

DECO SHEET Specification

1. SCOPE

This specification describes the quality and test standards of **hard type MFMS (Multi Function Matt Sheet) products** that are easy to clean and do not leave fingerprints 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
- Peocedure : 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
MFMS (hard type)	3.0 ± 2.0	60°	ASTM D 523

3-3. Scratch resistance

Item	Spec.	Load	Test method
MFMS (hard type)	2H	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.
		MFMS
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

3-7. Anti-finger print function

This test method is in accordance with own standard

- 1) Apply an appropriate amount of artificial sebum to your thumb.
- 2) Apply the applied artificial sebum to the sheet.
- 3) After 30 seconds, wipe with a wiper and check visually.

Item	Staining agents	Spec.	Test method
MFMS (hard type)	Artificial Sebum	5	In house

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

3-8. Easy Clean

This test method is in accordance with own standard

1) Mark the MFMS sheet with an oil marker.

2) After 30 seconds, wipe with a disposable ethanol swab(83%) and check visually.

Item	Staining agents	Spec.	Test method
MFMS (hard type)	Oil marker	5	In house

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