



Skywel[®] - PLA Film
Sustainability

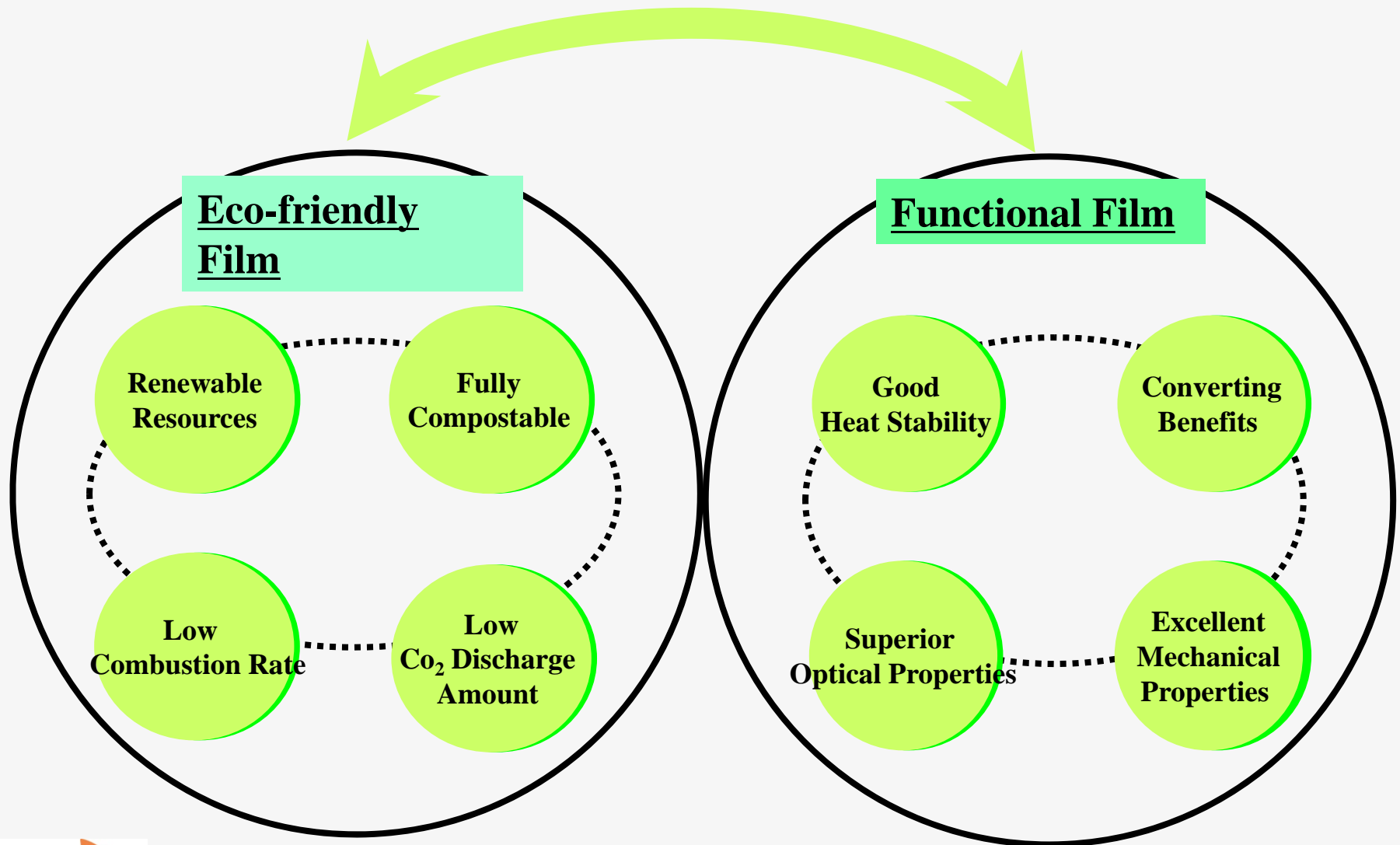
SKC inc



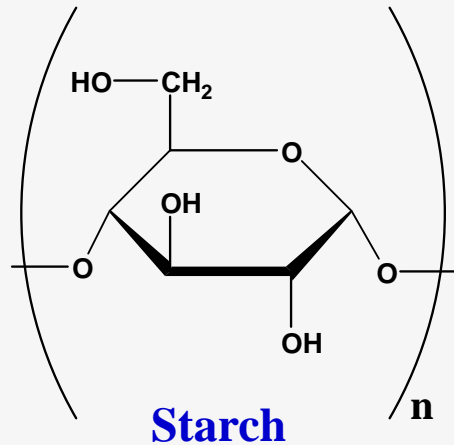
1. SKYWEL OVERVIEW



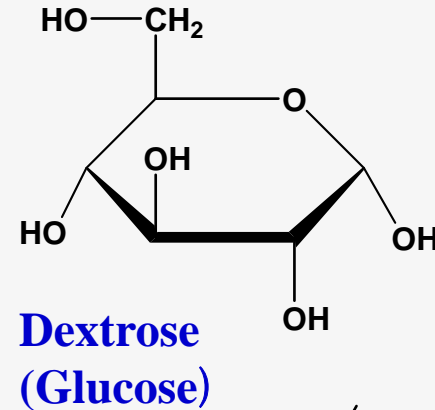
2. SKYWEL CONCEPT- Sustainability



3. SKYWEL RAW MATERIAL

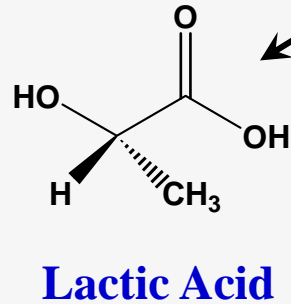


Hydrolysis

