LongCester®

Polyester Resins for Powder Coatings

Yantai Longcai Advanced Materials Co., Ltd.

Company Profile

Yantai Longcai Advanced Material Co., Ltd is a professional company specialized in the research and development of polyester resins for powder coatings. It is located in the beautiful seaside of Yellow sea and the economy development district of Haiyang, Shandong province. It occupies 135,000 m^2 in total. Now we have more than twenty types of polyester resins for powder coatings under the trade mark " LongCester", which mainly include the Hybrid type, TGIC Curing type, HAA Curing type. LongCester Polyester Resin production is controlled automatically which can ensure the stable quality, and now widely used in the field like the home appliances, furniture, automative, building and construction materials.Now we've passed the Registration, Evaluation, Authorisation and Restriction of Chemicals(REACH) Pre-registration of EU which started from June 1st, 2007, and become a member of a Substance Information Exchange Forum(SIEF).

LongCester Polyester Resin have a good market both at home and abroad, up to now we've already exported to more than 50 countries and regions, and have a good reputation among the world famous powder coating producers. Our principle is "Quality first,Credit first and Customers first", we ensure our best quality with strict treatment and precise test devices and all day round full range service for global powder coating manufacturers.

Polyester Resins List

Product		Acid value mgKOH/g	Viscosity @ 200°C, mPa·S	Tg °C	Curing Cycles	Characteristics
50:50 hybrid	P 3501-2	68~76	7000~11000	~53	15min @ 180°C 10min @ 200°C	Standard type resin, high performance-price ratio
	P 3519-2	65~75	7000~10000	~55	20min @ 180°C	Balanced performances
60:40 hybrid	P 3403-2	50~56	3000~6000	~54	15min @ 180°C	Standard type resin, good comprehensive performance
70:30 hybrid	P 3305-2	28~38	4000~7000	~55	15min @ 180°C	Yellowing resistance, outstanding mechanical properties
	P 3306-2	27~33	5000~8000	~60	15min @ 180°C	Suitable for Extinction products, general type
	P 3307-2	30~38	4500~6500	~58	15min @ 180°C	Excellent comprehensive performance, general type
	P 3310-1	28~38	4000~7000	~55	10-15min @ 180°C	Good flow, fast curing
	P 3320-2	28~34	4000~7000	~60	15min @ 180°C	Yellowing resistance, outstanding mechanical properties
TGIC curing	P 5015-1	50~56	5000~7000	~64	10min @ 200°C 20min @ 180°C	Super weatherability
	P 5416-3	20~26	5000~7000	~64	10min @ 200°C 20min @ 180°C	Good storage stability
	P 5701-2	27~33	4000~6000	~64	10min @ 200°C	Outstanding mechanical properties, super weatherability
	P 5706-2	30~36	3000~6000	~66	10min @ 200°C	High Tg, good flow, super weatherability
	P 5708-1	30~36	4000~6000	~66	12min @ 180°C 6min @ 200°C	Fast curing, high Tg, outstanding mechanical properties and ourdoor durability
	P 5709-3	30~36	4000~6000	~66	12min @ 200°C 25min @ 180°C	Slow curing, high Tg, excellent flow
	P 5711-2	30~36	5000~7000	~63	10min @ 200°C	Suitable for wrinkle product
	P 5713-2	30~36	4000~6000	~67	10min @ 200°C 15min @ 180°C	Medium curing, excellent comprehensive performance, general type
	P 5713-3	30~36	4000~6000	~67	15-25min @ 200°C	Slow curing, excellent comprehensive performance, general type
HAA curing	P 8502-2	30~36	2000~4000	~62	10min @ 180°C	Good outdoor weatherability
	P 8518-1	30~36	2000~4000	~62	10min @ 180°C	Yellowing resistance, outstanding mechanical properties
	P 8518-2	30~40	2000~5000	~62	10min @ 200°C	Good storage stability

LongCester® P 3305-2

Saturated carboxylated polyester resin

General Description

LongCester® P 3305-2 is a medium reactivity polyester resin, designed for 70:30 hybrid powder coatings. Coatings based on it exhibit:

- Very good storage stability
- Good flow
- Outstanding mechanical properties
- Good yellowing resistance

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	15 min. @ 180℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	28~38	ASTM D1639
Viscosity @ 200℃, mPa-s	4000~7000	ASTM D4287
Gardner Color(50% solution)	max.3	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 55	DSC

