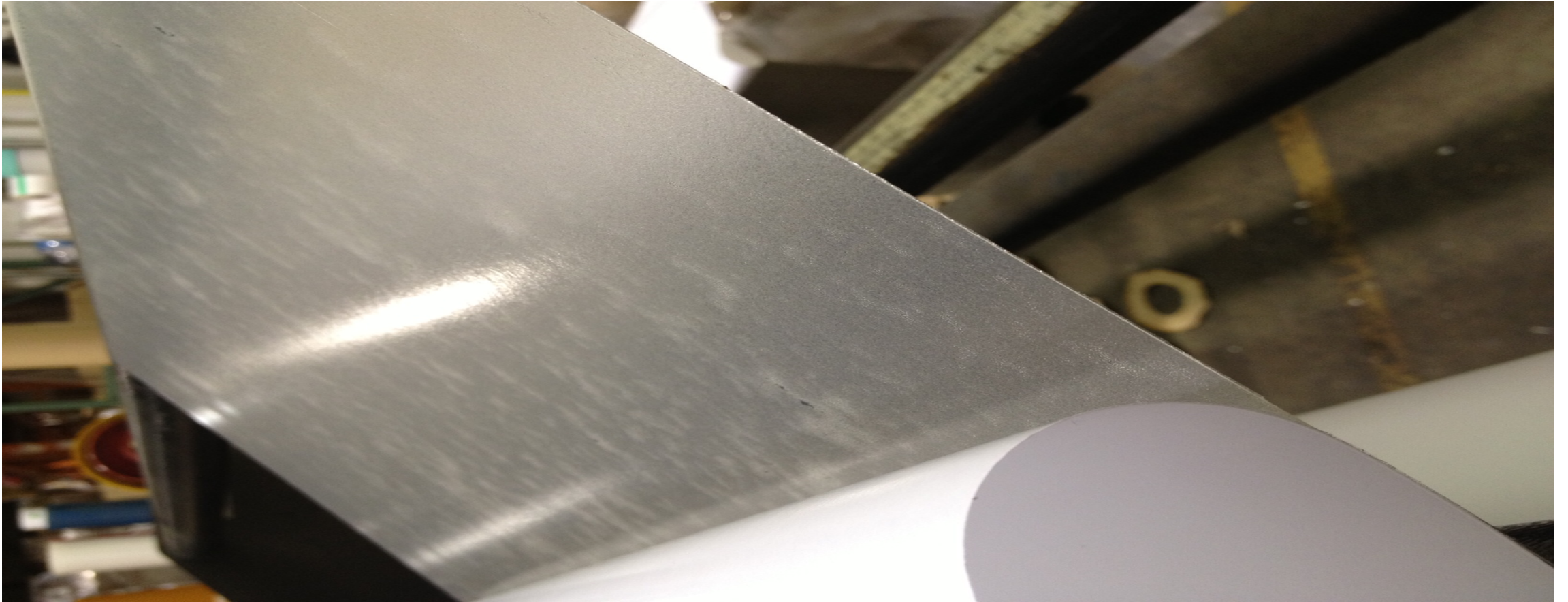
- Current Products Available in Market! All Products are used in Application.
- Adhesive Transfer Type, Fiber Filled Adhesive.
- 6 Common Products.
- Film Supported Adhesive with Carrier.
- 17 Common Products.
- Total Products that Comprise 98% of mounting tape used = 23 Variations.
- \*Information supplied by independent survey.



ADHESIVE TRANSFER TYPE

Micro Fiber Filled Acrylic Adhesive Tape.





