

DECO SHEET Specification

1. SCOPE

This specification describes the quality and test standards for **hard type high glossy products** among GAG PET DECO Sheets (BELITAPET) manufactured by KP Tech.

2. GENERAL SPECIFICATION

2-1. Dimension

| Item | Unit | Spec. | Tolerance |
|---------------|------|-------------------|-----------|
| Thickness | mm | Min.0.2 / Max.0.8 | +5% -0% |
| Width | mm | Max. 1500 | +5mm -0mm |
| Roll diameter | mm | Max. 600 | - |
| Core diameter | mm | 152 | - |

The roll diameter can be changed on customer's request.

3. PHYSICAL SPECIFICATION

3-1. Color Consistency

1) Test condition

- Equipment : CM-2600D
- Pecedure : Place Specimen on the white plate and measure with a standard light source D65 with a colorimeter.

2) Specification

| Item | ΔE^*ab |
|--------------|----------------|
| White color | 0.5 |
| Other colors | 0.8 |

3-2. Gloss level

| Item | Spec. | Angle | Test method |
|----------------------------|-------|-------|-------------|
| High Glossy (hard type) | 88 ↑ | 60° | ASTM D 523 |

3-3. Scratch resistance

| Item | Spec. | Load | Test method |
|----------------------------|-------|------|-------------|
| High Glossy (hard type) | F | 250g | ASTM D 3363 |

3-4. Top coating adhesion

This test method is in accordance with ASTM D 3359 A.

1) Test condition

- Equipment : Cross hatcher , 3M magic tape
- Procedure : An X-cut is made on the film, Specified tape is applied over the cut and then removed, and Inspect the X-cut area for removal of coating from the substrate.

2) Specification

- Peeling should not be observed.

3-5. Light Fastness

This test method is in accordance with DIN EN ISO 4892-2:2006(method A).

| Item | Exposure | ΔE^*ab |
|--------------|----------|----------------|
| White color | 400hrs | 1.0 |
| Other colors | 400hrs | 1.5 |

3-6. Surface resistance

This test method is in accordance with EN 12720 : 2009

| Staining agents | Contact time | Spec. |
|-----------------|--------------|-------------|
| | | High Glossy |
| Water | 24hrs | 5 |
| liquid paraffin | 24hrs | 5 |
| Ethanol (48%) | 1hr | 5 |
| Coffee | 1hr | 5 |

Ratings:

5 = no change

4 = minor change (only visible under reflected light)

3 = moderate change (visible from several viewing directions)

2 = significant change in colour or gloss; slight change of structure (swelling, fibre raising, cracking, blistering)

1= strong change

4. APPEARANCE

4-1 In-Process Inspection

During production of rolls, large size defects and periodic defects are detected.

4-2. Product inspection

1) Inspection method

Inspect the full width of about 1~2 meters for each roll. Samples are inspected at 1000Lux over.

2) Specification

| Item | Spec. | Remark |
|-----------------------------------|-----------------------|--------|
| Black speck | Not allowed | |
| TD, MD line | Not allowed | |
| Dent/Spot/Foreign material | Max.0.2mm/3ea allowed | |
| Scratch | Not allowed | |

5. Packing

- 1) Each roll is sealed with paper laminated with PE form.
- 2) Stand vertically on a wooden pallet and seal with a stretch film.
- 3) Label marking
 - Product
 - Color
 - Lot no
 - Dimension (thickness/width/ Linear meter)
 - Manufacturer