

KIWALITE

REFLECTIVE SHEETING

**PRODUCT
BULLETIN**

No. KL-13170

Fleet Marking Grade #17003 Series

Instruction for Products

KIWA CHEMICAL INDUSTRY CO., LTD.

FILMS DIVISION

1. Description

“KIWALITE” Reflective Sheeting Fleet Marking Grade #17003 Series is an enclosed type reflective sheeting, consisting of highly durable and flexible reflective film of which top layer was made from specially blended PVC resins. The sheeting is precoated with pressure sensitive adhesive protected by liner paper.

“KIWALITE” Reflective Sheeting Fleet Marking Grade #17003 Series is a very tough, flexible, tensional and durable reflective sheeting which permits application to wide variety of surface, even if curved or corrugated. Normally used for vehicle graphics, emblems and signs.

2. Standard Size of Roll

Width : 48 inches

Length : 50 yards

3. Usage and Substrate

a) Usage : Emblems, Stickers, Markings Display on glass window, etc.

b) Substrate : Metal plates, Glass plates, Painted materials, etc.

* Note : User should test before hand to comply with their own requirements.

4. Code No. and color

(Code No.)	(Color)	
#17013	White	
#17043	Yellow	
#17063	Red	
#17073	Green	
#17083	Blue	
#17093	Black	
#17163	Ruby Red	<u>* Other colors are available upon request.</u>
#17183	Sky Blue	

5. Fabrication

“KIWALITE” Reflective Sheeting Fleet Marking Grade #17003 Series can be hand-cut by scissor, knife-cutter or die-cut.

It can be hand-applied by using hand roller or squeeze roll applicator.

6. Printing

“KIWALITE” Screen Process Ink FW Series or the equivalent inks are recommended for screen printing on “KIWALITE” Reflective Sheeting Fleet Marking Grade #17003 Series.

7. Performance of Fleet Marking Grade #17003 Series

7-1) Physical Properties

Thickness	:	140 μ m (without liner)
Specular Gloss	:	89 (Typical)
Tensile Strength	:	1.8 kg/cm (Typical)
Elongation	:	130 % (Typical)
Adhesion	:	1.0 kg/cm (180° peeling : Typical)

7-2) Reflective Intensity Values

The minimum reflective intensity values of “KIWALITE” Reflective Sheeting Fleet Marking Grade #17003 Series are specified in Table-1.

(Table-1)

O.A.	E.A.	White	Yellow	Red	Green	Blue	Black	R.Red	S.Blue
0.2°	-4°	70.0	50.0	14.5	9.0	4.0	14.0	14.0	10.0
	+30°	30.0	22.0	6.0	3.5	1.7	6.0	6.0	4.0
0.5°	-4°	30.0	25.0	7.5	4.5	2.0	7.5	7.5	5.0
	+30°	15.0	13.0	3.0	2.2	0.8	3.0	3.0	2.5
2.0°	-4°	1.7	1.2	0.3	0.2	0.1	0.3	0.3	0.2
	+30°	1.4	1.0	0.2	0.14	0.08	0.2	0.2	0.16

7-3) Color

The color of “KIWALITE” Reflective Sheeting Fleet Marking Grade #17003 Series conforms to the requirements specified in Table-2.

(Table-2)

	C.I.E. Chromaticity Coordinates								Reflectance	
	1		2		3		4		Y	
	x	y	x	y	x	y	x	y	Min.	Max.
White	0.305	0.290	0.350	0.342	0.321	0.361	0.276	0.308	35.0	-
Yellow	0.482	0.450	0.532	0.465	0.505	0.494	0.475	0.485	29.0	45.0
Red	0.602	0.317	0.664	0.336	0.644	0.356	0.575	0.356	8.0	12.0
Green	0.130	0.369	0.180	0.391	0.155	0.460	0.107	0.439	3.5	9.0
Blue	0.147	0.075	0.176	0.091	0.176	0.151	0.106	0.113	1.0	4.0
Black	0.286	0.277	0.326	0.326	0.304	0.343	0.265	0.294	0.3	-
Ruby Red	0.622	0.311	0.688	0.311	0.659	0.341	0.622	0.341	5.0	9.0
Sky Blue	0.120	0.065	0.200	0.120	0.200	0.205	0.085	0.155	4.0	10.0

* Light source : CIE Standard Illuminant C

7-4) Resistance to Accelerated Weathering

After the accelerated weathering test for 1,000 hours by sunshine weather-o-meter, “KIWALITE” Reflective Sheeting Fleet Marking Grade #17003 Series retains more than 50 % of the reflective intensity values specified on Table-1, and also shows good colorfastness and no evidence of cracking, scaling, pitting blistering, edge lifting or curling, or more than 1/32 inch shrinkage or expansion.

7-5) Other Properties

“KIWALITE” Reflective Sheeting Fleet Marking Grade #17003 Series conforms to all other requirements specified in the Federal Specification L-S-300C for Type-I and Type-II, Class 1 sheetings.

8. Effective Performance Life

According to the test results by both natural outdoor exposure and accelerated weathering, “KIWALITE” Reflective Sheeting Fleet Marking Grade #17003 Series can be expected to provide the effective performance life of more than 5 years under normal use.

However, the effective performance life will depend upon substrate selection and preparation, compliance with recommended application procedures, exposure conditions and maintenance.

When expected in any position other than vertical, or exposed to extremely severe atmospheric conditions or unusual conditions, the effective performance life may be shortened.

9. Storage

“KIWALITE” Reflective Sheeting Fleet Marking Grade #17003 Series should be stored in cool and dry place, and used within one year after date of delivery.

For detailed storage, please refer to our Technical Bulletin No. KM-4004.



KIWA CHEMICAL INDUSTRY CO., LTD.
FILMS DIVISION

33, Minamitanabe-cho, Wakayama-City, Japan

Tel : 81-73-423-3211

Fax : 81-73-425-9338

E-mail : kiwa@kiwa-lite.com

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