



Scotchcal™

Label Film 3690E

Product Data Sheet

Updated : April 2004
Supersedes : June 2000

Description :

Scotchcal Label Film 3690E is recommended for Thermal Transfer Printed Label Stock applications where a very high durability and performance is required combined with non-transferability on some surfaces and excellent covering power.

Scotchcal Label Film 3690E is resistant to outdoor weathering, UV-light and many solvents as well as being dimensionally stable.

The specially modified acrylic adhesive shows high initial tack and good adhesion to nearly all surfaces including most low surface energy substrates such as Polyethylene, and textured paint, as well as curved surfaces.

Physical Properties

Not for specification purposes
(Calipers are nominal values)

Facestock	50 micron Cast PVC with smooth white gloss surface
Adhesive	30 micron Transparent pressure sensitive modified acrylic adhesive
Liner	75 micron 90g/m ² Densified Paper
Shelf Life	24 months from date of manufacture by 3M when properly stored at 22°C & 50 % Relative Humidity

Effective Performance Life :

When applied in accordance with 3M recommended procedures similar films have been found to offer the following performance life in applications to vertical surfaces.

	Outdoors	Indoors
Unprinted Film	Minimum 5 years	Unlimited
Printed with 3M 66001 Inks	Minimum 5 years	Unlimited

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Physical Properties
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Minimum Application Temperature	+ 4°C
Tensile Elongation	> 10 %
Tensile Strength	> 10N/25mm (Test conditions : DIN50014 on tensile tester according to DIN51221/DIN51220; 300mm/min, 100mm Film length)
Dimensional Stability (DIN30646)	< 0.2 %

Environmental Performance
Not for specification purposes

Weather Resistance	Accelerated weathering in Zenon Tester 1,000 hr : No Change To Film
Temperature Resistance	Permanent = -60°C to +95°C Short Term = -60°C to +150°C
Chemical Resistance	240 hr Salt Spray 20% 35°C No Change to Film Humidity: 38°C, 95% RH, No Change to Film 200 hours Water : 32°C, 150 hours No Change to Film Diesel Fuel, 8 hours No Change to Film

Processing

Printing:

Scotchcal Label Film 3690E is recommended for roll to roll screen printing using appropriate inks for vinyl films (e.g. Marastar SR, Wiederhold J etc, etc.). Both UV and solvent based inks are suitable, Sheet screen printing must be evaluated depending on size and actual conditions.

Flexographic, letterpress and offset printing methods can be considered but should be evaluated on a case to case basis.

Cutting:

Scotchcal Label Film 3690E features a smooth, hard, caliper controlled liner with very good kiss cutting characteristics. Weed stripping is recommended using a 25mm diameter idler.

Adhesion:	Substrate:	N/25mm
	Aluminium	26
	Stainless Steel	28
	Chrome	22
	Acrylic Paint	22
	ABS Plastic	22
	Polypropylene	16

(DIN 30646, FINAT FTM 1) 48 hrs dwell time, 300mm/min. Pullback 180° Angle.

Application:

All surfaces must be clean and dry at an ambient temperature of over 4C.

Scotchcal Label Film 3690E has been developed for application to smooth and slightly rough surfaces, including most low-surface energy plastics and small diameter applications. Individual substrates should be evaluated for suitability.

UL Recognition and CSA Acceptance testing have been successfully completed. (UL file MH 17496 (N) and CSA file 99316)

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Processing Contd...

Storage:

Unprocessed films can be stored for at least two years and processed labels can be stored for an additional one year.

Films and Labels must be stored in a clean area free of excessive moisture and direct sunlight or room temperature. Processed labels should be stored in Polyethylene bags, 0.1mm thickness, to protect against moisture fluctuations.

Thermal Transfer Imprinting :

Scotchcal Label Film 3690E offers an ideal surface for Thermal Transfer Printing. This technology provides excellent covering power combined with the capability of uniform surface coverage. It also allows the individual printing of high density BARCODES beyond standard labelling applications using Scotchcal Label Film 3690E.

The quality of the printing is dependent on the printer/ribbon combination. Good results have been obtained through the following units:

Printers

Zebra Z90,Z91,Z130,Z140
Zebra 5099; 5175, Ricoh B110C, Sony 4070,
Armor AXR-7, ICS CC-2000; ICS CC-4099-1
Fargo Prodigy, Prodigy Plus
Sato 8400, 8450
TEC B602, B402, B65, B30
Intermec 8646

Ribbons

Zebra 5099; 5175, Ricoh B110C, Sony 4070,
Armor AXR-7, ICS CC-2000; ICS CC-4099-1
Ricoh B110C, Sony 4070, Armor AXR-7
Ricoh B110C, Sony 4070, Armor AXR-7
Ricoh B110C, Sony 4070, Armor AXR-7
Intermec 053258-2

This listing does not claim to be complete or represent any order of merit. Other combinations can be considered but should be evaluated on a case to case basis.

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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 ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations.



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