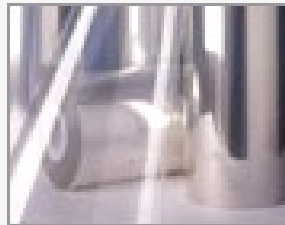
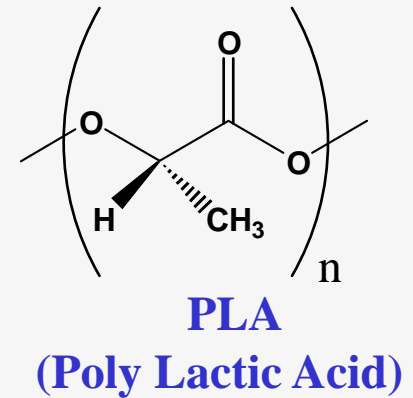


Fermentation

2



Chemical Processing



Bi-axially Oriented Technique (Tentered process)

4. BIODEGRADABILITY

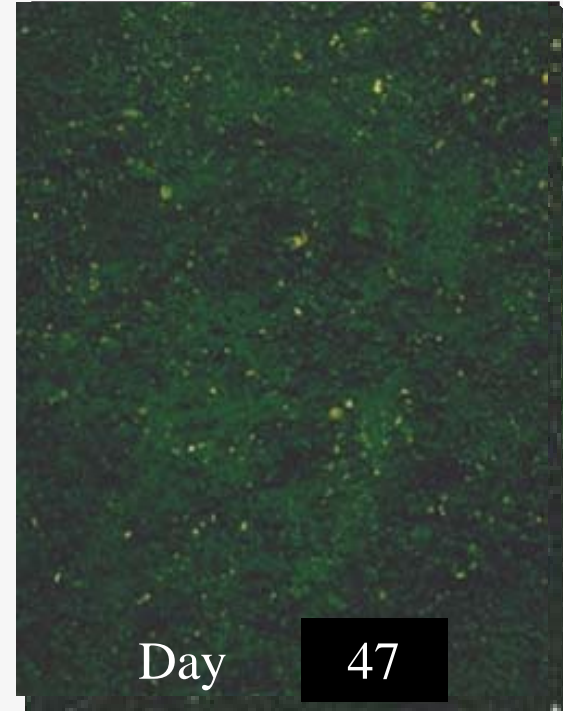
- Completely biodegradable into water, CO_2 and biomass in below conditions

