



# CATALOGUE

An Tien Industries - Leading Manufacturer of Filler & Additives  
Masterbatch, Biodegradable materials and  $\text{CaCO}_3$  Powder in Vietnam

## AN PHAT HOLDINGS INTRODUCTION



An Phat Holdings is the leading group in the field of advanced technology and environment-friendly plastic production in Southeast Asia. Starting with thin-film packaging, An Phat Holdings has grown strongly and built is a comprehensive plastic enterprise ecosystem, with dozens of member companies and production factories in the system.

An Phat Holdings is investing strongly in key areas of compostable raw materials and finish products, packaging, engineering and interior plastics, precision engineering, and molds, materials and chemicals for the plastic industry, industrial real estate, etc.

Currently, the Group has affirmed its brand, prestige, and position in the domestic and foreign markets. The Group's products have conquered more than 70 countries, including difficult markets such as Europe, America, Japan, Korea, France, United Arab Emirates, Singapore, etc.



**18**  
Member companies



**15**  
Factories



**70**  
Markets



**5000**  
Employees



# AN TIEN INDUSTRIES INTRODUCTION



An Tien Industries Joint Stock Company, a subsidiary of An Phat Holdings, was established in 2009 in Southern Industrial Park, Van Phu Commune, Yen Bai City, Yen Bai Province. After more than a decade of growth and development, An Tien Industries has gained great achievements in business and social contribution, affirming its position as the second largest plastic additives manufacturer in Vietnam.

At present, An Tien Industries owns 03 modern factories, including: factory no#1: CACO3 filler masterbatch and factory #2: CaCO3 powder grinding factory and factory no #3: Biodegradable and compostable compound factory. All are designed according to the modern standards, fully equipped with modern production lines from Germany and Taiwan.

An Tien Industries always ensures the production process to meet high standards with quality management systems such as ISO, SGS, FDA, REACH, ROHS.



An Tien Industries' Research and Development Centers have carried out researches to improve and enhance product quality, reduce waste rates, increase the reuse of materials, and save energy in production. In particular, the R&D Centers have achieved many achievements in research, development, and improvement of compostable products such as Bio-degradable filler masterbatch, white color masterbatch, BaSo4 filler, UV masterbatch, antioxidant masterbatch, PE compound for blown film.

An Tien Industries assures to bring about the high quality products and effective solutions for our customers and partners.

THANK YOU FOR YOUR KIND COOPERATION!