Starting Formulation

Component	Weight %
LongCester® P 3305-2	210.0
Epoxy Resin[1]	90.0
Titanium dioxide[2]	90.0
Flow control agent[3]	5.0
Benzoin	3.0

1) DER663U, DOW Chemicals, or CYD-014 Yueyang
2) Ti-Pure® R-706, DuPont
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 3306-2

Saturated carboxylated polyester resin

General Description

LongCester® P 3306-2 is a medium reactivity polyester resin, designed for 70:30 hybrid powder coatings. Coatings based on it exhibit:

·Good flow

·Products for extinction, general type

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	15 min. @ 180℃

Packaging

· White PE bag, N.W.25kg/bag, 1000kg/pallet.
· Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	27-33	ASTM D1639
Viscosity @ 200℃, mPa·s	5000-8000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 60	DSC

Starting Formulation

Component	Weight %
LongCester® P 3306-2	45.5
Epoxy Resin[1]	19.5
Titanium dioxide[2]	34.5
Flow control agent[3]	1.0
Benzoin	0.4

1) DER663U, DOW Chemicals, or CYD-014 Yueyang
2) Ti-Pure® R-706, DuPont
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 3307-2

Saturated carboxylated polyester resin

General Description

LongCester® P 3307-2 is a medium reactivity polyester resin, designed for 70:30 hybrid powder coatings. Coatings based on it exhibit:

- Excellent comprehensive properties
- Good flow
- High gloss

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	15 min. @ 180℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	30-38	ASTM D1639
Viscosity @ 200℃, mPa-s	4500-6500	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 58	DSC

Starting Formulation

Component	Weight %
LongCester® P 3307-2	45.5
Epoxy Resin	19.5
Titanium dioxide	34.5
Flow control agent	1.0
Benzoin	0.4

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 3310-1

Saturated carboxylated polyester resin

General Description

LongCester® P 3310-1 is a high reactivity polyester resin, designed for 70:30 hybrid powder coatings. Coatings based on it exhibit:

· Good flow

· Outstanding mechanical properties

· Good yellowing resistance

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	10-15 min. @ 180℃

Packaging

· White PE bag, N.W.25kg/bag, 1000kg/pallet.
· Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	28-38	ASTM D1639
Viscosity @ 200℃, mPa·s	4000~7000	ASTM D4287
Gardner Color(50% solution)	max.3	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 55	DSC

Starting Formulation

Component	Weight %
LongCester® P 3310-1	210.0
Epoxy Resin	90.0
Barium sulfate	60.0
Titanium dioxide	90.0
Flow control agent	5.0
Benzoin	3.0

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness（Mar）	H	ISO 15184-98

LongCester® P 3320-2

Saturated carboxylated polyester resin

General Description

LongCester® P 3320-2 is a medium reactivity polyester resin, designed for 70:30 hybrid powder coatings. Coatings based on it exhibit:

- Very good storage stability
- Good flow
- Outstanding mechanical properties
- Good yellowing resistance

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	15 min. @ 180℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	28~34	ASTM D1639
Viscosity @ 200℃, mPa·s	4000~7000	ASTM D4287
Gardner Color(50% solution)	max.3	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 60	DSC

Starting Formulation

Component	Weight %
LongCester® P 3320-2	45.5
Epoxy Resin[1]	19.5
Titanium dioxide[2]	33.5
Flow control agent[3]	1.0
Benzoin	0.5

1) DER663U, DOW Chemicals, or CYD-014 Yueyang
2) TI-Pure® R-706, DuPont
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 3403-2

Saturated carboxylated polyester resin

General Description

LongCester® P 3403-2 is a medium reactivity polyester resin, designed for 60:40 hybrid powder coatings. Coatings based on it exhibit:

- Very good storage stability
- Good flow
- Outstanding mechanical properties
- Good yellowing resistance

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	15 min. @ 180℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	50~56	ASTM D1639
Viscosity @ 200℃, mPa-s	3000~6000	ASTM D4287
Gardner Color(50% solution)	max.3	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 54	DSC

Starting Formulation

Component	Weight %
LongCester® P 3403-2	39.0
Epoxy Resin[1]	26.0
Titanium dioxide[2]	33.5
Flow control agent[3]	1.0
Benzoin	0.5

