



CARDS
SOLUTIONS



High Quality Films manufacturer
for Banking and ID Cards since 1953

Bilcare *Research*

ABOUT US

The history of Bilcare Research spans over 64 years during which time the company has advanced its technical expertise, expanded its global reach through acquisition and natural growth and continued to develop, refine and launch new value added products into the marketplace.

It holds a leading global position in the markets for high performance films for your credit cards and travel documents. The company is focused on high quality value added products, strong customer relationship, R&D and excellent service.

OUR SKILLS



Direct contact with the customer



First choice for innovative solutions



Technical and sales team fully dedicated to the cards market



Wide product portfolio



Passion and flexibility



Continue improvements to become the most efficient producer of high quality products

OUR PRODUCTS



Sicosmart

Excellent core films, white and coloured, for high end application
EMV, pay TV, driving licenses and health cards



Sicoffset

White and transparent films for banking
and contactless cards



Sicolex

Standard opaque films for gift,
loyalty and scratch cards



Sicoreg

Pre-consumer recycled PVC films



Sicoeco

Degradable, white and transparent PVC films
for banking and contactless cards



Sicoplast

High transparent PVC overlay,
smooth roughness for easy lamination

Sicosmart

Excellent core films, white and coloured, for high end applications

EMV Dual ID Pat TV M2M

THICKNESS	90-99 my	±15% on 100% of readings
	100-149 my	±10% on 100% of readings
	150-179 my	± 5% on 100% of readings
	180-299 my	± 3% on 90% of readings
	300-820 my	± 3% on 100% of readings
TOLERANCES		
SURFACE	Surface 6060	Ra 1,4 - 2,2 my (cut-off 2,5mm)
	Surface tension	Best printing side >40 dynes/cm
		Reverse side >37 dynes/cm
COLOUR TOLERANCES	Coloured opaque	Delta E max 1,5
	white	Delta E max 1
		and delta L,a,b max 0,8
DIMENSIONS	Size tolerance	± 0,5 mm
	Squareness tolerance	± 1 mm/m
	Reel width tolerance	± 1 mm

PVC	986_T0	227_T0	307_T1*
THICKNESS my	90-400	100-410	100-820
VICAT A50	74 ± 2°C	81 ± 2°C	83 ± 2°C
VICAT B50	68 ± 2°C	77 ± 2°C	80 ± 2°C
RECOMMENDED COLOURS	1176 white	1173 bluish white 1140 high opacity 1356 bluish high opacity	1173 bluish white 1357 bluish white

ABS-PVC	817_T0	C35_T0	C38_T0*
THICKNESS my	100-820	150-820	130-400
VICAT A50	82 ± 2°C	98 ± 2°C	98 ± 2°C
VICAT B50	78 ± 2°C	95 ± 2°C	95 ± 2°C
RECOMMENDED COLOURS	1190 yellowish white	1565 yellowish white 1614 fluorescent white	1668 white

* Designed for long life cards

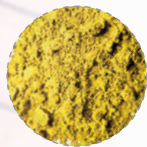
Sicosmart colours



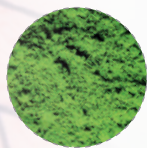
PMS	186 C	193 C	805 C NEON
COLOUR	4927	4926	4933



PMS	152 C	165 C	804 C	2024 C	NA
COLOUR	3913	3324	3321	3323	3319/3912



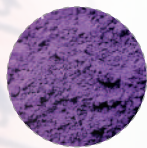
PMS	116 C/123 C	101 C	125 C
COLOUR	2861	2862	2870



PMS	349 C	368 C	340 C	389 C	361 C	341 C
COLOUR	7227	7229	7231	7966	7968	7226



PMS	PROCESS CYAN	PROCESS BLUE C	287 C	299 C	300 C
COLOUR	6966/6970	6967	6973	6972	6015



PMS	2627 C
COLOUR	5951



PMS	PROCESS BLACK
COLOUR	9812

Sicoffset

White and transparent films

Banking, contactless cards, Inlays

THICKNESS	90-99 my	±15% on 100% of readings
	100-170 my	±10% on 100% of readings
TOLERANCES	171-820 my	± 5% on 100% of readings

