

Poly lactide Resin Emulsions

LANDY PL Series

LANDY PL Series are the water-based PLA dispersions that make easier to use PLA resins.

■ Properties

| Product name | Average particle diameter (μm) | Active Ingredients (%) | Viscosity (mPa·s) | Ionicity | Minimum film formation temperature (°C)※ |
|--------------|--------------------------------|------------------------|-------------------|------------|--|
| PL-1005 | 5 | 40 | 500 | Weak anion | 160 |
| PL-3000 | 1 | 40 | 1000 | Weak anion | 20 |

※Minimum film formation temperature : Temperature that the film turns clear from white. (Dry by hot air -3minutes)
But depends on conditions.

■ Character

You can adjust the coating thickness.

We use 100% biobased PLA resins.

*LANDY are a biodegradable & biobased plastics product certified by JBPA.
(Registration Number : PL-1005/1108 PL-3000/660)



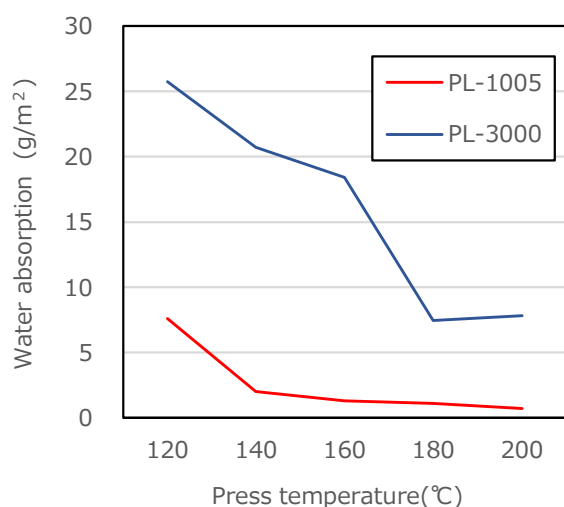
<Application example>

Adhesive : For civil engineering materials, sanitary materials, household goods, etc.

Coating : For wrapping paper, building materials, agricultural materials.

■ Physical properties

● Cobb water absorption(Kraft paper)



Conditions for making coated paper

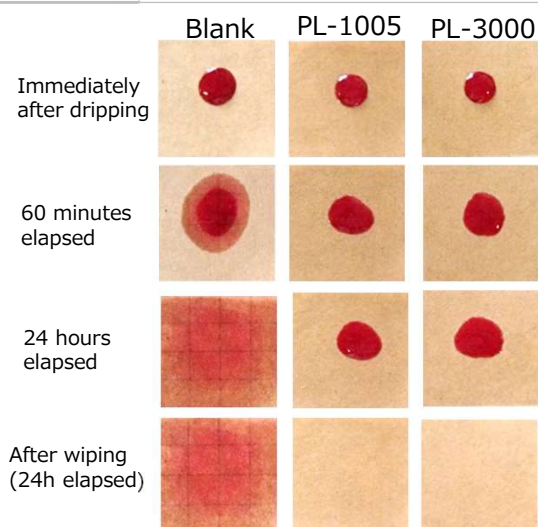
Coating weight : 30g/m² (dry)

Press pressure : 0.3kg/cm² Press time : 3 minutes

Test method

JIS P-8140 Contact time (With water : 1.75minutes)

● Oil resistance(Castor oil)



Conditions for making coated paper

Coating weight : 30g/m² (dry)

Press pressure : 0.3kg/cm²

Press time : 3 minutes

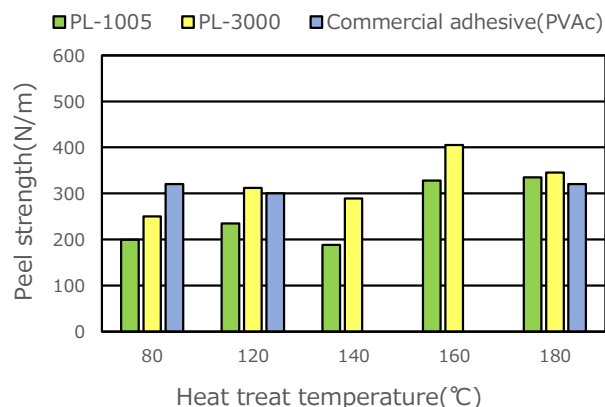
Heat temperature : 180°C

Test method

Dropped castor oil on the LANDY coated paper, and visually evaluated appearance over time.