# AN TIEN INDUSTRIES RESEARCH AND DEVELOPMENT





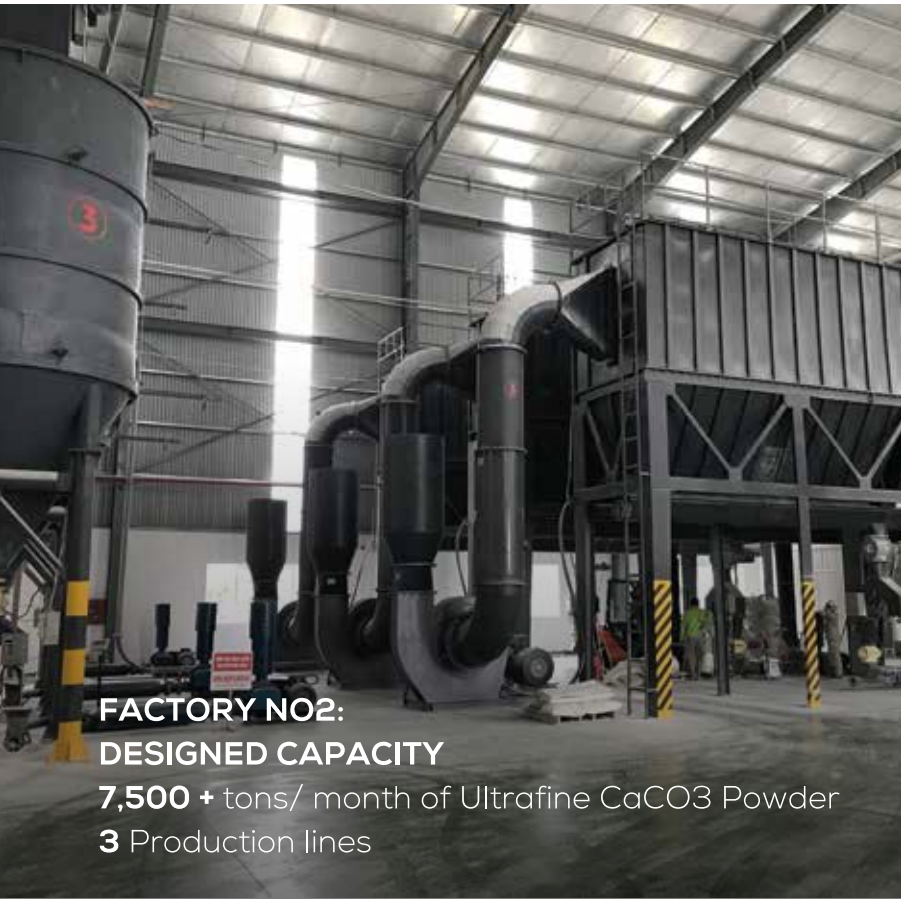
# FACILITY



**PRODUCTION AREA OF**  
**80,000 + m2** equipped with modern technology



**FACTORY NO1: DESIGNED CAPACITY**  
**7,500 + tons/** month of Filler Masterbatch  
**8** Production lines



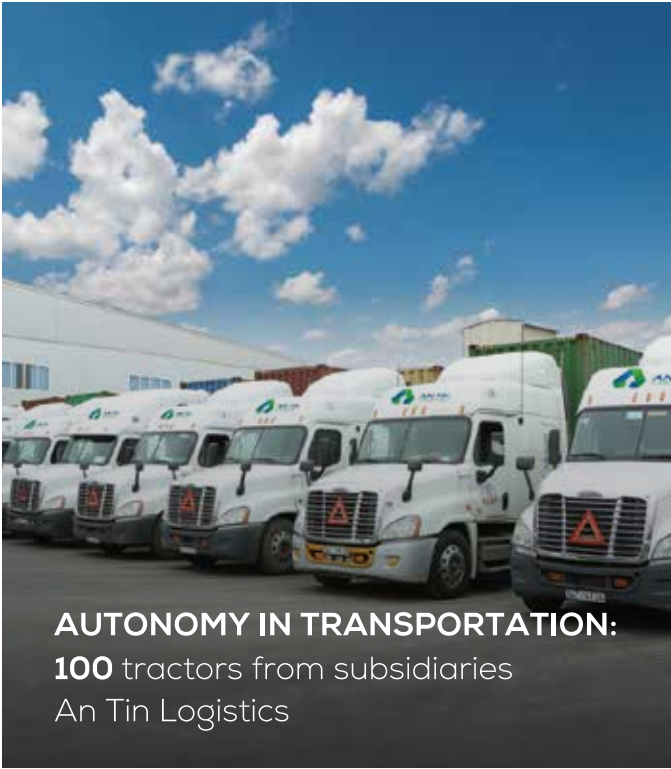
**FACTORY NO2:**  
**DESIGNED CAPACITY**  
**7,500 + tons/** month of Ultrafine CaCO<sub>3</sub> Powder  
**3** Production lines



- ✓ State-of-the-art Technology
- ✓ Japanese Standard Quality Control
- ✓ **1 Millions USD** investment High-end Laboratory



**FACTORY NO3:**  
**DESIGNED CAPACITY**  
**300 + tons/** month Biodegradable and compostable materials  
**3** Production lines



**AUTONOMY IN TRANSPORTATION:**  
**100** tractors from subsidiaries  
An Tin Logistics



# I. Caco3 filler masterbatch

**Product description:**  
CaCO3 filler masterbatch is used to save production cost and improve specific characteristics of the end products. With outstanding quality Calcium Carbonate from Vietnam knowledge and experiences, we can supply fillers for various application. Beside that, we also can customize our formulas to meet customers special requirements.



