



Nan Ya Plastics Corp. USA
Wharton Rigid PVC/APET Film Facility



Anytable material



Nan Ya Plastics Corporation USA

Leading the Way

Nan Ya Plastics is continually working to provide products that meet the demands of an ever-competitive market.



Focus on Value and Service

With regional distributors and service offices, as well as, in plant customer service representatives, Nan Ya Plastics aims to provide tailor made products at the lowest cost possible.



Defining Your Needs

Our in-house Technical Department is ready to help customers define and match products to their specific needs. Whether it is special surfaces, UV inhibitors, impact quality, or any other unique requirement, this group will be ready to serve.



Making Your Material

With a completely integrated manufacturing system, production is designed to flow quickly from raw material receiving to finished product delivery.



Quality You Expect

Whether you are a large or small customer, the same care is given to meet your expectations. Nan Ya Plastics is an ISO 9000 certified company. We have personnel, equipment, and systems in place that continually allow the monitoring of the material and processes. The center of our quality system is our commitment to review and improve our material so our customers are more satisfied.



Your Satisfaction

The customer's continual satisfaction is our goal. Nan Ya believes our success comes from helping customers succeed. With 28 years of domestic production experience, excellent service, and unmatched process capabilities Nan Ya will be able to service your Rigid PVC/APET Film needs.



Nan Ya Plastics started

as a division of the Formosa Plastics, with its headquarters in Taipei, Taiwan. In the 1970's Chairman Y.C. Wang established a manufacturing presence in the United States by purchasing and constructing several polymer



manufacturing facilities. In order to ensure a market for the new U.S. facilities, Mr. Wang established Nan Ya Plastics Corporation USA with secondary downstream facilities designed to consume the polymer resins produced by Formosa Chemical. Nan Ya Plastics Corp. Wharton manufactures PVC and APET Rigid Films using Formosa Polymer Resins.

Nan Ya Plastics Wharton started its first PVC(Poly Vinyl Chloride) rigid film calender line in November of 1984. Since this beginning, the Wharton facility has continually expanded its production capacity until 1993 when the final PVC line began production. Once capacity goals were met, Nan Ya management dedicated themselves to improving the capabilities of its rigid films to meet the requirements of an constantly evolving and competitive market.



In response to these market evolutions, Nan Ya Plastics decided to expanded the Wharton facilities capabilities, by entering the APET Film market. The new APET production allows Nan Ya to offer our customers a larger selection of production so they may better serve their end users. APET production began at the end of 2011. Speak with your Sales Representative to determine if APET Film may be an option for your business or market.

Poly-Vinyl Chloride (PVC) Rigid Film

Manufacturing Capacity for Nan Ya Plastics Wharton PVC Film is between 160 ~ 180 million pounds annually. The facility has 2 manufacturing buildings with a total of 8 calender lines. 7 of the lines are high volume 102 inch wide calenders and 1 of the lines is a high speed 72 inch wide calenders. The maximum operating output of the calendar line is 5,000 lb. per hour, but the daily average production is approximately 2,500 lb per hour. Thickness, width, type, color, and requirements of the film will dictate the

volume of material that can be produced by any one line.



Resin powder after extrusion

Slitting and Converting

of films produced on a calender line is not always required. However, the majority of our calendered films require additional slitting and conversion to meet individual customer's requirements. Nan Ya Wharton has an in house conversion department equipped with 9 multiple unit slitters and 4 high capacity guillotine cutters. These conversion systems allow our films to be cut to exact customer specifications while maintaining the best overall lead times in the industry.



Basic Diagram of the Calender System (reference only)

PVC Rigid types of films produced by Nan Ya Plastics Wharton can be separated into 4 basic groups/industries.

Vacuum Forming	Printing	Box Folding Box Lid	High Tensile (Recycle Grade)
			

Each of the four major groups has several sub groups that is designed to meet different industry requirements.