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 3501-2

Saturated carboxylated polyester resin

General Description

LongCester® P 3501-2 is a medium reactivity polyester resin, designed for 50:50 hybrid powder coatings. Coatings based on it exhibit:

- Very good storage stability
- Good flow
- Outstanding mechanical properties
- Good yellowing resistance

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	15 min. @ 180℃; 10 min. @ 200℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	68~76	ASTM D1639
Viscosity @ 175℃, mPa·s	7000~11000	ASTM D4287
Gardner Color(50% solution)	max.3	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 53	DSC

Starting Formulation

Component	Weight %
LongCester® P 3501-2	32.5
Epoxy Resin[1]	32.5
Titanium dioxide[2]	33.5
Flow control agent[3]	1.0
Benzoin	0.5

1) DER663U, DOW Chemicals, or CYD-014 Yueyang
2) TI-Pure® R-706, DuPont
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 3519-2

Saturated carboxylated polyester resin

General Description

LongCester® P 3519-2 is a medium reactivity polyester resin, designed for 50:50 hybrid powder coatings. Coatings based on it exhibit:

- Very good storage stability
- Good flow
- Outstanding mechanical properties
- Good yellowing resistance

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	20 min. @ 180℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	65~75	ASTM D1639
Viscosity @ 200℃, mPa-s	7000~10000	ASTM D4287
Gardner Color(50% solution)	max.3	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 55	DSC

Starting Formulation

Component	Weight %
LongCester® P 3519-2	32.5
Epoxy Resin[1)]	32.5
Titanium dioxide[2)]	33.5
Flow control agent[3)]	1.0
Benzoin	0.5

1) DER663U, DOW Chemicals, or CYD-014 Yueyang
2) Ti-Pure® R-706, DuPont
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 5015-1

Saturated carboxylated polyester resin

General Description

LongCester® P 5015-1 is a high reactivity polyester resin, designed for 90:10 TGIC curing system, especially for semi-gloss powder coatings combined with LongCester® P 5416-3 by dry-blended process. Coatings based on it exhibit:

- Good storage stability
- Very good outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	20 min. @ 180℃; 10 min. @ 200℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	50~56	ASTM D1639
Viscosity @ 200℃, mPa·s	5000~7000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 64	DSC

Starting Formulation

Component	Weight %	
LongCester® P 5015-1	54.5	—
LongCester® P 5416-3	—	57.8
TGIC[1]	6.1	2.8
Titanium dioxide[2]	38.0	38.0
Flow control agent[3]	1.0	1.0
Benzoin	0.4	0.4

1) Araldite® PT 810, Huntsman Advanced Materials
2) Ti-Pure® R-960, DuPont Titanium Technologies
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	approx. 25	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 5416-3

Saturated carboxylated polyester resin

General Description

LongCester® P 5416-3 is a low reactivity polyester resin, designed for 96:4 TGIC curing system, especially for semi-gloss powder coatings combined with LongCester® P 5015-1 by dry-blended process. Coatings based on it exhibit:

· Good storage stability

· Very good outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	20 min. @ 180℃; 10 min. @ 200℃

Packaging

· White PE bag, N.W.25kg/bag, 1000kg/pallet.
· Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	20~26	ASTM D1639
Viscosity @ 200℃, mPa·s	5000~7000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 64	DSC

Starting Formulation

Component	Weight %	
LongCester® P 5416-3	57.8	—
LongCester® P 5015-1	—	54.5
TGIC1)	2.8	6.1
Titanium dioxide2)	38.0	38.0
Flow control agent3)	1.0	1.0
Benzoin	0.4	0.4

1) Araldite® PT 810, Huntsman Advanced Materials
2) Ti-Pure® R-960, DuPont Titanium Technologies
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	~25	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 5701-2

Saturated carboxylated polyester resin

General Description

LongCester® P 5701-2 is a medium reactivity polyester resin, designed for 93:7 TGIC curing powder coatings. Coatings based on it exhibit:

- Very good storage stability
- Good flow
- Outstanding mechanical properties
- Excellent outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	10 min. @ 200℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	27-33	ASTM D1639
Viscosity @ 200℃, mPa·s	4000-6000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 64	DSC

Starting Formulation

Component	Weight %
LongCester® P 5701-2	59.6
TGIC[1]	4.5
Titanium dioxide[2]	34.5
Flow control agent[3]	1.0
Benzoin	0.4

