

KIWALITE

REFLECTIVE SHEETING

**TECHNICAL
BULLETIN**

No.KTD-12621

High Intensity Grade #62000 Series

— Actual Technical Data —

KIWA CHEMICAL INDUSTRY CO., LTD.

FILMS DIVISION

KIWALITE High Intensity Grade Soft Type “White” #62013

1. PHOTOMETRIC PROPERTY

	D.A.	I.A.	Initial Value	Spec. of ASTM	Spec. of France
	Reflective Intensity Value	0.2°	+ 5°	296.3	250
+30°			250.0	150	—
+40°			198.2	—	—
0.33°		+ 5°	207.7	—	180
		+30°	181.9	—	100
	+40°	151.2	—	95	
0.5°	+ 5°	107.9	95	—	
	+30°	101.6	65	—	
	+40°	92.1	—	—	
2.0°	+ 5°	7.49	—	5.0	
	+30°	5.69	—	2.5	
	+40°	4.60	—	1.5	
Chromaticity (Light source D65)	Y		27.8	≥27	≥27
	x		0.307		
	y		0.328		
Specular Gloss	60° gloss		104		

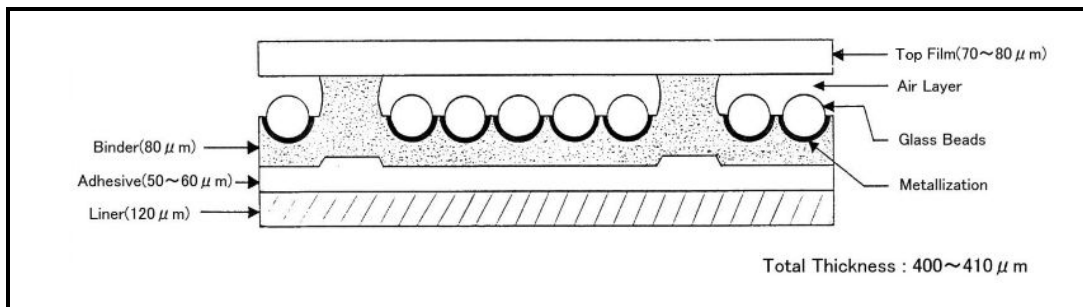
2. ACCELERATED WEATHERING TESTS

Weather-O-Meter		Reflective Intensity Value			Chromaticity		
		D.A.=0.2°			Light source D65		
		I.A. +5°	+30°	+40°	Y	x	y
Sunshine	Initial	296.3	250.0	198.2	27.8	0.307	0.328
	2000 hrs	272.0	229.2	178.1	28.3	0.309	0.332
QUV	Initial	296.3	250.0	198.2	27.8	0.307	0.328
	2000 hrs	291.6	246.4	195.6	27.3	0.321	0.344

3. PHYSICAL TESTS

Test Items		Value	Test Conditions	
Physical Property	Elongation (%)	234.3	At 20°C, 65% RH Speed : 300mm/min. Distance of jaws : 100mm	
	Tensile Strength (kg/cm)	1.31		
	Tearing Strength (kg/cm)	2.92		
Bonding Strength (kg/25mm)	20°Cx 48 hrs	Alumi. Panel	1.76	At 20°C, 65% RH Speed : 300mm/min. 90° pull-back
		PP Panel	1.45	
		PE Panel	1.21	
		Acryl Panel	1.74	
	70°Cx 168 hrs	Alumi. Panel	1.68	
		PP Panel	1.12	
	PE Panel	0.83		
	Acryl Panel	1.45		
Printability	KIWALITE FW Ink Series KIWALITE KT Ink Series	Good Good	Peeling with self-adhesive tape	

4. CROSS SECTION VIEW



KIWALITE High Intensity Grade Soft Type “Yellow” #62043

1. PHOTOMETRIC PROPERTY

	D.A.	I.A.	Initial Value	Spec. of ASTM	Spec. of France
	Reflective Intensity Value	0.2 °	+ 5 °	174.7	170
+30 °			150.1	100	—
+40 °			119.7	—	—
0.33 °		+ 5 °	124.1	—	122
		+30 °	111.2	—	67
		+40 °	92.3	—	64
0.5 °		+ 5 °	66.8	62	—
		+30 °	64.6	45	—
		+40 °	57.8	—	—
2.0 °		+ 5 °	5.09	—	3.0
		+30 °	3.82	—	1.5
		+40 °	3.23	—	1.0
Chromaticity (Light source D65)	Y		24.0	15~45	≥ 16
	x		0.489		
	y		0.494		
Specular Gloss	60 ° gloss		103		

2. ACCELERATED WEATHERING TESTS

Weather-O-Meter		Reflective Intensity Value			Chromaticity		
		D.A.=0.2 °			Light source D65		
		I.A. +5 °	+30 °	+40 °	Y	x	y
Sunshine	Initial	174.7	150.1	119.7	24.0	0.489	0.494
	2000 hrs	175.9	145.1	116.8	24.2	0.483	0.491
QUV	Initial	174.7	150.1	119.7	24.0	0.489	0.494
	2000 hrs	178.1	146.6	118.6	23.7	0.490	0.491