■ Adhesion

● Peel Strength (Kraft Paper)

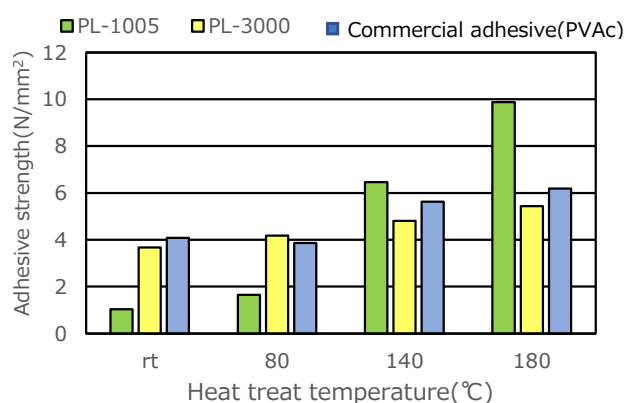


Test method JIS K-6854-3

Pull at 10mm/min, maximum value indicates peel strength.

■ Coating weight: 30g/m² ■ Adhesion between coated surfaces.

● Tensile strength (Cypress)



Test method

Stick 2 pieces of cypress(8×50mm) with dryer.

Pull at 5mm/min, maximum value indicates adhesive strength.

■ Adhesion part : 32mm²

■ Stick coated surface and uncoated surface.

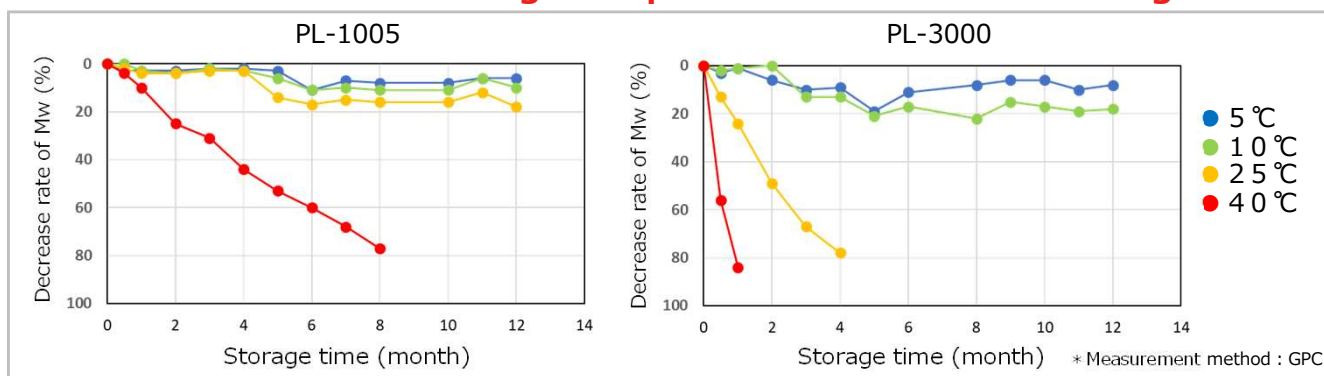
■ Film forming property

| Samples | Film forming test(°C) | | | | | | | | |
|---------------------|-----------------------|----|----|----|----|-----|-----|-----|-----|
| | 20 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 160 |
| PL-1005 | × | × | × | × | × | × | × | × | ○ |
| PL-1005:PL-3000=6:4 | × | × | × | × | × | × | △ | △ | ○ |
| PL-1005:PL-3000=5:5 | × | × | × | × | × | △ | △ | ○ | ○ |
| PL-1005:PL-3000=4:6 | × | × | × | × | △ | △ | ○ | ○ | ○ |
| PL-1005:PL-3000=3:7 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| PL-1005:PL-3000=2:8 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| PL-3000 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Evaluation : ○=Formed △=Partially formed ×=Didn't form ※The formation of the clear coating film was defined as film formation.

Test conditions ■ Coating thickness : 50μm ■ Heating time : 3minutes (dry) ■ Base: Black paper

■ Correlation between storage temperature and molecular weight



■ Cautions when using

There is a possibility that precipitate results since LANDY is PLA dispersions. Please stir before using.

Due to the composition of PLA, storage at high temperature promotes hydrolysis. Please store this at below 10 degrees Celsius.



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- When handling products, please make full use of the Material Safety Data Sheet (SDS) issued by our company to prevent accidents caused by chemical substances.
- The product data in this catalog is representative of measured values obtained under our test methods or specified conditions.