SURFACE	Surface 6060 (opaque)	Ra 1,4 - 2,2 my (cut-off 2,5mm)
	Surface 5050 (clear)	Ra 0,7 - 1,4 my (cut-off 2,5mm)
	Surface tension	Best printing side >40 dynes/cm
		Reverse side >36 dynes/cm

COLOUR TOLERANCES	White opaque	Delta E max 1
	Clear	Visual

DIMENSIONS	Size tolerance	± 1 mm
	Squareness tolerance	± 1,2 mm
	Reel width tolerance	± 1 mm

OPAQUE	785_00	986_00	347_00	227_00	307_00
THICKNESS my	100-400	90-400	100-410	100-410	100-820
VICAT A50	56 ± 2°C	74 ± 2°C	77 ± 2°C	81 ± 2°C	83 ± 2°C
VICAT B50	NA	68 ± 2°C	73 ± 2°C	77 ± 2°C	80 ± 2°C
RECOMMENDED COLOURS	1955 white	1176 white	1173 bluish white	1173 bluish white 1140 high opacity 1356 bluish high opacity	1173 bluish white 1880 yellowish white

CLEAR	157_R1	207_R1	765_R1 *	207_R2 *
THICKNESS my	100-380	100-380	100-400	110-380
VICAT A50	74 ± 2°C	81 ± 2°C	75 ± 2°C	81 ± 2°C
VICAT B50	68 ± 2°C	77 ± 2°C	NA	77 ± 2°C
RECOMMENDED COLOURS	0073 clear bluish 0093 laserable	0034 clear	K073 clear bluish	K073 clear bluish

* Designed for long life cards

Sicoffset coated

White and transparent films for digital printing

Banking, contactless cards

THICKNESS	100-170 my	±10% on 100% of readings
	171-410 my	±5% on 100% of readings

SURFACE	Surface 6060 (opaque)	Ra 1,4 - 2,2 my (cut-off 2,5 mm)
	Surface 5050 (clear)	Ra 0,7 - 1,4 my (cut-off 2,5 mm)
	Surface tension	Best printing side > 40 dynes/cm
		Reverse side > 36 dynes/cm

COLOUR	White opaque	Delta E max 1
	Clear	Visual

DIMENSIONS	Size tolerance	± 0,5 mm
	Squareness tolerance	± 1 mm
	Reel width tolerance	± 1 mm

DIGITAL PRINTING	157_BC	287_B7	307_B7	C20_B7
THICKNESS my	100-380	100-400	120-400	100-410
VICAT A50	74 ± 2°C	75 ± 2°C	83 ± 2°C	95 ± 2°C
VICAT B50	68 ± 2°C	69 ± 2°C	80 ± 2°C	91 ± 2°C
RECOMMENDED COLOURS	0073 clear	1173 bluish white 1140 High opacity	1173 bluish white	1614 fluorescent white
RECOMMENDED COATINGS	DPC1L1 (one side coated)	DPC1L1 (one side coated)	DPC1L2 (double side coated)	DPC1L1 (one side coated) or DPC1L2 (double side coated)



Sicoeco

Degradable white and transparent PVC films

Banking, contactless, gift, loyalty and cards

THICKNESS	150-170 my	±10% on 100% of readings
TOLERANCES CORES	171-810 my	± 5% on 100% of readings

THICKNESS	50-59 my	±12% on 100% of readings
	60-79 my	±10% on 100% of readings
TOLERANCES OVERLAY	80-99 my	± 8% on 100% of readings
	100-119 my	± 6% on 100% of readings
	> 120 my	± 5% on 100% of readings

SURFACE	Surface 6060 (core)	Ra 1,4 - 2,2 my (cut-off 2,5 mm)
	Surface 5050 (overlay)	Ra 0,7 - 1,4 my (cut-off 2,5 mm)
	Surface tension (core)	Best printing side > 40 dynes/cm
		Reverse side > 36 dynes/cm

COLOUR	White opaque	Delta E max 1
TOLERANCES	Clear	Visual

DIMENSIONS	Size tolerance	± 1 mm
	Squareness tolerance	± 1,2 mm
	Reel width tolerance	± 1 mm

	CORES			OVERLAYS	
	H37_00	H03_00	H57_R1	H67_00	H67_B0
THICKNESS my	150-410	150-810	100-380	50-300	50-300
VICAT A50	78 ± 2°C	83 ± 2°C	74 ± 2°C	74 ± 2°C	74 ± 2°C
RECOMMENDED COLOURS	1253 white	1253 white	0073 clear bluish	K081 clear	K081 clear