1) Araldite® PT 810, Huntsman Advanced Materials
2) Ti-Pure® R-960, DuPont Titanium Technologies
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness（Mar）	H	ISO 15184-98

LongCester® P 5706-2

Saturated carboxylated polyester resin

General Description

LongCester® P 5706-2 is a medium reactivity polyester resin, designed for 93:7 TGIC curing powder coatings. Coatings based on it exhibit:

- Very good storage stability
- Good flow
- Outstanding mechanical properties
- Excellent outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	10 min. @ 200℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	30~36	ASTM D1639
Viscosity @ 200℃, mPa-s	3000~6000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 66	DSC

Starting Formulation

Component	Weight %
LongCester® P 5706-2	59.6
TGIC[1]	4.5
Titanium dioxide[2]	34.5
Flow control agent[3]	1.0
Benzoin	0.4

1) Araldite® PT 810, Huntsman Advanced Materials
2) Ti-Pure® R-960, DuPont Titanium Technologies
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	≤3	ASTM D522
Adhesion(cross cut)	0	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 5708-1

Saturated carboxylated polyester resin

General Description

LongCester® P 5708-1 is a high reactivity polyester resin, designed for 93:7 TGIC curing powder coatings. Coatings based on it exhibit:

- Very good storage stability
- Good flow
- Outstanding mechanical properties
- Excellent outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	12 min. @ 180℃; 6 min. @ 200℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	30~36	ASTM D1639
Viscosity @ 200℃, mPa·s	4000~6000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 66	DSC

Starting Formulation

Component	Weight %
LongCester® P 5708-1	59.6
TGIC[1]	4.5
Titanium dioxide[2]	34.5
Flow control agent[3]	1.0
Benzoin	0.4

1) Araldite® PT 810, Huntsman Advanced Materials
2) Ti-Pure® R-960, DuPont Titanium Technologies
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness（Mar）	H	ISO 15184-98

LongCester® P 5709-3

Saturated carboxylated polyester resin

General Description

LongCester® P 5709-3 is a low reactivity polyester resin, designed for 93:7 TGIC curing powder coatings. Coatings based on it exhibit:

- Very good storage stability
- Excellent flow
- Outstanding mechanical properties
- Excellent outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	25 min. @ 180℃; 12 min. @ 200℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	30~36	ASTM D1639
Viscosity @ 200℃, mPa-s	4000~6000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 66	DSC

Starting Formulation

Component	Weight %
LongCester® P 5709-3	59.6
TGIC[1]	4.5
Titanium dioxide[2]	34.5
Flow control agent[3]	1.0
Benzoin	0.4

1) Araldite® PT 810, Huntsman Advanced Materials
2) Ti-Pure® R-960, DuPont Titanium Technologies
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 5711-2

Saturated carboxylated polyester resin

General Description

LongCester® P 5711-2 is a medium reactivity polyester resin, designed for 93:7 TGIC curing powder coatings. Coatings based on it exhibit:

- Excellent storage stability
- Outstanding anti-yellowing
- Very good mechanical properties
- Excellent outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	100min. @ 200℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	30~36	ASTM D1639
Viscosity @ 200℃, mPa·s	5000~7000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 63	DSC

Starting Formulation

Component	Weight %
LongCester® P 5711-2	59.6
TGIC[1]	4.5
Titanium dioxide[2]	34.5
Flow control agent[3]	1.0
Benzoin	0.4

1) Araldite® PT 810, Huntsman Advanced Materials
2) Ti-Pure® R-960, DuPont Titanium Technologies
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 5713-2

Saturated carboxylated polyester resin

General Description

LongCester® P 5713-2 is a medium reactivity polyester resin, designed for 93:7 TGIC curing powder coatings. Coatings based on it exhibit:

- Good flow
- Outstanding mechanical properties
- Excellent outdoor durability
- Good yellowing resistance

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	10 min. @ 200℃ ; 15 min. @ 180℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	30~36	ASTM D1639
Viscosity @ 200℃, mPa-s	4000~6000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 67	DSC

Starting Formulation

Component	Weight %
LongCester® P 5713-2	59.6
TGIC	4.5
Titanium dioxide	34.5
Flow control agent	1.0
Benzoin	0.4