Grade	Lb/year	%of Production
Vacuum Forming	56.8 million lb.	61%
BV (General Forming)	24.8 million lb.	27%
BVR (Recycle Grade)	29.4 million lb.	31%
BV* (Special Grade)	2.6 million lb.	3%
Print Grades	27.4 million lb.	29%
BPG (General Printing)	26.8 million lb.	27%
BLT (Floor Tile)	.3 million lb.	1%
BLO (Overlay)	.3 million lb.	1%
Box Folding/Box Lid	3.1 million lb.	3%
BBB/ BBF	2.3 million lb.	2%
BS	.4 million lb.	.5%
Other BZG, BFF, BDL	.4 million lb.	.5%
High Tensile (Recycle Grade)	6.5 million lb.	7%
BW* (Cooling Tower Fill)	6.1 million lb.	6%
BZC (Artificial Christmas Tree)	.4 million lb.	1%
Total	93.8 million lb.	

all values are for completed 2011 business year

* represents multiple types of sub grades not able to be put into this table.

PVC Film Capability to produce material at high volumes while meeting individual customer requirements is what sets Nan Ya apart from the competition.

Nan Ya Plastics excels at:

1. **Color Matching:** Customer can provide standard Pantone color numbers or a basic color sample to match. Our technical departments can practically match any color and our production process is designed to maintain the consistency of color through entire runs and from lot to lot.
2. **Dimensions:** Nan Ya is able to provide choices in sizes and thickness. If a customer requires non-standard sizes our process is capable of producing it. Width, thickness, outside diameter, and length can be dictated by the customer.
3. **Special requirements:** Nan Ya can arrange film surfaces, properties, and coating to design materials that are optimized to each customers needs.



Table of Special Requirements For PVC Rigid Film

Calender Surface Code	Description	Example
C	Chrome surfaced Calender (Gloss/Gloss Surface)	BVDC, BBBC, BBFC
G	One Roll Matte, One Roll Chrome (Matte/Gloss Surface)	BVDG, BPGG, BLTG
B	Both roll Matte (Matte/ Matte)	BPGG, BVDB, BDLB
Impact		
M	Impact resistant to 5°F	BVDC MXX
H	Impact resistant to -4°F	BVDC HXX
V	Impact resistant to -22°F	BVDC VXX
E	Impact resistant to -31°F	BVDC EXX
Coating/Additional Processes		
A, 1,4	Anti-Static Coating (A) one side (1,4) Double Sided (A, 1 = 10^{-11} , 4 = 10^{-9})	BVDC HAX, BVDC M1X
S,2	Silicone Coating (S) one sided (2) Double sided	BVDC HSX, BVSC H2X
C, N	Square Cutting (C) 1/16" Square (N) 1/32" Square	BPGG HNX, BPGC HCX
Q	Quick Forming- Formula designed to accelerate forming	BVDC HQX
T	Corona Treatment Improves Dyne level above 40	BPGC HTX
U	U.V. Resistant	BPGC HUX

(This is only a sample list, some arrangements are not compatible. Consult with representative before ordering)

APET (Amorphous Poly-ethylene Terephthalate) Film

A-PET Film is currently manufactured at the Nan Ya Plastics Wharton facility in order to provide our printing and forming customers more film stock options. Traditionally PVC has been the primary choice for the card, printing, thermoforming, and box folding industries. However, APET film offers similar performance, superior visual quality, and more ecologically friendly alternative to PVC rigid film.



APET extrusion line 1 installed and operational on Jan 2012. APET extrusion line 2 is scheduled to be installed and begin production in 2014.



Quality, Performance, and Value....

APET is nearly identical to PVC film, however the superior visual quality, forming properties, printing characteristics and profile consistency allows Nan Ya Plastics APET film to serve markets that are customer critical and need added visual and performance value.

Customized to Better Serve....