FILM SUPPORTED TYPE WITH CARRIER

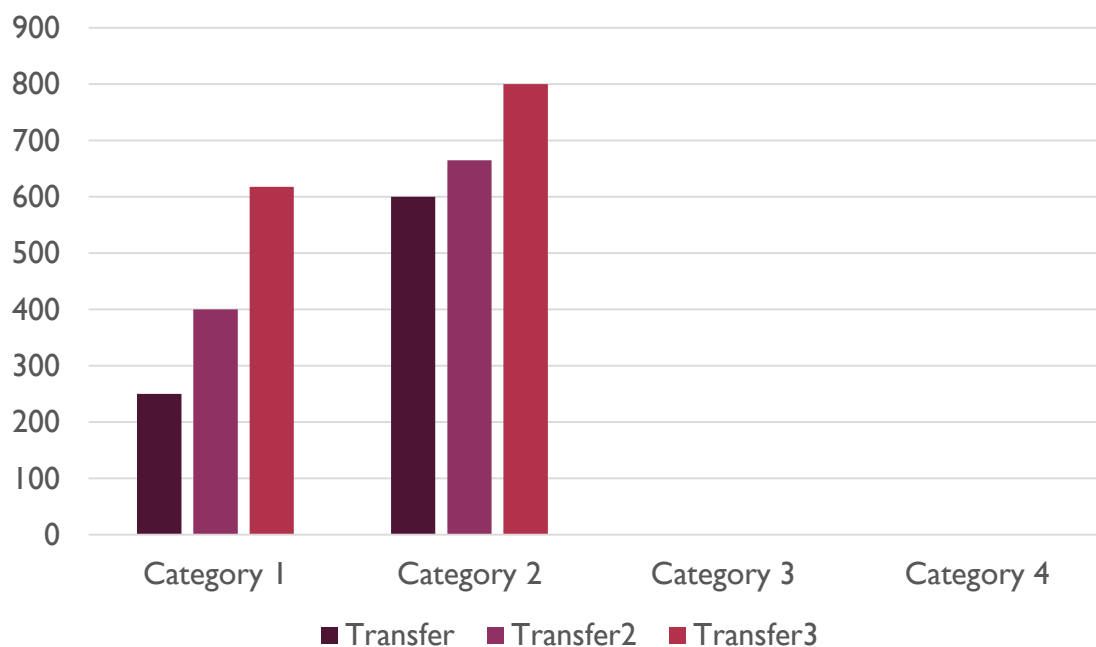
Double Coated PET, UPVC Film, Rubber and Acrylic Type Adhesives.

## MOUNTING TAPE THICKNESS RANGE / MAX WIDTH SPECIFICATION

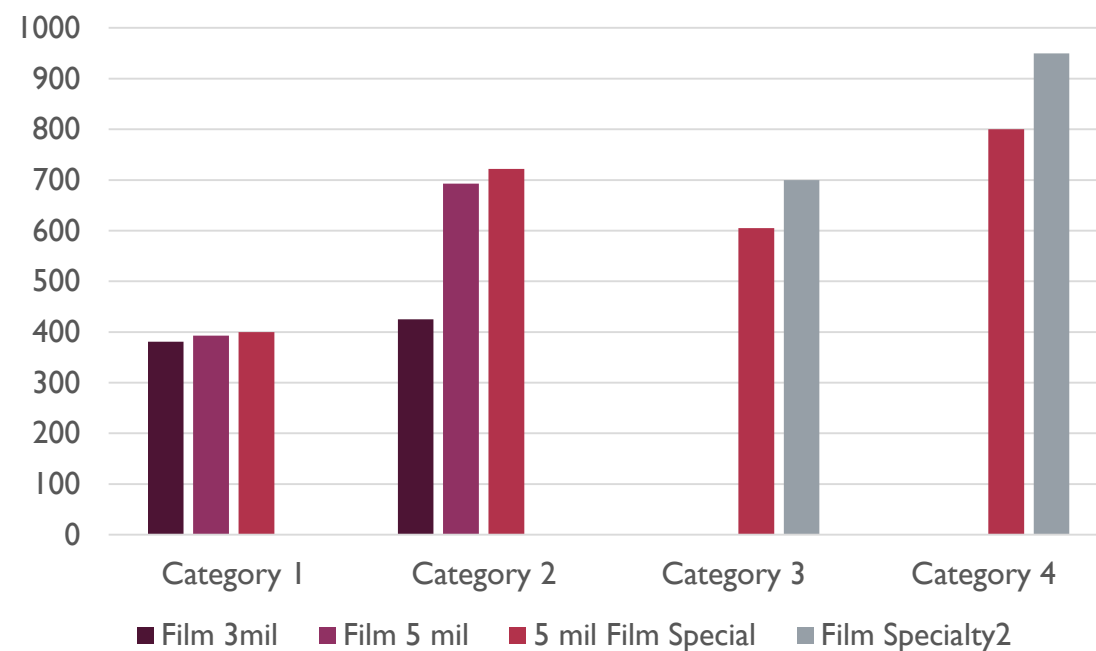
- Transfer Type
- .002 in. .003 in. .005 in.
- Width From: 49 to 54 useable width.
- Film Supported Type
- .003 in. .045 in. .005 in. .006 in.  
.065 in. .010 in. .015 in. .020 in.
- Width From: 49 to 59" useable width.