Sicoreg

Pre-consumer recycled PVC films

Banking, gift and loyalty cards

THICKNESS TOLERANCES	280-800 my	±5% on 100% of readings for banking cards
	280-800 my	±8% on 100% of readings for loyalty/gift cards

SURFACE	Surface 6060	Ra 1,4 - 2,2 my (cut-off 2,5 mm)
	Surface tension	Best printing side > 40 dynes/cm Reverse side > 36 dynes/cm
COLOUR	White 1411	Delta E max 5
DIMENSIONS	Size tolerance	± 1,5 mm
	Squareness tolerance	± 1,5 mm



Sicoplast

High transparent PVC overlay, smooth roughness for easy lamination

All type of cards

THICKNESS	40-49 my	±15% on 100% of readings
	50-59 my	±12% on 100% of readings
TOLERANCES	60-79 my	±10% on 100% of readings
	80-99 my	±8% on 100% of readings
	100-119 my	±6% on 100% of readings
	120-299 my	±5% on 100% of readings

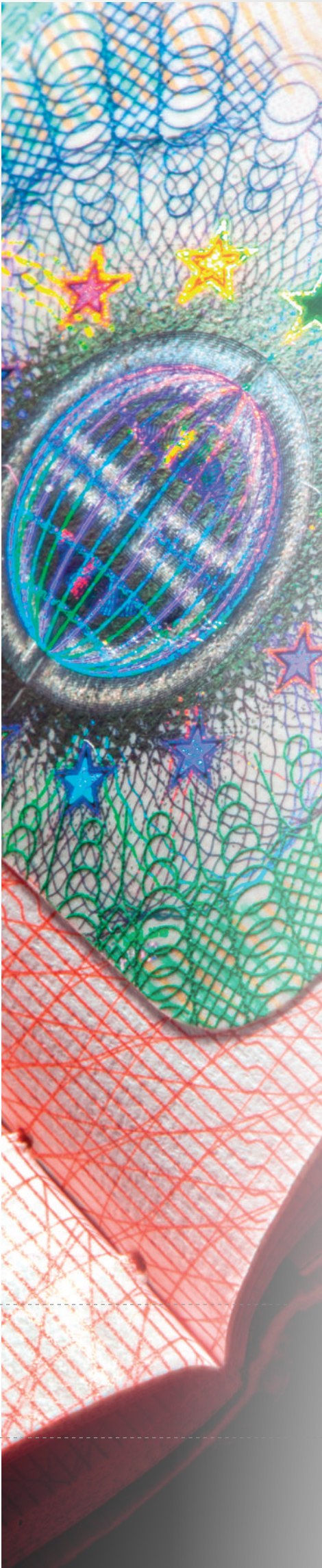
SURFACE	Surface 5050	Ra 0,7 - 1,4 my (cut-off 2,5 mm)
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COLOUR TOLERANCES	Visual
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DIMENSIONS	Size tolerance	± 1 mm
	Squareness tolerance	± 1,2 mm
	Reel width tolerance	± 1 mm

GRADES	UNCOATED		COATED	
	167_00	147_00	167_B0	147_B0
THICKNESS my	50-300	40-299	50-300	40-299
VICAT A50	74 ± 2°C	79 ± 2°C	74 ± 2°C	79 ± 2°C
RECOMMENDED COLOURS	0073 clear bluish 0083 laserable	0073 clear bluish 0083 laserable	0073 clear bluish 0083 laserable	0073 clear bluish 0083 laserable

COATING TYPES	LOW TEMPERATURE	HIGH TEMPERATURE	SPECIAL APPLICATION
Lamination temperature range	120-145 °C	140-165 °C	110-140 °C
Standard printed surfaces	S1L1	HP1L1	U1L1
Fully printed surfaces high bonding	LT2L1	HP2L1	



Special overlays

PVC Overlay with excellent flex performances

ID, driving license, passport data page

THICKNESS	50-59 my	±12% on 100% of readings
	60-79 my	±10% on 100% of readings
TOLERANCES	80-99 my	±8% on 100% of readings
	100-119 my	±6% on 100% of readings
	120-299 my	±5% on 100% of readings

