



3M™ Scotchcal™ 3630

Translucent Films

Description

These are durable, dimensionally stable translucent films which are designed for use on internally illuminated sign faces, window graphics applications or on white substrates where a matte finish, and/or vibrant colours are required. These films have uniform colour in both reflected and transmitted light. They have low surface gloss to eliminate glare. These films are intended for application to flat acrylic, polycarbonate, butyrate, fiberglass, glass and other properly prepared substrates (See Surface Preparation in Instruction Bulletin 5.1). The product can be applied to either the interior or exterior surface of the transparent substrates listed above. They are recommended for first surface application to PANAFLEX™ Series 645 GPS or 945 GPS Substrate. These films have been successfully used on other flexible substrates but because 3M has no control over the product construction and manufacture of competitive substrates, we cannot warrant the performance of Series 3630 Films applied to competitive substrates.

Thermoforming translucent films applied to rigid plastic faces is possible under well controlled conditions. See the vacuum forming and health and safety sections of this bulletin.

Over-laminating with Scotchcal 3640 GPS Series products is permitted to enhance cleaning and durability. See Product Bulletin Scotchcal 3640 for details.

Commercial Graphics Division products are not tested against automotive manufacturers' specifications and are therefore not warranted for use in fabricating graphics for automotive OEM's.

Effective Exterior Performance Life

Performance statements are based upon field experience and exposure tests conducted throughout the United States. Performance will be determined by substrate selection and preparation, exposure conditions and maintenance of the markings.

Warranted Exterior Exposure Life

Vertical Exposure face of graphic is vertical ±10°			Non Vertical Exposure face of graphic is more than 10° from vertical						
Application *	Zone			Overlaminated with Scotchcal 3640/42	Application:*	Zone			Overlaminated with Scotchcal 3640/42
	1	2	3			1	2	3	
All 3630 films on acrylic or Panaflex 945	10	7	5	12 9 7	All 3630 films on acrylic or Panaflex 945	4	3	2	7 5 4
Except 3630-121; 131; 141 Vertical Exposure Only	5	4	3	8 6 4	-	-	-	-	-
All 3630 films on Panaflex 645 Vertical Exposure Only	10	7	5	12 9 7	-	-	-	-	-
Except 3630-121;131;141 Vertical Exposure Only	5	4	3	8 6 4	-	-	-	-	-
Vacuum Thermoformed All 3630 films Except - 3630-121; 131; 141	6 5 4	5 4 3		Not recommended	-	-	-	-	-
Printed with ink series:				Inc. Clear Coat	-	-	-	-	-
1900 Series. Line inks	5	4	3	1920	-	-	-	-	-
1900 Series Halftone Inks	4	3	2	1920	-	-	-	-	-
9700 Series UV Inks	7	5	3	9720	-	-	-	-	-

Zone 1 = Northern & Central Europe; Zone 2 = Mediterranean Europe; Zone 3 = Middle East and Northern Africa

* The film's warranted period will vary, depending on which substrate the film is applied to. This matrix indicates the films intended use. For other applications, contact your local 3M sales representative.

Product Line

This bulletin does not contain detailed printing, processing or application procedures for the products described herein. The appropriate Instruction Bulletin(s) may be obtained by contacting your 3M sales representative.

Product	Colour	PANTONE® Colour
3630-005	Ivory	NA
3630-015	Yellow	PANTONE 109C
3630-20	White	NA
3630-22	Black**	PANTONE Process Black C
3630-25	Sunflower	PANTONE 123C
3630-26	Green	PANTONE 349C
3630-33	Red	PANTONE 485C 2X
3630-36	Blue	PANTONE 281C
3630-43	Light Tomato Red	PANTONE 1788C 2X
3630-44	Orange	PANTONE 1655C
3630-49	Burgundy	PANTONE 188C
3630-51	Silver Grey	PANTONE 439C
3630-53	Cardinal Red	NA
3630-57	Olympic Blue	NA
3630-59	Dark Brown	PANTONE 4625C
3630-61	Slate Grey	NA
3630-63	Rust Brown	PANTONE 483C
3630-68	Rose Mauve	PANTONE 190C
3630-69	Duranodic**	PANTONE Black C
3630-71	Shadow Grey	PANTONE 409C
3630-73	Dark Red	NA
3630-74	Kumquat Orange	PANTONE 1375C
3630-75	Marigold	NA
3630-76	Holly Green	NA
3630-78	Vivid Rose	PANTONE 206C
3630-83	Regal Red	PANTONE 187C
3630-84	Tangerine	PANTONE 151C
3630-87	Royal Blue	PANTONE 274C
3630-97	Bristol Blue	PANTONE 294C
3630-106	Brilliant Green	PANTONE 376C
3630-108	Pink	PANTONE 224C
3630-109	Lt. Rust Brown	PANTONE 181C
3630-115	Lt. Lemon	PANTONE 3995C