# COST STRUCTURE FOR USE IN APPLICATION

## Transfer Mounting



## Film Supported



# ADHESION DATA PET / PVC PLATE TO MOUNT BASE MATERIAL. HOW THESE TYPICAL MATERIALS BOND IN PLATE ATTACHMENT

- Polyester Film (PET) Mylar etc. Relatively Stable / Consistent for Untreated Films.
- PVC .030, .025, .027 in. Thickness. Many Variations. Surface texture / Variations.
- All Types provide different adhesion values using various mounting products.
- The type of Mounting Films have different Surface Energy which correlates to Initial repositionability in the mounting process and final bond strength. Adhesion level will bond over time with Acrylic Adhesives.
- The Question at Hand ? What do you want from a Mounting Tape.
- Permanent Bond ?
- Initial Repositionability and Final Secure Bond.
- Cost ? Specialty products cost more. Lower cost films work with excellent success.
- Ability to Remove Stickyback after use or in Plate repair. ?
- Next.....What is New!



Correlation for Bonding Values to PET / PVC Mounting Base Films.				
	Product 1		Product 2	
	Mount Surface	Plate Surface		
	Liner side	Exposed side	Liner side	Exposed side
Peel to SS,				
initial	3.28	3.35	3.14	3.59
	4.06	3.22	2.69	3.82
	cl, sm	cl, sm	cl, slight zippy	cl, sm
average, lb/in	3.67	3.29	2.92	3.71
after 24 hr dwell	4.47	5.77	3.54	5.18
	5.14	5.85	3.52	5.23
	cl, sm	cl, sm	cl, slight zippy	cl, sm
average, lb/in	4.81	5.81	3.53	5.21
Peel to 30mil PVC on foam				
initial	2.00		2.32	
	1.99		2.18	
	cl, sm		cl, slightly zippy	
average, lb/in	1.99		2.25	
after 24 hr dwell	5.69		4.2	
	5.61		4.24	
	cl, sm		slight residue	
average, lb/in	5.65		4.22	
Peel to 10 mil PET				
initial	4.00		2.86	
	3.99		2.99	
	cl, sm		cl, slightly zippy	
average, lb/in	4.00		2.93	
after 24 hr dwell	5.1		3.08	
	4.82		2.94.	
	cl, sm		cl, slightly zippy	
average, lb/in	4.96		3.08	
Peel to photo plate PET				
initial		3.88		4.32
		3.9		4.19
		cl, sm		cl, sm
average, lb/in		3.89		4.26
after 24 hr dwell		6.13		4.84
		5.93		4.85
		cl, sm		cl, sm
average, lb/in		6.03		4.85
Best Performance				
Lower Final Bond				

