White Vinyl Label Material
7605

Technical Data **September, 2010**

Product Description

3M™ White Vinyl Label Material 7605 is a gloss white flexible vinyl label stock that offers premium durability and moisture resistance. This label material utilizes 3M™ Adhesive 350 which is an universal adhesive for label material that offers excellent chemical resistance and holding strength even at high temperatures.

Construction

(Calipers are nominal values.)

Facestock	Adhesive	Liner
3.4 mils (86 microns) Gloss White Flexible Vinyl	350 Acrylic 1.8 mils (46 microns)	55# Densified kraft 3.2 mils (81 microns)

Features

- Resists lifting and buckling on a wide range of containers under use and storage conditions.
- Adhesive can permanently bond to high surface energy (HSE) and low surface energy (LSE) plastics, textured and contoured surfaces, powder coatings, and slightly oily metals. Universal adhesive for label material offers excellent chemical resistance and holding strength even at high temperatures.
- Premium release silicone on the 55# densified kraft liner provides a consistent liner release and assures consistent die-cutting.
- UL recognized for indoor and outdoor use per file MH11410. Suitable where exposed indoors to high humidity or occasional exposure to water. Also suitable where exposed outdoors when affixed to above surfaces except polycarbonate, polypropylene, polyvinyl chloride and PTFE coated metal.

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Application Ideas

- Barcode labels.
- Property identification and asset labeling.
- Warning, instruction, and service labels for durable goods.
- Nameplates for durable goods.
- Labeling of small or irregular shape containers.
- Prime label for polyethylene and other plastic containers used to package consumer products such as nasal mists, shampoo, liquid soaps, lotions and selected food products.

Typical Physical Properties

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Adhesive Coat Weight	2.70 to 3.24 g/100 $in.^2$	TM-2279
Release Range	5 to 70 g/2 in.	TLMI Method, 180° removal, 300 in./min.
Service Temperature Short term - 24 hours	-40°F to 250°F (-40°C to 121°C)	
Service Temperature Extended	-40°F to 140°F (-40°C to 60°C)	
Minimum Application Temperature	50°F (10°C)	
Convertability	In order to capture the superior performance properties of 3M™ High Holding Acrylic Adhesive 350, thicker calipers are utilized for LSE or textured substrates. Its higher caliper, while desirable for the end use applications, may require extra care during processing. Please refer to the die cutting/converting section of this data page or the “Guide to Converting and Handling Label Products” technical bulletin for additional information.	

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Typical Peel Adhesion Properties

Note: The following tests are intended as a guide to product performance. Application testing is recommended using actual substrates, expected dwell times, and actual conditioning for best determination of product suitability.

Adhesion: 180° peel test procedure is ASTM D 3330.
90° peel test procedure is ASTM D 3330 modified for the angle change.

	Initial (10 Minute Dwell/RT)				Conditioned for 3 Days at Room Temperature 72°F (22°C)			
	180° Peel		90° Peel		180° Peel		90° Peel	
Surface	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**
Stainless Steel	74	81	50	55	88	96	63	69
Polycarbonate	82	90	59	65	94	103	64	70
Polypropylene	66	72	44	48	76	83	53	58
Glass	83	91	52	57	98	107	67	73
HD Polyethylene	61	67	40	44	59	65	44	48
LD Polyethylene	42	46	32	35	43	47	35	38
Aluminum	74	81	48	53	93	102	69	75
Smooth Powder Coating*	63	69	45	49	75	82	49	54
Finely Textured Powder Coating*	42	46	28	31	41	45	30	30

***Note:** These values are averages of multiple powder coated surfaces.

	Conditioned for 3 Days at 158°F (70°C)				Conditioned for 24 hours at 90°F (32°C) at 90% Relative Humidity			
	180° Peel		90° Peel		180° Peel		90° Peel	
Surface	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**
Stainless Steel	69	75	46	50	93	102	73	80
Polycarbonate	22	24	26	28	90	98	60	66
Polypropylene	61	67	43	47	94	103	59	65
Glass	72	79	45	49	90	98	65	71
HD Polyethylene	51	56	37	40	71	78	49	54
LD Polyethylene	20	22	20	22	52	57	38	42
Aluminum	74	81	50	55	89	97	69	75
Smooth Powder Coating*	55	60	42	46	81	89	53	58
Finely Textured Powder Coating*	38	42	27	30	44	48	28	31