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 5713-3

Saturated carboxylated polyester resin

General Description

LongCester® P 5713-3 is a low reactivity polyester resin, designed for 93:7 TGIC curing powder coatings. Coatings based on it exhibit:

- Good yellowing resistance
- Excellent flow
- Outstanding mechanical properties
- Very good outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	15~25 min. @ 200℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	30~36	ASTM D1639
Viscosity @ 200℃, mPa·s	4000~6000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 67	DSC

Starting Formulation

Component	Weight %
LongCester® P 5713-3	59.6
TGIC	4.5
Titanium dioxide	34.5
Flow control agent	1.0
Benzoin	0.4

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness（Mar）	H	ISO 15184-98

LongCester® P 8502-2

Saturated carboxylated polyester resin

General Description

LongCester® P 8502-2 is a medium reactivity polyester resin, designed for 95:5 Primid curing powder coatings. Coatings based on it exhibit:

- Excellent storage stability
- Outstanding yellowing resistance
- Excellent mechanical properties
- Very good outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	10 min. @ 180℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	30~36	ASTM D1639
Viscosity @ 200℃, mPa-s	2000~4000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 62	DSC

Starting Formulation

Component	Weight %
LongCester® P 8502-2	60.8
Primid® XL-552[1]	3.3
Titanium dioxide[2]	34.5
Flow control agent[3]	1.0
Benzoin	0.4

1) Primid® XL-552, EMS Chemie
2) Ti-Pure® R-960, DuPont Titanium Technologies
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 8518-1

Saturated carboxylated polyester resin

General Description

LongCester® P 8518-1 is a high reactivity polyester resin, designed for 95:5 Primid curing powder coatings. Coatings based on it exhibit:

- Excellent storage stability
- Outstanding yellowing resistance
- Excellent mechanical properties
- Very good outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	10 min. @ 180℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	30~36	ASTM D1639
Viscosity @ 200℃, mPa·s	2000~4000	ASTM D4287
Gardner Color(50% solution)	max.2	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 62	DSC

Starting Formulation

Component	Weight %
LongCester® P 8518-1	60.8
Primid® XL-552[1]	3.3
Titanium dioxide[2]	34.5
Flow control agent[3]	1.0
Benzoin	0.4

1) Primid® XL-552, EMS Chemie
2) Ti-Pure® R-960, DuPont Titanium Technologies
3) Resiflow PV 88, Estron, BYK® 366P, BYK

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

LongCester® P 8518-2

Saturated carboxylated polyester resin

General Description

LongCester® P 8518-2 is a medium reactivity polyester resin, designed for 95:5 HAA curing powder coatings. Coatings based on it exhibit:

- Excellent storage stability
- Outstanding yellowing resistance
- Excellent mechanical properties
- Very good outdoor durability

Extrusion & Application Conditions

Extruder:	Lingyu SLJ-20
Zone I temp.:	85~105℃
Zone II temp.:	100~120℃
Screw speed:	400~500rpm
Panel:	0.5mm pre-treated cold-rolled steel
Spray gun:	Lingyu JP-80
Voltage:	60~90kV
Curing cycles:	10 min. @ 200℃

Packaging

- White PE bag, N.W.25kg/bag, 1000kg/pallet.
- Big bags 750 kg.

Storage

The product can be stably stored for at least one year when kept in closed containers in a dry place at temperature below 30℃. Avoid exposure to direct sunlight.

Product Specifications

Property	Range	Test Method
Appearance	Pale granules	Visual
Acid value, mgKOH/g	30~40	ASTM D1639
Viscosity @ 200℃, mPa-s	2000~5000	ASTM D4287
Gardner Color(50% solution)	max.3	ASTM D1544

Other Data

Property	Range	Test Method
Glass transition temp., ℃	approx. 62	DSC

Starting Formulation

Component	Weight %
LongCester® P 8518-2	63.3
Primid® XL-552	3.4
Barium Sulfate	12.6
Titanium dioxide	19
Flow control agent	1.1
Benzoin	0.6

Film Properties

Item	Result	Test Method
Film thickness, μm	approx. 60	ASTM D1186
Gloss @ 60°, %	min. 90	ASTM D523
Direct/reverse impact, inch lbs	160/160	ASTM D2794
1/8" Conical mandrel	pass	ASTM D522
Adhesion(cross cut)	5B	ASTM D3359
Pencil hardness (Mar)	H	ISO 15184-98

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