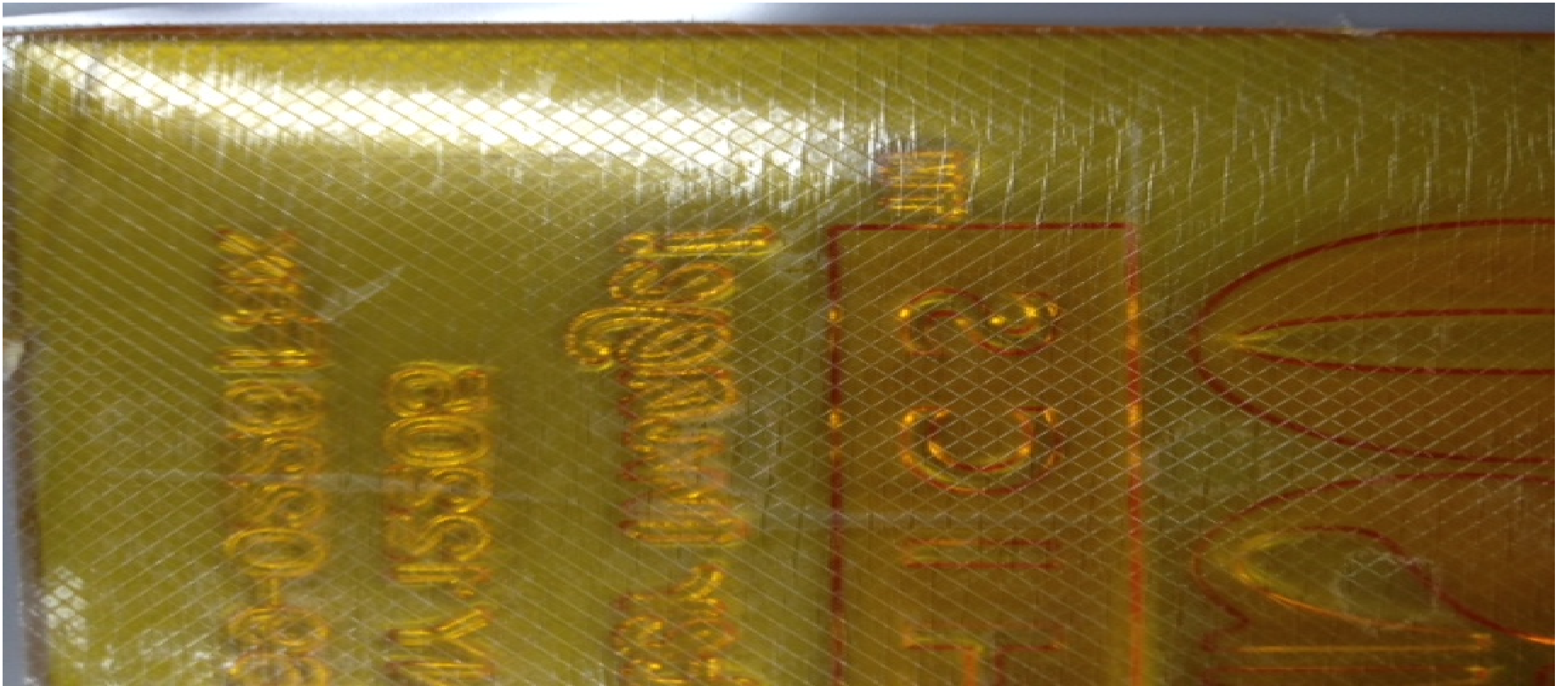
# MOVING FORWARD.....MOST RECENT CONCEPTS / APPLICATION VIABILITY

- REDUCED AIR ENTRAPMENT BETWEEN PLATE AND MOUNT MATERIAL
- ENGINEERED ADHESIVE TECHNOLOGY APPLICATION SPECIFIC.
- REPOSITIONABLE ADHESIVE SYSTEMS FOR REGISTRATION PROCESS IN MOUNTING
- REMOVABLE MOUNTING TAPES FOR PLATE REPAIR OR MOUNT CHANGE-OUT.

PATTERN PLATE SIDE / MOUNTING BASE SIDE. REMOVABLE FROM PVC, PET, PRINTING PLATE. CLEAR LINER FOR VISUAL INSPECTION OF PLATE AFTER TAPE APPLICATION.



AIR REDUCTION PATTERN | SIDE ONLY = MOUNTING BASE SIDE,  
REMOVABLE FROM PET, PVC, PRINTING PLATE



AIR REDUCTION PATTERN 2 SIDES ZONE COATED STRIPE  
PATTERN. REMOVABLE FROM PET, PVC AND PRINTING PLATE





AIR REDUCTION MICRO PATTERN TAPE REMOVABLE FROM PET,  
PVC, PRINTING PLATE...HIGHER BOND VERSION



TRADITIONAL MOUNTING TAPE WITH 12PT LINER FOR LAYFLAT REDUCED  
AIR ENTRAPMENT DESIGN WITHOUT PATTERN ADHESIVE.