Nan Ya APET films have a wide range of customizable options to ensure the customer receives a product that will meet their requirements. Sizes, coatings, and packaging are just some of the choices a customer can dictate to ensure they receive the product they need to be successful.



Customer Satisfaction is our goal.

By providing a domestic source for APET films, Nan Ya Plastics Wharton allows better servicing of our customers. Improved production lead times, more cost effective shipping options, as well as, a domestic and responsive customer support system are just a few of the advantage that Nan Ya Wharton has in place to ensure our customers are satisfied and successful.

APET Film is now being produced in a new facility at Nan Ya Plastics Wharton. This film will give traditional PVC film users and established APET film user's additional opportunities and choices in core stock selection to better serve their customers and markets.

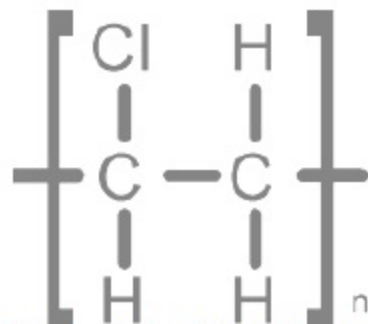
Table for Basic Product

Product Code	Market	Example
AVGM	100% PETG on outer layer to reducing Blocking Thermo Forming Grade with 3 layers for RF sealing Transparent (Clear) Single Side/Double Side Coatings (Anti Static or Silicone)	
APBM	General Print Grade 3 layers with Anti-blocking on outer layers High Dyne Level and available in roll or sheet stock	
APMG	3 layer film with 100%PETG outer layers. High Dyne Level and available in roll or sheet stock	
ABBM	Box Folding Grade 3 layers with Anti-blocking on outer layers High Dyne Level and available in roll or sheet stock	
ABNS	Box Folding Grade Single layer Superior Clarity High Dyne Level and available in roll or sheet stock	

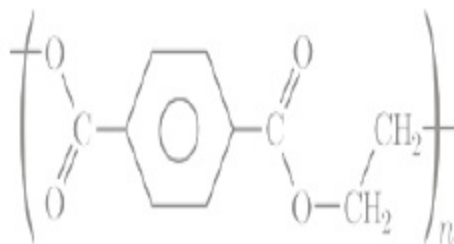
Table of Special Requirements For APET Rigid Film

Layer/Surface Code	Description	Example
M	Multi Layer (3) PET-G, A-PET, PET-G	AVNM, AVBM, APBM
S	Single Layer A-PET	ABNS, AVNS
Coating/Additional Processes		
1,4	Anti-Static Coating (1,4) Double Sided ($1 = 10^{-11}$, $4 = 10^{-9}$)	AVNM XX1 AVNS XX4
S,2	Silicone Coating (S) one sided (2) Double sided	AVBM XXS, AVBM XX2
C, N	Square Cutting (C) 1/16" Square (N) 1/32" Square	APBM XXC
T	Corona Treatment Improves Dyne level above 40	APGM XXT

(This is only a sample list, some arrangements are not compatible. Consult with representative before ordering)



**Poly-Vinyl Chloride
(PVC Rigid Film)**



Amorphous

**Polyethylene- terephthalate
(APET Rigid Film)**

OR

Excellent Value
Excellent Forming
Excellent Durability

Good Transparency
Good Printing Performance

Customer Specific Formulas
Wide range of surface finishes
Wide product and market range
Large Color Palette

Excellent Printing Performance
Excellent Forming
Excellent Box Folding
Excellent Transparency

Good Range of products
Limited Formulations
Limited Color and Surface options

More Environmentally Sound

Ask your customer service representative which product might best suit your market's needs. Nan Ya Plastic is a company that will find a way to help you succeed in your business and market.

Assisting Customers with the storage, transporting, and packaging of their material is another way Nan Ya distances themselves from the competition.



Packaging: Nan Ya's goal is to provide our customers with packaging options that protect the material but also assist the customer in their operations. Nan Ya provides over 18 standard styles of packaging for our customers to choose from.