☞ In Atmosphere : 5-10years

☞ In Water & Soil : 2-3 years

☞ In Landfill (semi-aerobic): 2-4months

☞ In Compost(>50°C, 95% RH) :6-10weeks



ex) In compost

5. SKYWEL SERIES

General

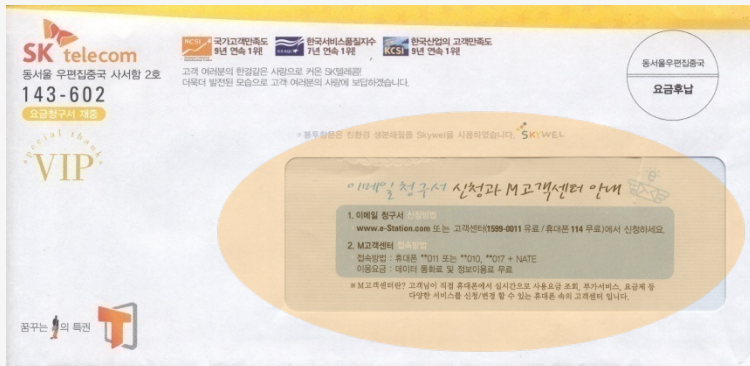
- ☞ **TE70C** : Mono layer(Corona+ Anti static), Window Envelop Film,
- ☞ **TE71C** : Mono layer(Corona), Packaging Film,
- ☞ **TE80** : Mono layer, Shrink Film
- ☞ **TE90** : Multi layer, Sealable Film

Special

- ☞ **TE75** : Matte PLA Film for U.S Envelope window

6. SKYWEL SERIES – 1. TE70C & TE71C

	TE70C	TE71C
Thickness (gauge)	60~200	60~200
Type	Standard	Plain & Lamination & Metalizing Type
Treatment	Anti-static & Corona	Corona
Characteristics	<ul style="list-style-type: none"> •High tensile strength & toughness •High stiffness •High transparency & gloss •Good runnability 	<ul style="list-style-type: none"> •Good dimensional stability •Good thickness profile (flatness) •High transparency & gloss •Good ink adhesion
Application	<ul style="list-style-type: none"> •Window envelope film •Floral wrap film 	<ul style="list-style-type: none"> •Packaging film • Lamination film • Metalizing film



7. SKYWEL SERIES – 2. TE80

- **TDO Shrinkable Type**
- **Key Characteristics**
 - High shrinkage(100°C, TD H.S = 75%)
 - Good thickness profile (flatness)
 - High transparency & gloss
 - Good ink adhesion
- **Application**
 - Shrink label
 - Cap seal



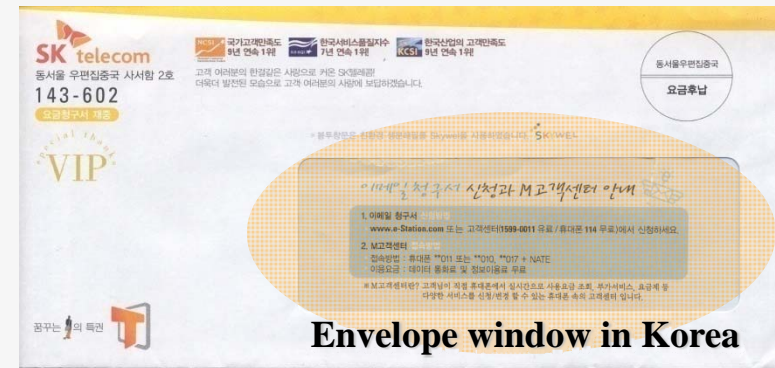
8. SKYWEL SERIES – 3. TE90

- **One Side Sealable Type**(Co-extrusion film)
- **Key Characteristics**
 - Low sealing temperature
 - High & uniform seal strength
 - Good dimensional stability
 - Good thickness profile (flatness)
 - High transparency & gloss
- **Application**
 - Packaging film
 - Lidding film



10. SKYWEL SERIES – 4. TE75

- **Matte Film (No Treatment) : low gloss**
- **Key Characteristics**
 - Lower gloss than plain PLA film
 - Similar to OPS film (Dow) in Optical Properties
 - Good dimensional stability
- **Application**
 - U.S envelope window film
 - General Packaging film for matte



12. SKYWEL CERTIFICATION

- **Environment statement**

- **Environment mark (Ministry of Environment, South Korea)**
- **Biodegradability (ASTM D5338, South Korea)**
- **DIN certification – in progress (EN 13432 7P, EU)**

- **Food safety statement**

- **Food Sanitary Certification: (South Korea)**
- **FDA certification (CFR 175.300)**
- **EU certification (BSEN 1186)**

13. SKYWEL DEVELOPMENT PLAN

- **SKC Guarantee!**
 - **Continuous Quality**
 - **Better Dimensional Stability**
 - **Better Thickness Uniformity**
- **Future Work : Development of advanced product!**
 - **Superior Ink Adhesion (New coating technique)**
 - **Anti Fog Coating, M/B (Surfactant/compounding technique)**
 - **High Barrier Film (SiO_x /Primer coating technique)**