## CONCLUSIONS.....

- RECENT TECHNOLOGY TAPES OFFER A WIDER RANGE OF FEATURES FOR REMOVING STICKYBACK OR MOUNT REPAIR / REMOUNT OF JOBS. THE COST POINT IS HIGHER FOR PURCHASE. LAMINTING EQUIPTMENT IMPROVES AIR ENTRAPMENT REDUCTION TO 100% HAND APPLICATION CAN CAUSE AIR ENTRAPMENT.
- TRADITIONAL TAPES ARE LOWER COST AND APPLICATION EFFECTIVE. (NON-AIR REDUCTION DESIGNS) LAMINTING EQUIPTMENT IMPROVES AIR ENTRAPMENT REDUCTION TO 100% IMPROPER HAND APPLICATION CAN CAUSE AIR ENTRAPMENT. MORE DIFFICULT TO REMOVE CLEANLY.
- ADHESIVE TRANSFER TYPES ARE RESISTENT TO MANUAL /HAND APPLICATION AIR ENTRAPMENT BY THEIR DESIGN. TRANSFER TAPES ARE DIFFICULT TO REMOVE CLEANLY FROM PVC, PET AND PRINTING PLATES. TRANSFER PRODUCTS ARE SIMPLE AND COST EFFECTIVE TO USE. LAMINATING EQUIPTMENT INCREASES THEIR BOND TO ALL SUBSTRATES.

## TRENDS FOR TOTAL WIDTH OF USEABLE BACKING MATERIAL.





# COMPRESSIBLE BACKING PRINT ENHANCEMENT CUSHION MOUNTING MATERIALS

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## CURRENT MATERIALS USED AS STANDARD BACKINGS

- CAST POLYURETHANE FOAM FORMULATION POURED ONTO 10 MIL PET FILM. CONTINUOUS ROLL PROCESS.
- LAMINTED PUR /VINYL NITRILE TYPES. THESE ARE PRODUCED AS FOAM ONLY,ADHESIVE IS LAMINATED OR COATED ONTO THE FOAM SURFACE, PET FILM AND PVC FILMS ARE INTRODUCED AS CARRIER SUBSTRATE.
- CHEMICAL ISOTHERMIC EXPANDED PUR FOAMS. BUN TYPE FOAM.
- ALL MATERIALS ARE BUFFED TO TIGHT TOLERANCE TO MAINTAIN THICKNESS UNIFORMITY.