## 1. CACO3 FILLER MASTERBATCH IN PE RESIN BASED

- Application:**
- Blowing film: PE Film and bags
  - Injection molding: furniture, food containers, water tanks
  - Extrusion: HDPE pipe

### Specifications

CONTENT	TEST METHOD	UNIT	RESULT
Based resin	ASH TESTER		PE
CaCO3 content	ASH TESTER	%	60-86
Density	ASTM D1506	g/cm³	1.80-1.87
Moisture content	IR	%	< 0,2
Melting flow index (190°C/5 kg)	ASTM D1238	g/10mins	3-10
Particle size	Caliper	Mm	2,0-3,0
Color			White
CaCO3 Powder Size	Malvern 3000E	Micron	D97=10-15



## 2. CACO3 FILLER MASTERBATCH IN PP RESIN BASED

- Application:**
- Raffia: PP woven, PP small bags, jumbo bags
  - PP Lamination
  - PP Non-woven
  - PP injection and extrusion

Specifications

CONTENT	TEST METHOD	ĐƠN VỊ	RESULT
Based resin	ASH TESTER		PP
CaCO3 content	ASH TESTER	%	75-85
Density	ASTM D1506	g/cm³	1.80-1.87
Moisture content	IR	%	< 0,2
Melting flow index (190°C/5 kg)	ASTM D1238	g/10mins	5-80
Particle size	Caliper	Mm	2,0-3,0
Color			White
CaCO3 Powder Size	Malvern 3000E	Micron	D97=10-18



II. BIO master batch (BIO HF)

Product description:

BIO HF is a biodegradable & compostable filler

The addition of BIO HF goes between 5% to 60% depend on the final application.

Technical Analysis  
Physical Property

ITEMS	METHOD OF EXPERIMENT	STANDARD	UNIT
CaCO3 Content		75 - 80	wt %
Melt Mass-Flow Rate (190°C/5 kgs)	ASTM D 1238	0.34±0.1	g/10 mins
Melt Temperature	DSC	115	°C
Density	ASTM D1895	1.90	g/cm3
Moisture	ASTM D644	< 0.1	wt %
Polyme content + Additive		20 - 25	wt %

Property

- Appearance (Surface color) : Light
- Processing temperature : 145-165°C
- Pellet Size : 3x3 (±0.3) mm
- Carrier resin : PBAT (Bio plastic)
- Packing : 25 kgs per bag
- Storage : Keep at dry condition

Application: Blow film

FORMULA MIXING				
NAME SAMPLE	COMPOUND KINGFA	RECYCLE COMPOSTABLE RESIN	BIO HF1	
Non BIO HF1 (%)	97	3	0	
10% BIO HF1 (%)	87	3	10	
QUALITY ESPECIALLY				
THICKNESS (13MICRO)	MD		TD	
	TENSILE STRENGTH BREAK (MPA)	ELONGATION AT BREAK (%)	TENSILE STRENGTH BREAK (MPA)	ELONGATION AT BREAK (%)
No BIO HF1 (%)	25.48	202	18.81	512
10% BIO HF1 (%)	23.54	252	14.66	528

### III. Biodegradable compound



#### 1. BIODEGRADABLE COMPOUND FOR BLOWING FILM

**Product Description:** CTR02 is compound made from PBAT, PLA and additives to achieve complete biodegradability.

**Application**

Blowing film: Shopping bags, grocery bags, carry bags



#### 2. BIODEGRADABLE COMPOUND FOR INJECTION MOLDING AND EXTRUSION

**Product Description:** BG is compound made from PLA and additives and certified Compostable and Biodegradable.

**Application:** food container, cutlery, straight and bendy straws, etc.



### IV. Additives masterbatch

**Application:** It is widely used in shopping bags & garbage bags, industrial films, packaging material & containers, injection, extrusion, multi layer, laminate, film blown molding technology.

The addition of Titanium Dioxide goes between 20% to 77% depend on the final application.