***Note:** These values are averages of multiple powder coated surfaces.

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Environmental Performance

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

The properties defined are based on four hour immersions at room temperature (72°F/22°C) unless otherwise noted. Samples were applied to stainless steel panels 24 hours prior to immersion and were evaluated one hour after removal from the solution for peel adhesion. Adhesion measured at 180° peel angle (ASTM D 3330) at 12 inches/minute.

Chemical Resistance:

	Adhesion to Stainless Steel		Appearance	Edge Penetration
Chemical	**Oz./in.**	**N/100 mm**	**Visual**	**Millimeters**
Isopropyl Alcohol	75	82	No change	1.0
Detergent 1% Alconox® Cleaner	96	105	No change	0.5
Engine Oil (10W30) @ 250°F (121°C)	25	27	No change	0.5
Water for 48 hours	92	101	No change	0.0
pH 4	104	114	No change	0.5
pH 10	87	95	No change	0.0
409® Formula	95	104	No change	0.0
Toluene	N/A*	N/A*	N/A*	N/A*
Acetone	N/A*	N/A*	N/A*	N/A*
Brake Fluid	4	4	Edges Curled	2.0
Gasoline	N/A*	N/A*	N/A*	N/A*
Diesel Fuel	81	89	No change	0.5
Mineral Spirits	72	79	No change	1.3
Hydraulic Fluid	87	95	No change	0.0

N/A*: Facestock detached from adhesive. No value obtained.

Temperature Resistance:
250°F (121°C) for 24 hours: No significant visual change.

Humidity Resistance:
24 hours at 100°F (38°C) and 100% relative humidity: No significant changes in appearance or adhesion.

Accelerated Aging:
ASTM D 3611: 96 hours at 150°F (65°C) and 80% relative humidity

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Application Techniques

- For maximum bond strength, surface should be thoroughly cleaned and dried. A typical cleaning solvent is heptane or isopropyl alcohol. **Note:** Follow the manufacturer's precautions and directions for use when using solvents.
- For best bonding conditions, application surface should be at room temperature or higher. Low temperature surfaces, below 50°F (10°C), cause the adhesive to become firm and will not allow the adhesive to flow and develop intimate contact with the substrate.
- Higher initial bonds can be achieved through increased rubdown pressure. Use a rubber roller with maximum hand pressure for best results.

Caution: Even high quality vinyls such as that used in 3M™ White Vinyl Label Material 7605 contain plasticizers to provide conformability and elasticity. Vinyls should be thoroughly tested and concerns should be discussed with your 3M sales representative before using. Examples of concerns a converter or end user should consider include process temperatures, ink adhesion, applications on very small diameters, or unique applications where variability would be critical to performance or safety. If concerns about plasticizers arise, consult with your 3M sales representative.

Printing

Designed for flexographic vinyl acrylic inks only. If standard nitrocellulose inks are desired, the viny film facestock should first be primed prior to painting any graphics. Whenever printing for the first time, with a different ink system or on a new machine, we strongly recommend carrying out proofing trials to validate ink adhesion and durability prior to a full production run.

Die Cutting / Converting

Die Cutting:
Rotary die cutting is recommended. Fan-folding of labels is not recommended. Small labels should be evaluated carefully. Winding tensions should be kept at a minimum to help prevent the adhesive from oozing.

Dispensing:
Capable of being both manual and automatically dispensed. Be sure to test in every unique dispensing application to determine suitability.

Packaging

Finished labels should be stored in plastic bags.

Storage

Store at room temperature conditions of 72°F (22°C) and 50% relative humidity.

Shelf Life

If stored under proper conditions, product retains its performance and properties for two years from date of manufacture.

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Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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ISO 9001:2000

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 standards.

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