# CAST MATERIAL PUR ON PET FILM



## LAMINATED BACKING CUSHION WITH ADHESIVE APPLIED

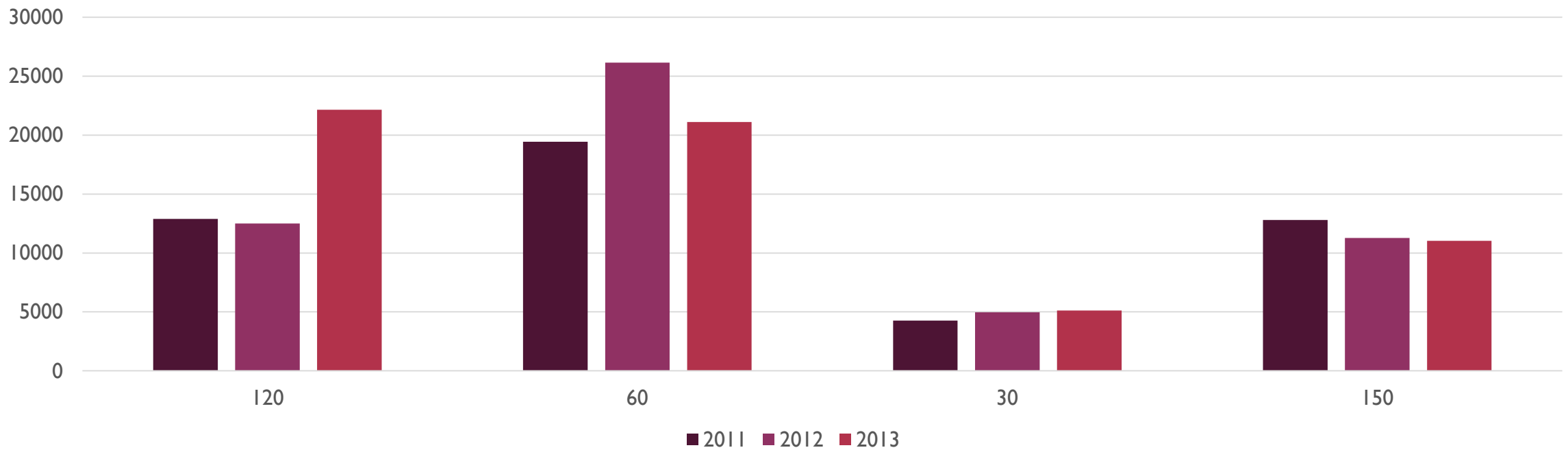


# CURRENT MARKET INTERNATIONAL AND DOMESTIC PRODUCTS

- SIZES USED IN OVERALL MARKET.
- WIDTHS 44 IN. 54 & 60 IN.
- **THICKNESS RANGE: .030, .040, .044, .060, .067 .070, .080, .084, .100, .115, .102, .120, .125, .142, .150, .155, .160, .170 INCH. = 18 PRODUCTS**
- DATA INCLUDES ALL CAST, LAMINATED, PET AND PVC COMBINATIONS INCLUDING UNSUPPORTED ADHESIVE COATED 1 SIDE MATERIALS.

# TRENDING COMMON THICKNESS DEMAND

Chart Title





## THICKNESS / WIDTH USAGE TRENDS CONCLUSION

MULTIPLE FACTORS DRIVE TRENDS WITH SALES VARIANCE.

**THICKER BACKINGS ARE SLIGHTLY DECLINING**

**THINNER BACKINGS .060 / .030 HAVE INCREASED DEMAND WITH .030 BECOMING MORE POPULAR.**

STANDARD WIDTH MATERIALS 44 / 60 IN.

**44 INCH WIDTH DECLINING AT A STEADY RATE OVER A 5 YEAR PERIOD. 60 IN WIDTH IS THE MOST COMMON STANDARD WIDTH. PRESSURE TO INCREASE WIDTH.**

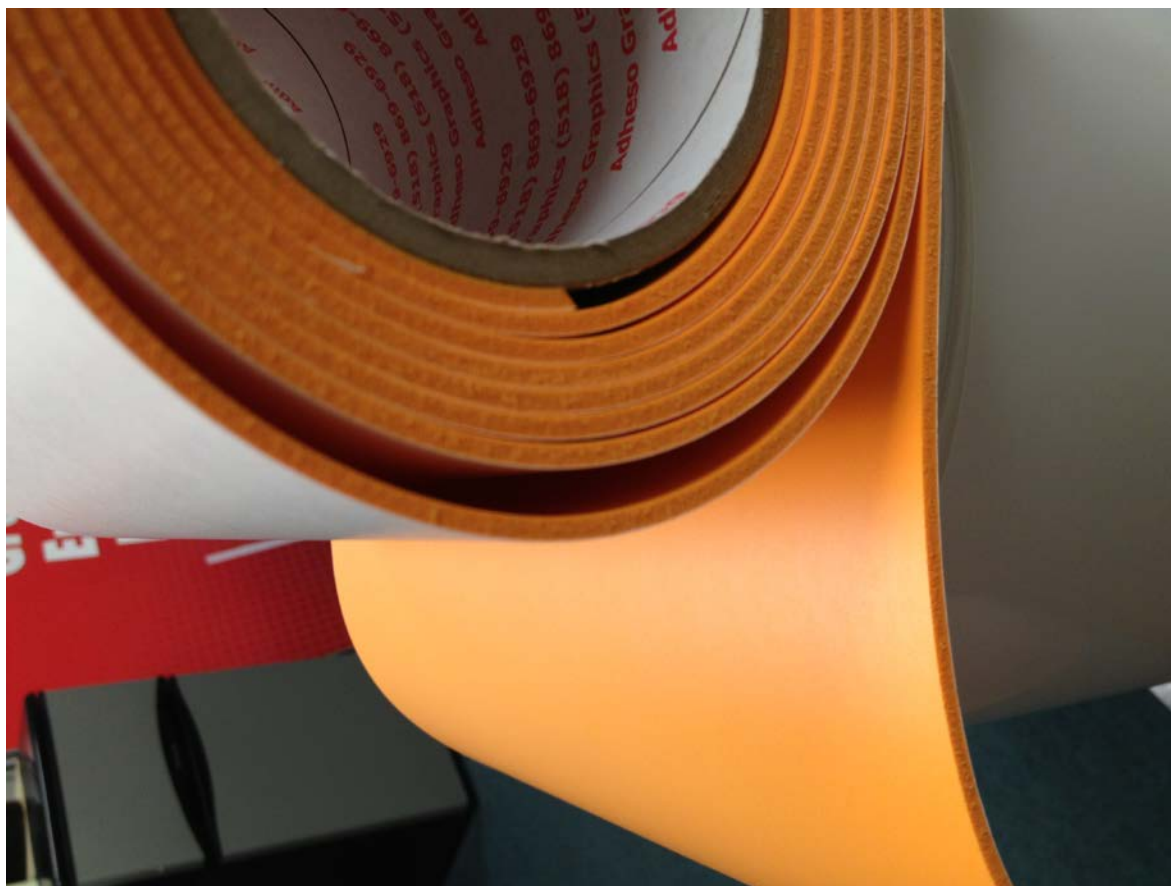
## TRENDS FOR INCREASE IN WIDTH OF BACKING PRODUCTS.