#### 1. 35%TITANIUM DIOXIDE

ITEMS: PE-TI35	TEST METHOD	UNIT	RESULT	ABOUT RESULT ALLOWED
Carrier resin	ASH TESTER		PE	
TiO <sub>2</sub> content	ASTM D1506	%	35.0	34.5 - 35.5
Density	ASTM D792	g/cm3	1.82	
Moisture content	ASTM D644	%	≤ 0.15	
Melting flow index (190°C/2,16 kg)	ASTM D1238	g/10mins	23	20 - 25
Particle size		mm	2.2	2.0 - 2.4
Appearance			White Oval	



2. 40% TITANIUM DIOXIDE

ITEMS: PE-TI40	TEST METHOD	UNIT	RESULT	ABOUT RESULT ALLOWED
Carrier resin	ASH TESTER		PE	
TiO <sub>2</sub> content	ASTM D1506	%	40.0	39.7 - 40.3
Density	ASTM D792	g/cm3	1.81	
Moisture content	ASTM D644	%	≤ 0.15	
Melting flow index (190°C/2,16 kg)	ASTM D1238	g/10mins	19.0	18.0 - 25.0
Particle size		mm	1.8	1.7 - 2.0
Appearance			White Oval	

3. 50% TITANIUM DIOXIDE

ITEMS: PE-TI40	TEST METHOD	UNIT	RESULT	ABOUT RESULT ALLOWED
Carrier resin	ASH TESTER		PE	
TiO <sub>2</sub> content	ASTM D1506	%	50.0	49.7 - 50.3
Density	ASTM D792	g/cm3	1.81	
Moisture content	ASTM D644	%	≤ 0.15	
Melting flow index (190°C/2,16 kg)	ASTM D1238	g/10mins	26.0	24.0 - 28.0
Particle size		mm	1.8	1.7 - 2.0
Appearance			White Oval	

4. 60% TITANIUM DIOXIDE

ITEMS: PE-TI60	TEST METHOD	UNIT	RESULT	ABOUT RESULT ALLOWED
Carrier resin	ASH TESTER		PE	
TiO <sub>2</sub> content	ASH TESTER	%	60	59.5~60.5
Density	ASTM D1506	g/cm3	1.81	1.80~1.83
Moisture content	IR	%	≤0.15	
Melting flow index (190°C/2,16 kg)	ASTM D1238	g/10mins	22	21 - 23
Particle size	Caliper	mm	2.2	1.9 - 2.4
Appearance			White Oval	

5. 68% TITANIUM DIOXIDE

ITEMS: PE-TI68	TEST METHOD	UNIT	RESULT	ABOUT RESULT ALLOWED
Carrier resin	ASH TESTER		PE	
TiO <sub>2</sub> content	ASH TESTER	%	68.0	67.8 - 68.3
Density	ASTM D1506	g/cm3	1.81	
Moisture content	IR	%	≤ 0.15	
Melting flow index (190°C/2,16 kg)	ASTM D1238	g/10mins	22.0	21.0 - 23.0
Particle size	Caliper	mm	1.8	1.7 - 2.0
Appearance			White Oval	



V. TRANSPARENT MASTERBATCH

**Application:** PE shopping bags & garbage bags, industrial films, packaging material & containers,etc. In general for injection, extrusion, film blown molding technology.

### 1.20% BASO4 FILLER

#### Physical Property

ITEMS: BA20	TEST METHOD	UNIT	RESULT	ABOUT RESULT ALLOWED
Carrier resin	ASH		PE	
BaSO <sub>4</sub> Content	ASH	%	20.0	19.5 – 20.5
Density	ASTM D1506	g/cm3	1.85	
Moisture content	IR	%	≤ 0.15	
Melting flow index (190°C/2.16 kg)	ASTM D1238	g/10mins	20.0	19.0 – 22.0
Particle size	Caliper	mm	1.8	1.6 – 2.0
Appearance			White Oval	

### 2. 35% BASO4 FILLER

#### Physical Property

ITEMS: BA35	TEST METHOD	UNIT	RESULT	ABOUT RESULT ALLOWED
Carrier resin	ASH		PE	
BaSO <sub>4</sub> Content	ASH	%	35.0	34.5 – 35.5
Density	ASTM D1506	g/cm3	1.85	
Moisture content	IR	%	≤ 0.15	
Melting flow index (190°C/2.16 kg)	ASTM D1238	g/10mins	18.0	17.0 – 19.0
Particle size	Caliper	mm	1.8	1.6 – 2.0
Appearance			White Oval	