	Yellow	
3630-116	Bright Jade Green	NA
3630-118	Intense Magenta	PANTONE 241C
3630-121	Silver	PANTONE 877C
3630-125	Golden Yellow	PANTONE 1235C
3630-126	Dark Emerald Green	PANTONE 3435C
3630-127	Intense Blue	PANTONE 300C
3630-128	Plum Purple	PANTONE 2622C
3630-129	Bronze	PANTONE 471C
3630-131	Gold Metallic	PANTONE 873C
3630-133	Raspberry	PANTONE 220C
3630-136	lime Green	PANTONE 368C
3630-137	European Blue	PANTONE 281C
3630-141	Gold Nugget	NA
3630-143	Poppy Red	PANTONE 1788C 2X
3630-146	Lt. Kelly Green	PANTONE 347C
3630-147	Lt. European Blue	NA
3630-149	Light Beige	PANTONE 468C
3630-156	Vivid Green	PANTONE 355C
3630-157	Sultan Blue	PANTONE 288C
3630-167	Bright Blue	PANTONE 2945C
3630-236	Turquoise	PANTONE 3282C
3630-246	Teal Green	PANTONE 322C
3630-317	Process Blue	PANTONE 299C 2X
3630-337	Evening Blue	PANTONE 658C

* This product is a simulation of a PANTONE® identified colour standard. Use current PANTONE Colour Reference Manuals for accurate colour.

* PANTONE® is a registered trademark of Pantone, Inc.© Pantone, Inc. 1963, 1991.

** This film is opaque, not translucent.

Special colours are available on request. Pigment durability and manufacturing limitations do not permit exact matching of all colour shades.

Fabrication

Vacuum Forming

Special recommendation, limitations and processing requirement for forming with applied films is detailed in Instruction Bulletin 5.16. There are specific unique health and safety considerations that must be understood prior to vacuum forming faces using translucent films. Prior to forming faces, it is important to review all information contained in the Material Safety Data Sheet (MSDS), on the box label and in the instruction bulletins.

Scotchcal Series 3635-30 and -70 are not warranted for vacuum forming. If they are vacuum formed, it must be done on a test and approve basis.

Cutting

Individual pieces can be hand cut, die cut, “kiss” cut or cut with most computer driven cutting devices. Multiple pieces can be cut using various techniques, such as guillotine cutting and die cutting.

Application

These films may be applied using either the detergent and water or dry application methods (hand application or roll applicator). For hand applications, the detergent and water application method is preferred. Use of dry application by hand may leave some dark streaks or bubbles that could be visible in transmitted light.

Premasking/Prespacing

Conditions	3M Application Tape
Unprocessed	
General Premasking	SCPM-19
General Prespacing	SCPS-100
1900 Series Inks	
General Premasking	SCPM-19
General Prespacing	SCPS-100

Chemical and Physical Properties

Values given are typical and are not for use in specifications. If a specification is desired, a customer specification will be prepared. Any requests for a specification should be submitted through your local 3M sales representative. The data given below are for unprinted film.

Physical Properties

Property	Metric Units
Thickness	0.08mm–0.10mm
Tensile Strength	0.9 kg/cm at 23°C
Elongation	100% at 23°C
Dimensional stability	0.30mm
Temperature Range*	–29° to +80°C
Adhesion (anodized aluminum)	0.7 kg/cm
Adhesive	Transparent Pressure Sensitive
Application Temperature Range	16°C - 38°C

*Impact at low temperatures on film applied to flexible substrates may result in cracking of film and/or substrate.

Chemical Resistance

Chemical Agent	Exposure Time	Results
Water	24 hours	No effect
Mild Soap and Water	24 hour	No effect
20% Isopropyl Alcohol/80% Water	10 minutes	No effect
10% Hydrochloric Acid	10 minutes	No effect
10% Ammonium Hydroxide	10 minutes	No effect

Shelf Life

The shelf life of the film is 2 years and the film should be applied within 2 years of the receipt of the film if unprocessed. Processed film should be applied within 1 year of processing and within 2 years of receipt of the film.

Related 3M Literature

Listed below is related 3M Technical Literature which may be of interest.

Subject	Product Bulletin	Instruction Bulletin(s)
Design of Markings		2.1
Scotchcal 1900 Series Inks	1900 4-colour 1900 line	3.11 3.12
Scotchcal 9700 Series Inks	9700	3.4
Scoring and Cutting		4.1
Premasking and Prespacing		4.3
Surface Preparation Non-vehicular		5.1
Application to Flat rigid signs		5.7
Flat glass		5.8
Panaflex 645 and 945 Series Substrates		5.9
Storage, Maintenance and Removal		6.5
Vacuum Thermoforming		5.16
Warranty of Products		-

Health and Safety

Refer to the package label and the Material Safety Data Sheet for health, safety, and handling information on the products referenced in this bulletin.

Attention vacuum formers, refer to vacuum forming section in this bulletin.

For 3M products, if necessary, you may contact our Toxicology/Product Responsibility Department on 01344 858000.

Important Notice to Purchaser

The products described in this publication are covered by a 3M warranty and limitation of liability.

3M's warranty provides that if 3M finds that goods are defective in material or workmanship they will be replaced or the price refunded at 3M's option but note that 3M does not accept liability for other direct losses (except for personal injury or death) or consequential losses relating to defective products or from information supplied by 3M.

Purchasers and users of 3M products, and not 3M supplying companies, are always solely responsible for deciding on the suitability of the 3M product for their required or intended use.

Technical Assistance

For help on specific questions relating to 3M Commercial Graphics Division Products, contact your local Technical Service Representative.

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