



## SECTION 1: PRODUCT DESCRIPTION

HENGLIECO KHB21 is PBAT (Butylene adipate terephthalate). PBAT has the characteristics of both PBA and PBT, good mechanical properties and high ductility and elongation at break. PBAT can be completely biodegraded into CO<sub>2</sub> and H<sub>2</sub>O. HENGLIECO KHB21 has obtained DIN CERTCO certification (EN13432, ASTM 6400, DINV 54900), OK COMPOST certification, BPI certification, FDA certification, etc. HENGLIECO KHB21 has good processing properties and can be blended with other materials for blow molding or extrusion.

## SECTION 2: PROPERTIES

| Typical Property       |                       |               |                   |               |
|------------------------|-----------------------|---------------|-------------------|---------------|
| Property               |                       | Test Standard | Unit              | Typical Value |
| Mechanical Property    | Tensile Strength      | ASTM D 638    | MPa               | ≥20           |
|                        | Elongation At Break   | ASTM D 638    | %                 | > 400         |
|                        | Flexural Strength     | ASTM D 790    | MPa               | 3.6           |
|                        | Flexural Modulus      | ASTM D 790    | MPa               | 106           |
| Thermodynamic Property | Melting Point         | DSC           | °C                | 115-125       |
|                        | Vicat Softening Point | ASTM D 1525   | °C                | 97.9          |
|                        | Melt Flow Rate        | ASTM D 1238   | g/10min           | 3-4           |
| Other                  | Moisture Absorption   | ISO 15512     | %                 | 0.01          |
|                        | Density               | ASTM D 792    | g/cm <sup>3</sup> | 1.22          |
|                        | Carboxy End Group     | ISO 2114      | Mol/t             | ≤20           |

**SECTION 3: PROCESSING**

| Blow Film Test      |                     |               |  |               |       |
|---------------------|---------------------|---------------|--|---------------|-------|
| Property            |                     | Test Standard | Unit                                     | Typical Value |       |
| Mechanical Property | Tensile Strength    | ISO 527       | MPa                                      | MD            | 20    |
|                     |                     |               |  | TD            | 20    |
|                     | Elongation At Break | ISO 527       | %  | MD            | 610   |
|                     |                     |               |  | TD            | 580   |
|                     | Heat Shrinkage      | ASTM D 2732   | %  | MD            | +13.2 |
|                     |                     |               |  | TD            | +19.3 |
| Permeation Rate     | Oxygen              | ASTM D3985    | cm <sup>3</sup> /(m <sup>2</sup> *d*bar) | 1450          |       |
|                     | Water Vapor         | ASTM F-1249   | g/(m <sup>2</sup> *d)                    | 248           |       |

HENGLIECO KHB21 has excellent processing performance, good temperature resistance, and good toughness. It can be blended with plasticized starch, calcium powder, talcum powder, etc. for modification. Indicators such as blown film stability, film-forming property, bag-making incision smoothness, bag-making elasticity, strength, elongation, heat-sealing performance, film surface smoothness, film surface gloss and others all meet the requirements of finished products.

| Processing Conditions              |                |               |           |
|------------------------------------|----------------|---------------|-----------|
| Setting                            |                | Typical Value | Range     |
| Melt Temperature                   |                | 155°C         | 145-165°C |
| Barrel Temperature                 | Front Section  | 145°C         | 140-150°C |
|                                    | Middle Section | 155°C         | 150-160°C |
|                                    | Back Section   | 150°C         | 145-155°C |
| Die Temperature                    |                | 150°C         | 145-155°C |
| Processing Temperature Upper Limit |                | 180°C         |           |
| Pre-drying Condition               |                | 70-80°C, 2-5h |           |

**SECTION 4: SUPPLY FORM AND STORAGE**

HENGLIECO KHB21 is packaged with aluminized packaging. Two size packs are



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available, 800kg bag and 25kg bag. Drying is required if it is not used for a long time after opening the bag. The suggested drying conditions are 2-5 hours at 70-80°C. The slices contain water should below 0.02% after drying. Temperature during storage and transportation may not exceed 70 ° C, and the packaged products should be stored at the temperature lower than 23°C. Storage time of unopened bags may not surpass 12 months. Opened product should be used as soon as possible.

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