- CURRENT WIDTHS 60 INCH USEABLE FOAM WITH 62 TO 64 INCH DRY EDGE FILM REVEAL.
- INCREASED SPECIFIC WIDTH REQUIREMENT, 62-3/8, 64 9/16" ETC.
- WIDTH IS MANUFACTURING DEPENDENT WITH EXISTING PRODUCT EQUIPMENT THAT SERVICES MARKET NEEDS.

## BACKING WITH WIDER EDGE REVEAL FOR INCREASED WIDTH.

- COMPRESSIBLE MATERIAL  
.120 WITH EDGE REVEAL





UNSUPPORTED COMPRESSIBLE / ADHESIVE I  
SIDE

INCREASED TREND FOR BACKING WITH NO CARRIER FILM  
FOR THIN PLATES AND I PIECE PLATE CONSTRUCTIONS.

## NEW TREND LAMINATED VERSUS CAST PRODUCTS

- PRIMARILY A TRADE SHOP TIME SAVING FEATURE FOR USE IN REMOVING FOAMS FROM PET OR PVC CARRIERS.
- LAMINATED PRODUCTS TYPICALLY INCREASE COST DUE TO EXTRA STEPS REQUIRED IN MANUFACTURING. CAST VERSIONS HAVE FEWER STEPS TO PRODUCE FINISHED MATERIALS.
- FOAM SELECTIONS, DENSITIES OVERALL PRINT RESULTS CAN CHANGE DUE TO FOAM MATERIALS SELECTED FOR USE WITH THESE CONSTRUCTIONS, DATA REGARDING COMPRESSION SET, COMPRESSION DEFECTION VALUES SHOULD BE EVALUATED.
- BOTH TYPES ARE PROVEN TO WORK IN APPLICATION.
- FOAM DENSITY (MODULUS) VALUES IN VARIOUS CONSTRUCTIONS DISPLAY A RANGE FROM SOFT, MEDIUM TO HIGH COMPRESSION.



## SUSTAINABILITY VERSES EUROPEAN MODEL IN MOUNT SET UP.

- GLOBALLY MOST COUNTRIES INVOLVED IN PLATEMAKING FOR THIS INDUSTRY USE PET AND FOAM COMBINATIONS FOR MOUNTING PRINTING PLATES.
- UNITED STATES IS THE ONLY MARKET THAT USES PVC FILM AS A CARRIER BASE.
- STANDARD MOUNTING MATERIAL .030 IN PVC IS REPLACED WITH .010 OR .014 INCH PET CARRIERS. THE MOUNTING TAPE THICKNESS CHANGES.
- STANDARD EUROPEAN SET UPS USE A .38MM .015 IN THICK DOUBLE COATED STICKYBACK IN CONJUNCTION WITH PET FILM THAT = .030
- THE MOUNTING TAPE IS A FIBER CLOTH OR COTTON CLOTH MATERIAL WITH RUBBER BASED ADHESIVE SYSTEM.



# THE END...QUESTIONS ?

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