### 3. 75% BASO4 FILLER

#### Physical Property

ITEMS: BAT7505	TEST METHOD	UNIT	RESULT	ABOUT RESULT ALLOWED
Carrier resin	ASH		PE	
BaSO <sub>4</sub> Content	ASH	%	75.0	74.5 – 75.5
Density	ASTM D1506	g/cm3	1.85	1.83~1.87
Moisture content	IR	%	≤0.15	
Melting flow index (190°C/2.16 kg)	ASTM D1238	g/10mins	15.0	14.0 – 16.0
Particle size	Caliper	mm	1.8	1.6 – 2.0
Appearance			White Oval	

## VI. Additives Masterbatch



### 1. ANTI - UV MASTERBATCH

#### Introduction

Exposure to sunlight can have adverse effects on the useful life of plastic products. Ultraviolet (UV) radiation can break down the chemical bonds in a polymer. Photo-degradation causes cracking, chalking, color changes and the loss of physical properties. Therefore, UV stabilizing packages are vital to ensuring a polymer. Generally, UV stabilizers are categorized by two classifications: UV absorbers and hindered amine light stabilizers (HALS). High performance UV stabilizer masterbatches offer the optimal UV stability to meet current and upcoming requirements.



# AN TIEN INDUSTRIES' PRODUCT

## Product Benefits

- Excellent UV resistance to meet end use requirements
- Optimal balance between UV stability and long-term thermal stability
- Tailored products as per end use requirements
- Good processability.

## Applications and Recommended UV Stabilizer System

- Polyolefin films (for thin wall thickness like film, HALS is more efficient UV stabilizer than UV absorbers)
- Polyolefin injection molded (synergistic HALS mixture)
- PP fiber pigmented (Combination masterbatch between HALS and UV absorber)
- PP pipes (HALS)



## 2.ANTIOXIDANT MASTERBATCH

### Product Description

HII AO 11 is the combination of antioxidant additive in LLDPE carrier. It is used to protect polymers from degradation, both during processing and during use. The percentage of use of masterbatches is recommended about 1 and 5%.

### Application

Pipes, Profiles, Films, Cables, Injection molding, Tapes, Geotextiles, Blowmoldin



## 3. ANTI-BLOCK MASTERBATCH

### Introduction

In plastic films production, anti-blocking properties are crucial for further handling and converting because plastic layers tend to stick together. The addition of an anti-block agent creates space between 2 plastic layers (surface roughness) preventing so-called blocking. Mostly Anti-block masterbatch is used in multilayer structure films in order to have the highest benefit. It is used to lessen the adhesion of the surface of products made from the formulation of like or different surfaces

### Description

Anti block masterbatch is an additives masterbatch in PE resin based. This can give an advantage in end-use applications such as opening plastic bags.

### Application

Blowing film: Shopping bags, grocery bags, carry bags



## 4. SLIP AGENT

### Introduction

In film processing, films tend to adhere to themselves (film-to-film) and metal surfaces (film-to-metal) due to their high coefficient of friction (COF), which damages to the surface of products, reducing optical properties, reducing force, affecting the appearance and deforming the products, affecting the printing process, etc.

AN TIEN INDUSTRIES'  
**PRODUCT**

Besides, slip agent has low molecular size and low COF so it significantly minimizes these problems. Slip agents brings many advantages, such as: lowering surface friction and resistivity, reduce melt viscosity and mold release

**Description**

Slip agent is combination of fatty acid amides in PE resin based. It's used to increase the gloss and smoothness of the film.

**Application**

Blowing film: Shopping bags, grocery bags, carry bags



**Application:**

- Plastic industry: Filler masterbatch, plastic pipes, cables, etc.
- Paint industry
- Paper industry
- Construction industry

**Specifications**

CONTENT	SPECIFICATIONS
Top-cut: D97	8-55µm ± 2
Mean size: D50	2,5 - 5µm ± 0,5
Whiteness	98% Min
Brightness	96% Min
Moisture (Ex-work)	0,25% Max
Density (Raw material)	2,7 g/cm³
PH	8-9
CaCO3 content	99% Min

VII. Calcium Carbonate Powder (CaCO3)

**Product description**

Superfine Calcium Carbonate Powder is manufactured from natural, white and pure limestone and calcium carbonate which has the best quality in Vietnam. An Tien Industries' coated and uncoated Calcium Car-bonate powder having highest whiteness and brightness is produced by the most advanced technology production lines







## OUR CONTACT

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