KIWALITE High Intensity Grade Soft Type “Orange” #62053

1. PHOTOMETRIC PROPERTY

	D.A.	I.A.	Initial Value	Spec. of ASTM	Spec. of France
	Reflective Intensity Value	0.2 °	+ 5 °	104.5	100
+30 °			78.8	60	—
+40 °			64.4	—	—
0.33 °		+ 5 °	71.4	—	65
		+30 °	56.6	—	40
		+40 °	48.3	—	20
0.5 °		+ 5 °	35.4	30	—
		+30 °	30.0	25	—
		+40 °	27.8	—	—
2.0 °		+ 5 °	3.08	—	1.5
		+30 °	2.34	—	1.0
		+40 °	2.00	—	1.0
Chromaticity (Light source D65)	Y		16.2	14~30	≥ 14
	x		0.536		
	y		0.403		
Specular Gloss	60 ° gloss		77.2		

2. ACCELERATED WEATHERING TESTS

Weather-O-Meter		Reflective Intensity Value			Chromaticity		
		D.A.=0.2 °			Light source D65		
		I.A. +5 °	+30 °	+40 °	Y	x	y
Sunshine	Initial	104.5	78.8	64.4	16.2	0.536	0.403
	2000 hrs	103.2	78.1	64.0	15.7	0.522	0.397
QUV	Initial	104.5	78.8	64.4	16.2	0.536	0.403
	2000 hrs	102.9	77.5	63.4	15.6	0.536	0.402

KIWALITE High Intensity Grade Soft Type “Red” #62063

1. PHOTOMETRIC PROPERTY

	D.A.	I.A.	Initial Value	Spec. of ASTM	Spec. of France
	Reflective Intensity Value	0.2 °	+ 5 °	52.8	45
+30 °			43.2	25	—
+40 °			33.9	—	—
0.33 °		+ 5 °	37.8	—	25
		+30 °	32.5	—	14
		+40 °	26.8	—	13
0.5 °		+ 5 °	20.3	15	—
		+30 °	19.2	10	—
		+40 °	17.2	—	—
2.0 °		+ 5 °	1.66	—	0.8
		+30 °	1.17	—	0.4
		+40 °	1.10	—	0.3
Chromaticity (Light source D65)	Y		8.0	2.5~12	≥3
	x		0.609		
	y		0.330		
Specular Gloss	60 ° gloss		88.2		

2. ACCELERATED WEATHERING TESTS

Weather-O-Meter		Reflective Intensity Value			Chromaticity		
		D.A.=0.2 °			Light source D65		
		I.A. +5 °	+30 °	+40 °	Y	x	y
Sunshine	Initial	52.8	43.2	33.9	8.0	0.609	0.330
	2000 hrs	48.2	38.2	31.2	7.8	0.601	0.331
QUV	Initial	52.8	43.2	33.9	8.0	0.609	0.330
	2000 hrs	50.7	40.8	32.8	7.8	0.609	0.330

KIWALITE High Intensity Grade Soft Type “Green” #62073

1. PHOTOMETRIC PROPERTY

	D.A.	I.A.	Initial Value	Spec. of ASTM	Spec. of France
	Reflective Intensity Value	0.2 °	+ 5 °	65.7	45
+30 °			56.0	25	—
+40 °			46.2	—	—
0.33 °		+ 5 °	45.5	—	21
		+30 °	40.4	—	11
		+40 °	34.2	—	11
0.5 °		+ 5 °	22.8	15	—
		+30 °	21.5	10	—
		+40 °	19.2	—	—
2.0 °		+ 5 °	1.48	—	0.6
		+30 °	1.09	—	0.3
		+40 °	0.85	—	0.2
Chromaticity (Light source D65)	Y		8.0	1~10	≥1
	x		0.164		
	y		0.416		
Specular Gloss	60 ° gloss		79.4		

2. ACCELERATED WEATHERING TESTS

Weather-O-Meter		Reflective Intensity Value			Chromaticity		
		D.A.=0.2 °			Light source D65		
		I.A. +5 °	+30 °	+40 °	Y	x	y
Sunshine	Initial	65.7	56.0	46.2	8.0	0.164	0.416
	2000 hrs	63.2	54.2	44.1	8.0	0.168	0.413
QUV	Initial	65.7	56.0	46.2	8.0	0.164	0.416
	2000 hrs	64.6	55.2	45.2	7.8	0.168	0.424

KIWALITE High Intensity Grade Soft Type “Blue” #62083

1. PHOTOMETRIC PROPERTY

	D.A.	I.A.	Initial Value	Spec. of ASTM	Spec. of France
	Reflective Intensity Value	0.2 °	+ 5 °	35.2	20
+30 °			28.8	11	—
+40 °			23.6	—	—
0.33 °		+ 5 °	25.1	—	14
		+30 °	21.5	—	7
		+40 °	18.3	—	7
0.5 °		+ 5 °	12.0	7.5	—
		+30 °	11.2	5.0	—
		+40 °	10.3	—	—
2.0 °		+ 5 °	1.18	—	0.2
		+30 °	0.84	—	0.1
		+40 °	0.72	—	0.06
Chromaticity (Light source D65)	Y		5.1	1~10	≥1
	x		0.129		
	y		0.142		
Specular Gloss	60 ° gloss		74.7		

2. ACCELERATED WEATHERING TESTS

Weather-O-Meter		Reflective Intensity Value			Chromaticity		
		D.A.=0.2 °			Light source D65		
		I.A. +5 °	+30 °	+40 °	Y	x	y
Sunshine	Initial	35.2	28.8	23.6	5.1	0.129	0.142
	2000 hrs	29.3	24.0	19.4	5.1	0.130	0.147
QUV	Initial	35.2	28.8	23.6	5.1	0.129	0.142
	2000 hrs	28.7	25.2	22.1	4.9	0.132	0.157



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