Material Storage and JIT:

The Wharton facility has 2 finished goods warehouses with over 75,000 sq ft, of storage. When required Nan Ya can hold a customers order on the floor until just before it is needed. This gives our customer more flexibility in controlling their own warehouse.



Transportation: When an order is ready to be transported, it is loaded onto an approved vendors rig and shipped to the customer. Trucking material to a location is our primary delivery method, however if the customer prefers different methods of shipping we can accommodate those needs as well.



Customer/Technical Support is available to help address material and process issues and questions. A wide range of support is available in order to ensure we achieve our goals of Customer Success and Satisfaction.



Customer Service Representative:

Most issues can be addressed and corrected by our well trained customer service department. They are available to help customers resolve basic issues with order placement, quality, shipping, and any other special needs.



Technical Support (Lab/Physical Property): Nan Ya Plastics Technical Staff are practicing engineers and technicians who are able to analyze, test, develop, and simulate our calendar and customer processes as well as fabricate and test materials. The expertise they provide can assist customers in selecting the best material for their application.

On Site Technical Support:

Nan Ya Plastics is committed to ensuring our customers have success using the material they have purchased. If requested Nan Ya can send personnel to a customer's location and assist them with any issues that may be present.



Quality Assurance:

Nan Ya strives to be more successful by making our customers more successful. Quality is not simply the appearance of the film, it is more, it is:

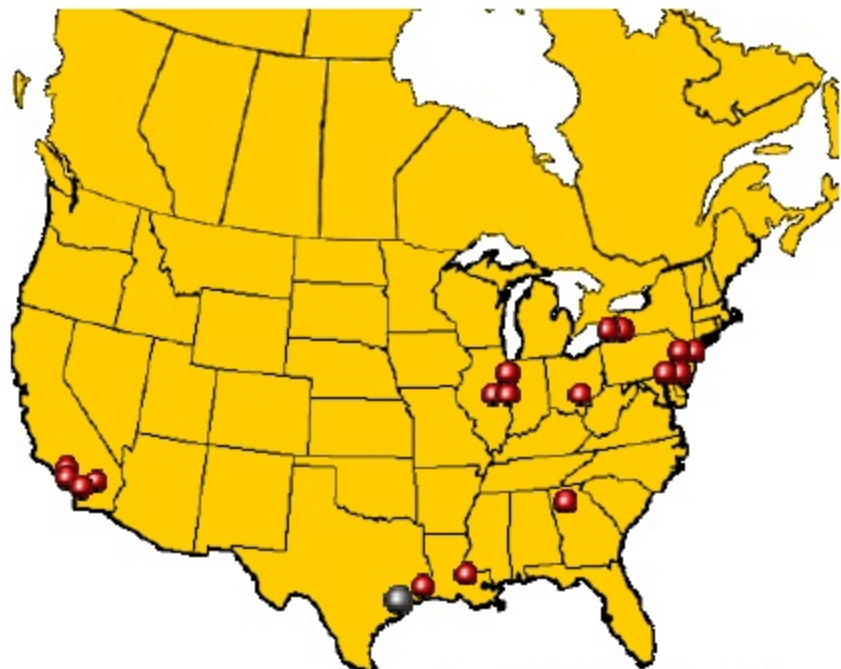
On time Delivery
Cost effect material
Material that adds value to products
Ability to serve the customers
Ability to change quickly
Material that meets or exceed the customer's expectations

To guide and measure the progress of our processes, products, and services, Nan Ya Plastics management uses the following Quality Policy:

Nan Ya Plastics Corporation USA is committed to following, reviewing, and continually improving our quality management system in order to meet quality objectives and achieve customer satisfaction.

Nan Ya Plastics is committed to supplying your company's Rigid PVC/APET Film needs and we will be dedicated to your company's success and satisfaction.





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