SURFACE	Surface 5050	Ra 0,7 - 1,4 my (cut-off 2,5 mm)
COLOUR TOLERANCES	Visual	
DIMENSIONS	Size tolerance	± 1 mm
	Squareness tolerance	± 1,2 mm
	Reel width tolerance	± 1 mm

GRADES	UNCOATED	COATED
	735_00	735_B0
THICKNESS my	50-299	50-299
VICAT A50	80 ± 2°C	80 ± 2°C

RECOMMENDED COLOURS	STANDARD	STD + ANTIAGING	STD + ANTIAGING + UV NEUTRAL
STANDARD	K073 bluish	K103	K107
Standard printed surfaces	K083	K104	K008 (70 - 89 my) K009 (110 - 159 my)

PVC Overlay film, low orange peel effect

Holographic, metallic cards

THICKNESS TOLERANCES	60 my	±10% on 100% of readings
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SURFACE	Surface 2020	glossy/glossy
COLOUR TOLERANCES	Visual	
DIMENSIONS	Size tolerance	± 1 mm
	Squareness tolerance	± 1,2 mm
	Reel width tolerance	± 1 mm

GRADES	UNCOATED		COATED HO2L1**	
	740_00		740_B0	
SURFACE	2020 GLOSSY		2020 GLOSSY	
THICKNESS my	60		60	
VICAT A50	82 ± 2°C		82 ± 2°C	
AVAILABLE COLOURS	K040 clear	K043 laserable	K040 clear	K043 laserable

** Lamination temperature 140 °C - 165°C

Sicolex

Standard opaque PVC films

Gift, loyalty and scratch cards

THICKNESS TOLERANCES 200-800 my ± 5% on 100% of readings

SURFACE	Surface 6060	Ra 1,4 - 2,2 my (cut-off 2,5 mm)
	Surface tension	Best printing side > 38 dynes/cm Reverse side > 36 dynes/cm
COLOUR TOLERANCES	White opaque	Delta E max 1,5
	Coloured	Visual
DIMENSIONS	Size tolerance	± 1,5 mm
	Squareness tolerance	± 1,5 mm

OPAQUE	S46_00	S04_00
THICKNESS my	250-410	250-820
VICAT A50	77 ± 3°C	83 ± 3°C
VICAT B50	73 ± 3°C	80 ± 3°C
AVAILABLE COLOURS	1863 bluish white	1863 bluish white

SET UP	S66_00
THICKNESS my	200-840
VICAT A50	NA
AVAILABLE COLOURS	Yellow - Blue - Green - Rainbow



Storage shelf life

TRANSPORT and STACKING INSTRUCTIONS

UNCOATED FILMS

- No stacking for horizontal reels packaging
- Max 2 stacked pallets for vertical reels packaging (according to reels distribution on the pallet)

COATED FILMS IN SHEETS

- No stacking

UNCOATED FILMS IN SHEETS

- Up to 2 stacked pallets

MAX ALLOWED WEIGHT during stacking

- 1200 kg for not reusable pallets (wooden or plastic)
- 1800 kg for reusable plastic pallets

STORAGE CONDITIONS

PVC and PVC/ABS are sensitive to cold

- To be stored in the original packaging at temperatures $>15^{\circ}\text{C}$ up to 30°C ($>59^{\circ}\text{F}$ up to 86°F) and 40-60% max relative humidity.
- Avoid exposure to moisture and direct sunlight
- Conditioning 24-48 hours before using at room temperatures ($15-30^{\circ}\text{C}$ / $59-86^{\circ}\text{F}$)
- Stock rotation is recommended

PRODUCT SHELF LIFE

UNCOATED FILMS

- Max **24 months** from make-date (shown on the label), kept in the original packaging and stored according to the guidelines above

COATED FILMS

- Max **12 months** from make-date (shown on the label), kept in the original packaging and stored according to the guidelines above.
- Suitability test for purpose after that period is strongly recommended.

Values presented have been determined by standard test methods and are average values not to be used for specification purposes.

Our recommendations on the use of our products are based on tests believed to be reliable but we would advise you to conduct your own test to determine their suitability for your applications.

This is because we cannot accept any responsibility or liability direct or consequential for loss or damages as results of our recommendations.

Bilcare *Research*

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